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PREFACE

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) is an autonomous, international, philanthropic and non-profit centre for research, education and training as well as clinical service. The Centre is derived from the Cholera Research Laboratory (CRL). The activities of the institution are to undertake and promote study, research and dissemination of knowledge in diarrhoeal diseases and directly related subjects of nutrition and fertility with a view to develop improved methods of health care and for the prevention and control of diarrhoeal diseases and improvement of public health programmes with special relevance to developing countries. ICDDR,B issues two types of papers: scientific reports and working papers which demonstrate the type of research activity currently in progress at ICDDR,B. The views expressed in these papers are those of authors and do not necessarily represent views of International Centre for Diarrhoeal Disease Research, Bangladesh. They should not be quoted without the permission of the authors.

C O N T E N T S

ABSTRACT

This paper provides an overview of the Matlab Contraceptive Distribution Project, with a detailed analysis of the service delivery aspects of the project. The Cholera Research Laboratory (CRL), in collaboration with the Ministry of Health and Population Control, initiated this project in October, 1975, with the objective to determine the feasibility and impact of a household delivery system for non-clinical contraceptives (oral pills and condoms) in Bangladesh.

Between October and December, 1975, eight CRL field assistants with the help of 154 CRL resident dais made a house-to-house distribution of oral pills in 150 villages (about 125,000 population) of the Matlab field surveillance area. Contact was made with 19,027 eligible women (currently married women of age between 15-44 years) and of them, 13,087 (69 percent accepted the supplies, usually 6 cycles of pills. Subsequent distribution for resupply and for recruitment of new acceptors was made by dais in their daily contact with the villagers for vital events and diarrhoea surveillance. After about one year, a second round of intensive house-to-house distribution was made by male field workers. This time the main emphasis was on the distribution of condoms.

As part of supervision process and to assess progress, eight quarterly prevalence surveys were conducted during the life time of the project. The findings of these surveys showed that within 3 months following the initial distribution, the percentage of eligible women currently using contraceptives rose from a baseline level of 1 percent to 17 percent. However, the prevalence of contraceptive practice declined thereafter and came down to what appeared to be a plateau level of 12 percent in the second year of the programme. The declining prevalence rates were due to both declining rates of new acceptors and briefer rates of method continuation over time.

A number of special studies were undertaken to learn the reasons for the relatively modest acheivements of the programme. Based on the recommendations derived from these studies, the project was restructured in October, 1977, after about two years of its operation. The restructured programme differed from the original programme in three important characteristics: (1) the level of training and social status of the female village workers was greatly elevated; (2) the range of contraceptives available in the programme was substantially broadened and (3) the introduction of medical services, both supportive for contraceptive acceptors and, latter, for general maternal and child care. The effect of the restructured programme was a prompt and continuing rise in contraceptive prevalence. At the end of one year the current use rate rose to above 30 percent level, with an increasing percentage recorded each month, and no peak yet reached.

I. INTRODUCTION

1.1 The Cholera Research Laboratory field research area.

The Cholera Research Laboratory (CRL, since 1979 the ICDDR,B) was established at Dacca in 1960 and began a rural field research programme in Matlab thana in 1963 with the basic aim to field-test cholera vaccines. A small diarrhoea treatment unit was established in the thana headquarters and a fleet of small speed boats was maintained to transport patients and to support the field work.

The first census in 1963 covered a study population of 28,000 persons. The study area was expanded over the next 5 years to cover 168,000 persons by 1968. In order to keep the population under surveillance, a continuous household registration of births, deaths and migrations was instituted in 1966. The latest census of the whole surveillance area was taken in 1974.

Since its inception, the Matlab field research laboratory has been in the forefront of research on cholera and acute diarrhoeal diseases. Between 1963 and 1974 there were five field trials of cholera vaccines. Research was also conducted on the epidemiology and treatment of other diarrhoeal diseases due to non-cholera vibrios, E.coli, shigella, salmonella, viruses, parasites, and other agents.

While most of the Matlab population data were obtained originally to facilitate epidemiological studies, they subsequently became valuable in their own right for demographic studies. This led the CRL to expand its research activities into the spheres of nutrition and human reproduction. Thus, in 1975 the CRL undertook a fertility control project based on house-to-house contraceptive distribution. The availability of detailed demographic data permitting accurate measurements of changes in fertility made this a unique resource in Asia to undertake this research.

1.2 Rationale and study design.

The rationale for conducting this study came in part from a dissonance between stated desires to limit child bearing and actual use of contraceptives in Bangladesh. The 1968 National Impact Survey reported that while 55% of married women expressed a desire to cease child-bearing, only 1.9% and 3.7% of the rural and urban populations, respectively, were actually using some modern methods of contraception.[1] Similar findings were reported by other recent surveys, both national and local. A crucial hypothesis underscored by these studies was that lack of information about contraceptives, and their general unavailability were major constraints to programme success. Inadequacy of clinical facilities and shortage of medical

personnel in Bangladesh constituted additional justification for trial of a simple distribution system, providing oral contraceptives and condoms to every household.

The project was initiated by the CRL in collaboration with the Bangladesh Ministry of Health and Population Control. Financial support came from the United States Agency for International Development. The project had the following research objectives:

1. To assess a household delivery system of oral contraceptives and condoms in rural Bangladesh in terms of —

   a) feasibility of organizing and implementing such a delivery system;

   b) total demand for these contraceptives;

   c) demographic impact.

2. To determine the most inexpensive but effective delivery system and fertility control technology for use in developing countries.

The basic research plan involved distribution of contraceptives to approximately one-half of the Matlab surveillance population, leaving the remaining half as a control group to be serviced by the family planning government programme. Acceptance and use rates would be assessed by special quarterly prevalence surveys, while the ultimate demographic impact would be monitored by the on-going vital registration system.

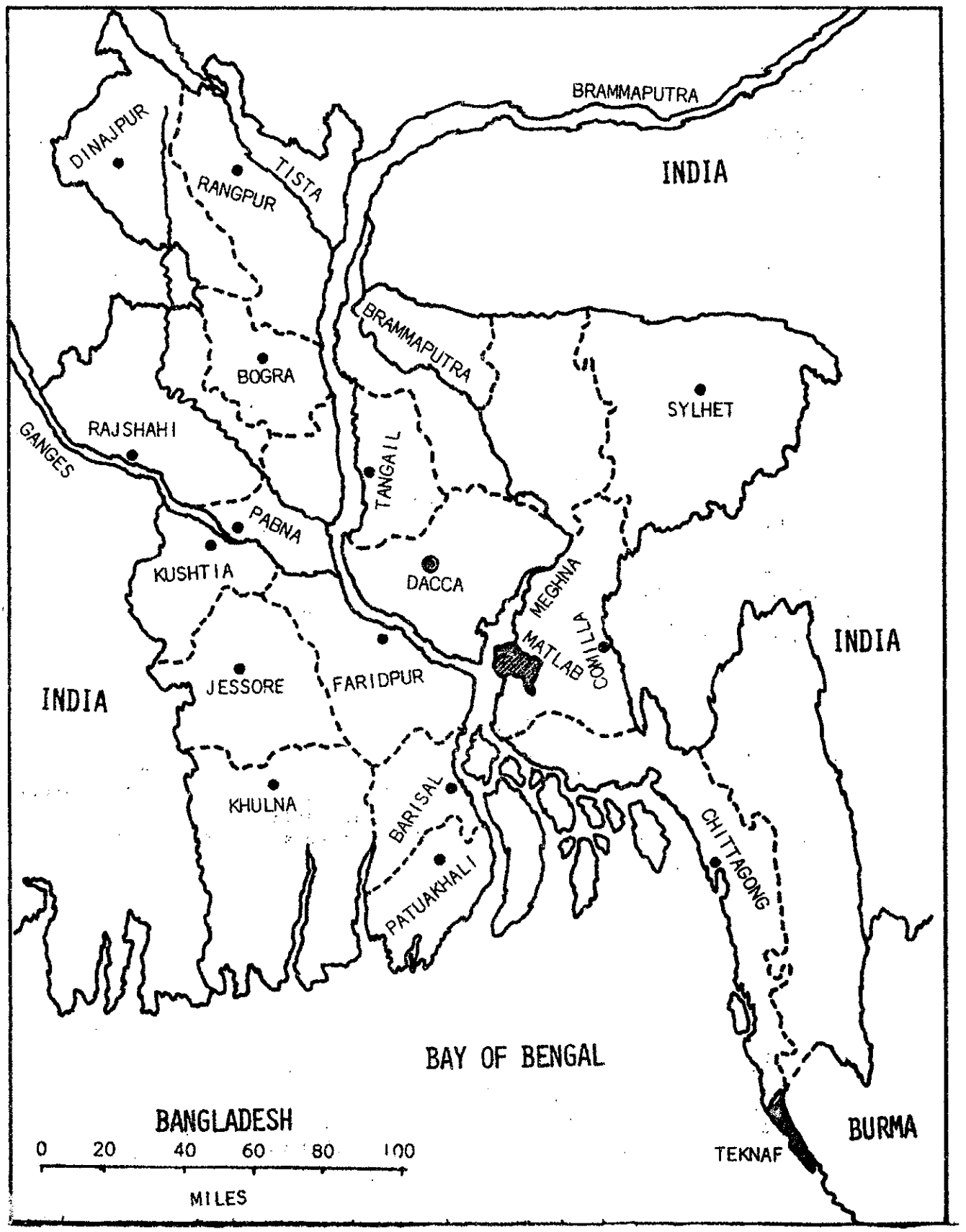
The simple household distribution programme was carried on from October, 1975 till August, 1977 when the project was totally restructured to provide the full range of fertility control services to a subgroup of the study populations. This report will provide and overview of the initial project, with a detailed analysis of the service delivery aspects of the programme, and of factors related to contraceptive acceptance and use.

2. BACKGROUND

2.1 The study area and people.

The Matlab field research station is situated in the thana headquarters of Matlab and at a distance of about 45 km. south east of Dacca, the capital of Bangladesh (Fig. 1). The surveillance area covers a

Fig.I Bangladesh map showing the location of Matlab



population of 218,000 in 233 villages. (A thana is the lowest administrative unit of the country generally covering 100-200 villages.)

The area is low-lying deltaic plain intersected by a tidal river, Gumti, and its canals. They are fed primarily by the river Meghna, one of the three largest rivers draining Bangladesh. The river Gumti has divided the area into two parts and is used as a transportation route within and outside the area. A recently constructed motorable road links the Matlab thana headquarters with the district town of Comilla, but communication within the area is only possible by foot, country boat and, in some cases, small steamer or launch.

The climate of the area is tropical monsoon. Rainfall is the most important aspect of climate, for its distribution plays a vital role in the activities of the people. The rainy season divides the year into three distinct periods -- the cold weather from November to February, the summer from March to May, and the rains or monsoon from June to September. October marks the transition from rains to winter. The maximum rainfall is concentrated during the main monsoon period when a north-western current of air across the Bay of Bengal prevails. It rains almost every day and essentially all the land is flooded, except the homesteads. A significant feature of the climate is the cyclonic storms towards the close of the monsoon.

Agriculture has been the principal economic activity of the people in this area. As in other parts of rural Bangladesh, the entire complex of social patterns is developed around agriculture. In a few villages fishing is the main source of livelihood, but this is limited primarily to the Hindu population.

There are the three main rice harvests: Boro, Aus and Aman. Other main food crops are potato, mustard seed and vegetables. Jute, a cashcrop, is cultivated in some villages.

For the past two to three decades there has been a steady decline in the agricultural economy. One reason is the increase of population. Holdings are becoming smaller and are tending to be of uneconomic size. According to the 1974 CRL census an average landowning household owned about 0.7 acres of cultivable land. About 20% families are absolutely landless. If landlessness is defined as less than 0.5 acres, 47% of the families may be classified as landless.[2] For many households share cropping and work on other's land on a daily wage basis have become the main sources of livelihood. Also, more people are trying to earn their livelihood or augment their income by trade, mostly in local markets. A good number of families (about 10%) have their chief bread-winners working in mills and factories in the neighbouring towns or cities.

Employment of the women is rare in the area. Only a few women, belonging to poor families, work in other people's households or hawk in

the villages. CRL was the only local organization in this area which provided jobs for women, about 300 altogether. Recently the Government family planning department has employed some local literate women, one in 6,000 population.

The population of the Matlab field surveillance area is relatively homogeneous consisting of indigenous Bangladeshis. Eighty-eight percent of the inhabitants belong to the Muslim community. Essentially all the remainders are Hindus.

A survey conducted in 1975 showed that there were 169 primary schools in the 233 villages of the Matlab study area.[3] According to the 1974 CRL census, 30 percent of the population over age 5 were literate; 41 percent of males over age 15 had completed four years of school, as compared to 16 percent among females. The literacy rate, while low, is higher than found in the National Census of 1974 for rural Bangladesh (22.3 percent).[4] Although the area has one College and four High Schools including one Girl's School, only 12% of males and 0.7% of females age 15 and above reported to have completed 10th grade or more education.

2.2 Social Structure.

The individual household (defined as persons sharing the same kitchen) is the cornerstone of the village social structure. In the study area an average household is composed of 5.8 persons including the principal bread-winner, his wife (wives), and children. According to the 1975 CRL census, most of the families were two-generation families i.e. couples and their unmarried children. Extended or joint families comprised only 15.5 percent of all households. Single person households and one generation (only husband and wife) families accounted together for just over five percent.

The household is established patrilocally and according to patrilineal inheritance. Each household is an autonomous unit with the authority of decision making vested in the principal bread-winner. The hierarchy of authority within the household is discriminates on a descending order from the male bread-winner to his adult son(s), to his wife, to other children including the adult daughter(s).

The next tier of group entities is the patrilineal lineage group. Some or all the members of this group may inhabit the same homestead or different ones within the same area. A homestead (or bari, as it is called in the area) generally comprises five or six households sharing a common court yard but with separate kitchens. The person occupying the leadership position at this level is usually the male agnatic superior who through exercise of appropriate authority is able to ensure well-being of his lineage members and defend them against other lineage group(s).

Last there is the village itself. The leader of the village usually represents a case of ascendance of a household into wealth and influence. However, it should be pointed out that the structural leadership beyond the household unit is increasingly less evident in the village life. Although the villagers still identify the traditional leaders according to their lineage, it is observed that they seldom counsel with them except on matters relating to social norms and morality.

2.3 Population Size and Structure.

An estimation of population size as of 1 July, 1975 showed that there were 259,194 inhabitants in the 228 villages* of the Matlab field surveillance area.[5] There were 132,251 males and 126,943 females, yielding a sex ratio of 104.2 males per 100 females. The population was heavily weighted toward the younger age groups; 45.6% of males and 45.4% of females were under age 15 years, 40.6% of the women were in the child bearing ages (15-44 years) and only 14% were beyond their reproductive ages (45 and above). Only 3% of the population was of age 65 years and above. Figure II is a detailed age pyramid of the 1975 estimated mid-year population.

The composition of the population by marital status according to the 1974 CRL census revealed that 46.9% of males in contrast to 28.3 percent of females age 10 years and over were single.[6] Girls married at considerably younger ages than males. The singulate mean age at first marriage was 17 years for girls and 24.6 years for males. Earlier censuses taken in 1968 and 1970 found somewhat lower average age at marriage for females, 15.7 and 16.2 respectively. For males the average mean age at marriage in both the census was constant at 24.9 years, being slightly higher than the 1974 figure. Beyond the age 25 there were virtually no women who had not been married at one time or another. The same was true for men only about 10 years later in life. Of the women in fertile age group (15-44 years) 82.5 percent were currently married.

The birth registration data showed that the average number of living children for all mothers in 1975 (excluding the present birth) was 2.4.[5] This fell short of the average number of pregnancies by 31 percent. Among the mothers in the prime age of child bearing (25-29 years), only 2.8 children were still alive out of 4.0 pregnancies. Among those approaching the end of their reproductive life cycle at the age 40 years and over, 5.8 children were alive out of 8.4 pregnancies.

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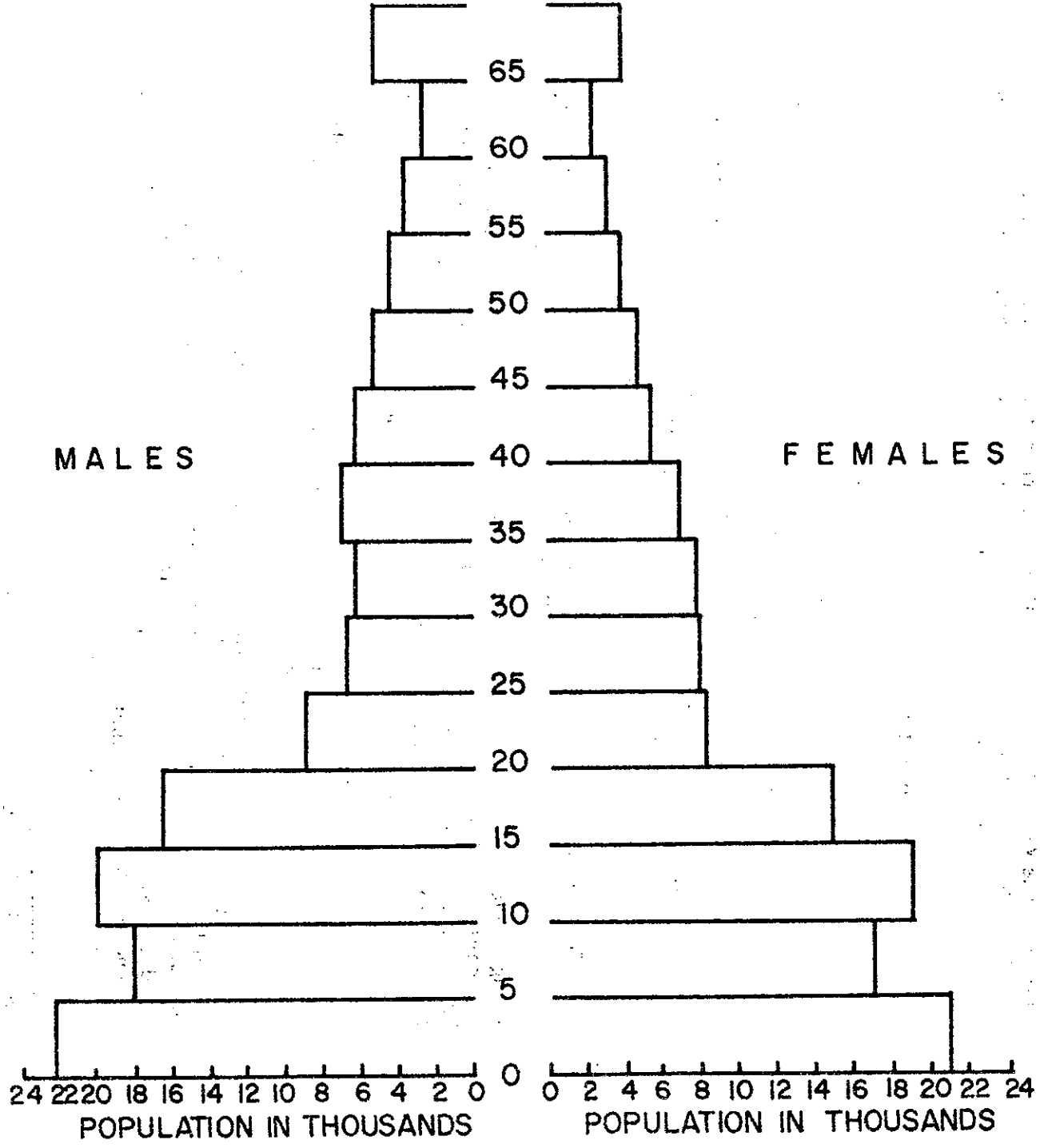
* Although there are 233 villages in the study area, the demographic surveillance system has been maintained in 228 villages.

FIGURE II. AGE PYRAMID OF THE 1975 ESTIMATED MID YEAR POPULATION



2.4 Trend in fertility and mortality.

Over the ten-year period from 1966 to 1975, two distinct patterns were observed in the crude vital events. In the first five-year period (1966-70) the crude birth rates and crude death rates exhibited a very slow downward trend with slight year-to-year variation. In the second five-year period (1971-75) the crude vital rates experienced significant year-to-year fluctuations.[7]

Two contemporary national disasters were mainly responsible for these fluctuations in vital rates.[8,9] The first one is the March-December 1971 Bangladesh Civil War which, according to the national estimate, forced about 16 percent of the population to flee into India. Military hostilities during this period caused widespread food shortage by disrupting agricultural production and impeding the distribution of imported food grain. Withdrawal of health services coupled with malnutrition and movement of refugees caused outbreak of cholera, dysentery and smallpox in an epidemic form.[8] The second and the most severe disaster was the 1974-75 famine, caused by monsoon flooding in 1974. The flood destroyed the two rice crops, the minor aus and the major aman. The situation was further aggravated by a sharp rise of food grain prices which reached its peak in January 1975 at a point 3.5 times above the level recorded in December 1973.[10]

As can be seen from the following table, one year after the war (1972) the birth rate declined modestly but in the following year (1973) the rate climbed to the highest level recorded in the decade of observation. The rate fell again in 1974, and declined dramatically in 1975. The death rate climbed markedly during the 1971 war period. In 1972 some recovery was noted but full recovery was not attained until 1973. The 1974 famine marked the onset of another sharp increase of the death rate and recovery, although detectable, remained incomplete in 1975.

TABLE 1

TRENDS IN FERTILITY AND MORTALITY IN THE MATLAB FIELD STUDY AREA, 1966-75[a]

Year[b]	Crude Birth Rate	Crude Death Rate	Infant Mortality Rate	Total Fertility Rate
1966	46.8	16.0	111	6.7
1967	45.2	17.2	125	6.4
1968	46.4	15.7	124	6.7
1969	45.2	15.1	128	6.6
1970	43.6	14.6	131	6.4
1971[c]	44.5	21.3	147	6.5
1972	41.8	16.4	129	6.1
1973	47.8	14.6	129	7.3
1974[d]	40.1	20.0	167	6.1
1975	27.6	18.2	150	4.2

a The data are for 110 villages (original population 113,000) and have been taken from the source under reference 7.

b Twelve months beginning April of each year.

c War

d Flood

3. METHODS AND PROCEDURES

The experimental design of the Matlab Contraceptive Distribution Project evolved from procedures developed for field trials of a vaccine or drug. The key feature is the concomitant observation of two similar populations; a treatment population which is supplied with the material to be tested, and a control population which remains untreated or is given a placebo. The immediate objective in the present case is to measure use of the contraceptive provided; the long-term goal is to assess the changes in birth rates resulting from contraceptive acceptance.

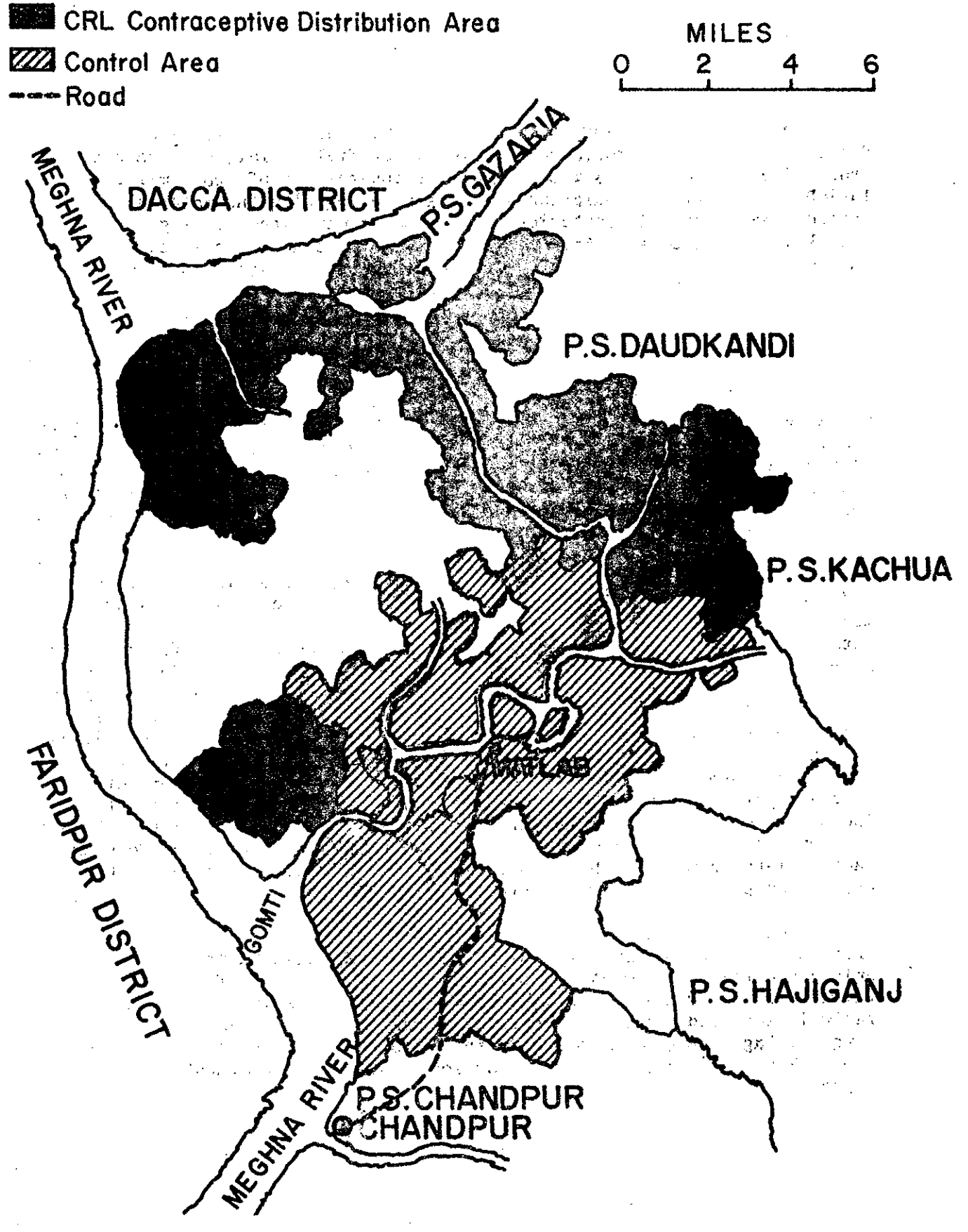
3.1 Selection of treatment and control villages.

In the first week of August, 1975, a map was prepared dividing the Matlab Field Surveillance Area (FSA) into two zones (Figure III). The first zone, comprising 150 villages with about 125,000 population, was designated as the treatment or contraceptive distribution area. The second one with approximately equal population and containing the remaining 83 villages was designated as the control area. (A list of the villages under the treatment and control area is given in Appendix A1, 2).

The designation of the distribution and the control area was selective, and somewhat arbitrary as logistic considerations precluded random assignment of villages to the two areas. Also, several other factors were taken into consideration. These were: (1) villages adjacent to the field station at Matlab bazar were provided family planning services by the Johns Hopkins University Fertility Research Clinic located in the Government rural thana health complex since October, 1974; (2) the populations in the two areas should be well separated and not intermingled in order that control villages remain uninfluenced by the contraceptive distribution program; (3) factors such as influence of modernization which might have a positive effect on contraceptive acceptance should be minimized in the treatment population. The selection of villages was, therefore, made with the objective of keeping the Fertility Research Clinic, the Government Health Centre, the Government Family Planning Office, Matlab bazar and villages close to a semi-urban area, Chandpur, in the control area.

As can be seen from Figure III, most of the villages in the control area were on the comparatively high land around Matlab bazar and along the only paved road linking Matlab bazar with Chandpur town. The treatment area villages were furthest away from the Matlab field station, on the comparatively low land along the two sides of the river Gumti and its canals. Large villages were more common in the control area than in the treatment area. The main point of this discussion is that the treatment area was biased towards low contraceptive use.

FIG. III. MAP SHOWING VILLAGES OF MATLAB FIELD SURVEILLANCE AREA, 1975



3.2 Listing of eligible women.

The listing of women eligible for family planning was taken from the CRL census of May, 1974. A computer printout (Appendix D1) listing all women age 15-44 was prepared with the following information:

Census Number
Age
Marital Status
Religion
Education of Household Head
Occupation of Household Head
Education of Woman
Size of House (square feet)
Household Indicators of Wealth and Modernity (kerosene lamp, quilt, watch, radio, remuneration from outside the household)
Number of Cows owned
Ownership of a boat (and type).

These listings were compiled in bound volumes, one for each village, to be used for the field work. Duplicate volumes were prepared for use by the Statistics Branch in Dacca.

The listing was checked and updated in the October, 1975 prevalence survey. A woman was considered eligible if she was in the 15-44 year age group, currently married, and a resident of the study area. Women who were widowed, divorced or migrated out of the study area were excluded from the list, while women who had married or were currently married and age 15-44 years when migrating into the study area were included in the list. The list was continually up-dated during the subsequent prevalence survey. No attempt was, however, made to adjust the eligibility list on account of aging, either to add married women who reached eligible age range during the study period or to drop the married women who passed the eligible age range.

3.3. Selection and Training of Field Staff.

The study proposal called for utilization of the existing infrastructure of the CRL field personnel for house-to-house distribution of contraceptives. There were 154 dais in the contraceptive distribution area. All were found agreeable to undertake this new and additional responsibility. Eight field assistants, one assistant supervisor and one field supervisor were also assigned to the Contraceptive Distribution Project for carrying

out initial mass distribution of contraceptives and quarterly prevalence surveys. Two new positions were created under the project. One was Project Manager to be responsible for over all coordination and supervision of works in the field. Another was typist-clerk responsible for maintaining account of commodities and supplies. A list of all personnel who worked with the project is given in the Appendix B.

Dais were usually elderly women (median age being 40 years), mostly widowed (about 64%) and illiterate (over 70% having no formal schooling). All dais were residents of the study villages and came mostly from poor families. Although the word "dai" means indigenous birth attendant, in fact, only about 15% of the CRL dais were true birth attendants. Dais were support workers, each one responsible for a population of approximately 1,000 from her resident or adjacent village. She was responsible to make daily home visits to collect verbally information on births, deaths, marriages, migrations, and detect diarrhoea cases in her area. She provided a simple remedy to mild diarrhoeal patients and referred severely affected patients to Matlab hospital. Her most important function was to facilitate village access, interviews and collection of specimens by male field assistants.

The field assistants were all matriculate (10th grade) male persons and were mostly of age between 23 to 35 years. They had been working with the CRL for 8 to 10 years. Their responsibilities included giving vaccine, collection of specimens (blood, stools, water, etc.), taking measurements (height, weight, etc.), collection of demographic information, and conducting census and interviews in their assigned areas.

The field supervisor and the assistant supervisor were matriculate men having 10 to 12 years of experience in conducting demographic surveillance, vaccine trials, and other epidemiological studies and surveys. The field supervisor had nine month training in public health and sanitation. The Project Manager was an M.A. in Sociology. Prior to joining this project, he was Assistant Director with the Government Family Planning Program and had over 10 years of experience in family planning research and evaluation activities.

The eight field assistants selected for the distribution work and eight other field assistants doing demographic surveillance in the treatment area were given a brief training by the field supervisor. The latter group of field assistants were included in the training on the understanding that they might be required to answer questions regarding contraceptive use by people of their respective areas.

Instruction sheets containing the minimum information regarding use of pills and condoms were prepared (Appendix C). These instructions were supplemented by some case examples (Appendix C.3), prepared from the pilot village experience. Another instruction sheet was prepared specifying the questions to be asked during the distribution work and codes to be used for recording the answers in the bound volumes (Appendix D.2).

The training for field assistants was organized in the first week of October, 1975 and consisted of 3 hours didactic lectures followed by one day of supervised field work and discussion of the work. Several additional day's work were partially supervised at the beginning. Informal evaluations were undertaken by the supervisors on the spot to ensure that the workers were able to give the necessary understanding to the potential acceptors.

The training of dais consisted of one afternoon didactic instruction similar to that imparted to the field assistants, and field experience acquired while accompanying the field assistants during the initial house-to-house distribution. The training was conducted by a team consisting of the Supervisor, Assistant Supervisor and Project Manager (the latter joined in the early December, 1975).

The first round of training of dais was completed along with the initial distribution activities (October-December, 1975).

Half-day follow-up training sessions were then arranged for each group of dais every month continuously for a period of six months. The purpose of these follow-up training sessions was to teach dais how to handle side-effects and correct women who use pills improperly. An instruction sheet containing some follow-up case examples (Appendix C.4) was developed and distributed among the dais.

The follow-up monthly training sessions were not included in the original study plan. The idea came from a survey conducted within 8-13 weeks following the initial distribution to study the side-effects of pills. The survey showed that a good number of dais had little interest or understanding of the pills, and that many women in the areas were using them incorrectly. The study indicated that bleeding, a most frequently reported problem, was often caused by incorrect pill use and it recommended repeated training of the dais. It was evident that one time training exposure was not sufficient for the illiterate dais who were not accustomed to learning facts and were unable to support memory through written materials.

3.4 Coordination with local family planning activities.

Before starting of the field work working arrangements were established with local authorities. The project director visited Matlab in early August, 1975 and discussed the study plan with the local Thana Family Planning Officer, Thana Health Administrator and Resident Physician of the Johns Hopkins Fertility Research Clinic. It was agreed that any clinical backing required to support the contraceptive distribution programme would be provided by the Fertility Research Clinic as and when necessary. It was also agreed that the field workers of the government family planning programme would continue to carry out their activities in both the treatment and control areas as usual. The project activities would thus be augmenting the national effort in the distribution area. The project agreed to give

the Thana Family Planning Officer a copy of its monthly progress report to assist him in assessing the cumulative achievement in his thana.

At the time when CRL started its contraceptive distribution programme the Government thana family planning programme was operative with one Thana Family Planning Officer, two male Assistants and two Lady Family Planning Visitors. There were no full-time village-based workers. Dais, the part-time village based family planning workers were no more active in the field.

3.5 Pre-test.

In August, 1975, a pilot distribution was carried out in two villages to test and refine field logistics, to explore community reaction, and to give the professional and supervisory staff experience in this particular kind of activity. One village was a comparatively conservative Muslim village having a Madrasa (religious school) nearby. The second was a mixed Hindu-Muslim village. The villages were adjacent to each other and were at a distance of about 6 miles by waterway from the Matlab field station.

Initial discussions with local leaders and villagers indicated that there would not be any strong resistance to the contraceptive distribution. In particular, the villagers indicated that they would accept a male worker discussing contraception with their wives if the CRL village dai accompanied him. In this context, it should be noted that very few male members are present in the house during the day as most are working from morning till evening. A few might be available for a short while at noon for meals but this time is not sufficient or suitable for discussion about contraceptives. Therefore, it was decided to concentrate the effort on oral pills and talk primarily with women during the pilot distribution.

House-to-house canvassing was done by a team of 3 workers — one supervisor, one Field Assistant and the dai of the respective village. Eligible women were identified by consulting the CRL Family Visit Card in the household. The women were simply explained the benefit of using oral pills, the procedure of taking pills, and some particularly common side effects. The message about pills was conveyed to women mostly in groups and in presence of other women of the bari. The dai worked as an interpretor and mediator in discussions. Usually each interested woman was given a supply of 6 cycles of pills. The field assistants recorded the quantity of pills supplied to each interested women and also information on menstrual status and previous use of contraception. The pilot distribution was completed in 16 working hours distributed over 3 days field work. Out of 148 eligible women in the two pilot villages 101 (69%) were present at the time of distribution, and of these, 52 (52%) accepted pills. Husbands were present for only 20-25% of the visits.

The reasons for refusal were as follows:

	No.	%
Pregnant	6	12.3
Menopausal	8	16.3
No pregnancy for several years (ranging from 4-14 years)	6	12.3
Mad	1	2.0
Husband had lost potency	1	2.0
No pregnancy since marriage	1	2.0
Husband was absent and the woman felt (he might object)	17	34.7
Not interested	9	18.4
	49	100.0

The relatively high rate of accepting the supplies and the reasons for non-acceptance indicated there was a good receptivity for the household distribution approach. No organized resistance was met although a few women were negative about the distribution activities and told others that the pills would be harmful. The male field workers had little difficulty in talking to Muslim or Hindu women about menstrual periods and contraception with the assistance of the local dai.

3.6 Initial distribution.

The distribution work began in October, 1975 with eight teams of distributors, each team consisted of one field assistant and dai of the respective village. The work proceeded from Matlab and after completing distribution in villages close to Matlab, the field staff shifted the station first to Sataki and then to Mollakandi, two interior villages of the study area. The movement of the staff in the field was facilitated by providing them with office transport, usually speed boats and in some cases country boats.

The supervisory staff also lived with the workers in the field. Every day they accompanied the teams in the field, worked with them and observed the community reaction. In the evening, the supervisory staff and the field assistants met together to discuss field problems, to review the progress of the day and to prepare the next day's programme.

The first round of the initial house-to-house distribution was completed in 56 working days within the period from 9 October to 10 December, 1975.

A field assistant on an average visited 60 families per day. At the beginning progress was comparatively slow. However, as the work progressed, less effort was needed because word of activities often had spread ahead of the workers. In many baries, the field assistant and the dai were greeted by 4-8 women and received instruction in a group. In some cases the dai went ahead to gather women in each bari.

A principle established at the start required that emphasis should be given on oral pills during the initial distribution. Because oral contraceptives were new to virtually all women and the instructions were difficult to understand, the distribution of condom along with additional instructions did not seem appropriate during the first phase. In addition, during the pilot distribution the husband was found present for only 20-25% of the visits.

The message given started with reasons for spacing or limiting numbers of children. The conversation gradually introduced the benefit of using oral pills, procedure of use and some minor common side-effects of the method. The conversation usually took 5 to 10 minutes depending upon the number of participants and situation.

The workers were instructed not to provide any motivation or family planning propaganda except elaborating on what was said in the instruction sheet. However, the workers found it difficult to make the discussion lively and fruitful without going to some details about the disadvantage of a big family and advantage of a small family. In some cases they had to dispell rumours about bad effects of contraceptives reported by the women.

The discussion was followed by the supply of oral pills. If the women agreed, the field assistant gave each of them 6 cycles of oral pills. If the women did not agree to accept pills they were told about condoms, and if agreed, usually a supply of 6 trips of condoms (18 pieces) was given to each. For an average couple, 18 pieces of condoms were considered to be sufficient for 3 months use.

All eligible women irrespective of their present probability of conception were given supplies if they agreed to accept them. Pregnant women and those with less than 6 months post-partum amenorrhea were instructed not be begin the pills until their babies were 6 months old. In case of miscarriage or infant death, the women were told that they might begin within one to two months of the termination or death. In 24 villages (list in Appendix A.5) women were instructed not to start use until 18 months of post partum. This exception in 24 villages was made in hope of studying the effect of pills on post-partum amenorrhea and breastfeeding. However, no analysis has yet been attempted.

3.7 Records.

As mentioned earlier, the computer print outs of all eligible women of the treatment and control villages were bound in books, known as "Prevalence Books." These computer sheets were used for recording the prevalence survey and contraceptive distribution information.

During the distribution the field assistant confirmed each woman's identification and then recorded the distribution results on the computer sheet of the prevalence book. (Appendix D.1). The dai kept the record of the supplies made by her in a small exercise book either by herself or by some literate relative or neighbour.

To detect the number of recipients in the area of a dai and the quantity of commodities to be supplied to replenish her stock, a bound register for each block (equivalent to the jurisdiction of one demographic field assistant with 18-20 dais) was developed. The register contained information on date, kind and quantity of supplies given to a dai. This register was up-dated in the monthly meetings of dais.

3.8 Maintenance of supplies.

After the initial distribution the dais assumed the responsibility of making supplies to both the new and old acceptors. During her daily routine home visit she would carry a red plastic bag with contraceptives, instruction sheets and a small exercise book to record name of recipients and quantities distributed. It seemed gradually that this "lady with red bag" going around the village households on her daily round, became a helpful reminder to the women to take pills, and a symbol of easy identification to villagers. Even children could tell what the dai kept in her red bag. In many instances children ran after her and tore her bag for condoms which they used as a balloon or toys.

3.9 Supervision.

In the original study plan it was proposed that the demographic field assistants would supervise the distribution activities of dais of their respective areas. However, the field assistants showed little interest in the contraceptive distribution work. The reason reported by the field assistants was that they had no time to talk about contraceptives after completing their assigned demographic work. Therefore, the idea of supervision by the demographic field assistant was dropped from the work strategy.

The only systematic attempt to supervise dais' work was the prevalence survey. During each prevalence survey the field assistants observed the ability of the dai in canvassing contraceptives, counselling on side-

effects and correcting women using pills improperly. The field assistants also checked the consistency of information recorded in dais' supply register. These were the eight field assistants who carried out the initial mass distribution of contraceptives and quarterly prevalence surveys. However, it should be mentioned here that out of seven prevalence surveys conducted after the initial distribution only two surveys covered the whole study area. And as such, all dais did not get equal support and supervision.

Another approach of supervising dais' work was the random spot checking by the supervisors. At the monthly meeting the supervisors first checked the supply register of the dais and then randomly chose few cases to confirm the information by direct interviewing.

The performance of dais was assessed by the prevalence survey records and the dais' supply register. The criteria of judging the performance were the number of new acceptors recruited per month and the number of women kept on continuing use.

3.10 Special condom distribution.

Like house-to-house distribution of oral pills, the study design called for mass distribution of condoms. But condom received little emphasis during the early months of the programme since the oral pill was thought to be the more effective method, and also because introduction of one method at a time seemed more appropriate for this non-contracepting population. However, as pill acceptors began dropping out and many were using no method, promotion of condoms seemed appropriate about one year after the start of the programme. Accordingly, a special intensive house-to-house canvassing for the condom was made during the period from 13 October to 25 November, 1976 in all villages of the treatment area, except 6 villages given injectable contraceptives beginning in August, 1976 (see discussion under section 13.3 below).

Eight field assistants were recruited on temporary basis for the condom distribution. All were married males, age above 25 years and residents of Matlab thana. Priority in selection was given to those having children and personal experience of contraceptive use. The educational qualification of the distributors ranged from Matriculation to Bachelor Degree.

The distributors received 3 days didactic instructions on usage of pills and condoms, followed by 3 days field training. The classroom sessions also included orientation about demographic data collection system and technique of identifying individuals in census books and family record cards because these workers had no previous experience of the Matlab demographic surveillance system.

For practical training the distributors accompanied the field assistants of the prevalence survey for three days and learned how to approach women for interview and how to record information in the prevalence book.

The male distributor accompanied by the resident dai and carrying with him a red plastic bag canvassed systematically from house-to-house. The target of contact was the husbands of all eligible women. In absence of husbands, women were contacted. The distribution was conducted during the months when many men were unemployed and were more likely to be at home. But, in fact, only 25% of them were present at the time of distribution. However, the male distributor had little difficulty talking to women and demonstrating condoms with the help and assistance of dais. Young women were embarassed to talk to the male distributor in which case the dai demonstrated the condom use with the help of pictorial instructions developed for the purpose.

The demonstration of condoms presented practical problems in this population. One was the question of modesty as the demonstration of a full ballooned condom resembles the male organ. Second, it was not easy to explain how to wear a condom. The most serious problem was that it was a male method but males were difficult to contact.

To overcome these problems, pictorial instructions were developed which would be helpful in demonstrating use of condoms and could be left with the wives of absentee husbands. The drawings were quite explicit and easily understandable even to a villager who could not read the text (Appendix C.6).

Each recipient was given one dozen of condom along with the pictorial instructions. The result of the canvass and quantity supplied were recorded in the prevalence book. In half of the treatment villages plain condoms were distributed and in the other half coloured (red, black, blue and yellow). Roughly 45% of the eligible couples present during the distribution received the supplies. Although the coloured condoms were found to be more attractive to the recipients, the subsequent follow-up prevalence survey showed no difference in the use rate of plain versus coloured condoms.

3.11 Government family planning activities in the project thana.

As mentioned earlier when CRL started house-to-house distribution programme the Government thana family planning programme was operative with one Thana Family Planning Officer, two male Assistants and two Lady Family Planning Visitors. Except for one Lady Family Planning Visitor who had been providing IUD in a rural clinic, all were stationed in Matlab proper. There were no full-time village-based workers.

During the period from January 24 to January 31, 1976, the Government conducted a national house-to-house distribution of oral pills and condoms, using all the field level staff of the Health and Family Planning Divisions and also recruiting some temporary daily wagers. These also covered the project areas. As could be expected, comparatively very few women of the treatment area received supplies from the Government workers. In the control

area a number of women received the supplies and a modest rise in use rate was subsequently observed (see table 4 under Chapter 4).

By the end of 1976 the Government started recruiting one village level female worker per 6,000 population and one male worker for roughly 18 to 20 thousand population. The recruitment of male workers was complete by October, 1976. But recruitment of all female workers could not be completed until 1978 when the Government relaxed their educational qualification from Matriculation (10th Grade) to Class VIII.

The Government sterilization facilities in Matlab thana were very limited and were available only in its Rural Health Centre at Matlab. The facilities were expanded during an eight-week nation-wide intensive sterilization campaign, beginning from February 15, 1977. About 500 sterilizations were done from Matlab thana during the campaign period. 321 cases — 185 vasectomies and 136 tubectomies — came from the Matlab Field Surveillance area.

This favourable response to the sterilization campaign encouraged the Government to strengthen its sterilization activities in Rural Health Centre. The doctors of the Rural Health Centre used to arrange sterilization clinic at least twice in a month with the assistance of the District Family Planning Technical Officer and the local Thana Family Planning Officer. This activity, however had only minimal effect on the contraceptive practice rates.

3.12 Termination of the simple household distribution programme.

In the original study plan, it was proposed that the house-to-house distribution of pills and condoms by the CRL dais would continue for a period of three years. However, the prevalence of contraceptive practice showed an initial peak followed by a gradual decline (see table 4 under Chapter 4) and it appeared that the programme was not only failing to generate new demand, but also failing to satisfy existing demand in terms of encouraging a continuity of use. Experience in the field and special studies conducted during this period suggested a modification in the field structure and provision of fertility control services. The initial house-to-house distribution strategy by the CRL dais, therefore, came to an end after just two years of its operation when a comprehensive fertility control programme began in October, 1977.

The comprehensive fertility control programme covered 70 villages (Appendix A.7) of the Matlab Field Surveillance area with about 80,000 population. 40,000 came from the original treatment area and 40,000 from the original control area.

A smooth transition from initial simple distribution programme to new comprehensive programme was effected. The selection of villages and

appointment of new female village workers, one for each 1,000 population, were complete by middle of November, 1977. After a brief initial training the female village workers were put in field by the first week of December. They got orientation in the procedure of household visits and acquainted with the village women by accompanying dais of their respective villages in the field. From January, 1978 the female village workers became fully active in the field, and dais of the modified program area were released from service.

Dais in the remaining villages of the old distribution area were still in service and were carrying on distribution of pills and condoms. The distribution activities ceased in this area with effect from March, 1978, when dais provided a six-months supply to each acceptor of their areas and advised the acceptors to contact local Government Family Planning Workers for their future supplies. The supervisory staff also informed the local Thana Family Planning Officer about termination of distribution activities in this area.

3.13 Research records.

The original study plan envisaged three KAP (Knowledge, Attitude and Practice of family planning) surveys and eight prevalence surveys to be conducted over the three years life period of the project. However, several questions developed beyond those originally formulated and a number of special studies were conducted during the first two years of the project, i.e. the actual period of its operation. Here a calendar of these studies, sample size, procedure of sampling, and general content and definitions are presented in brief. Details of the questionnaires and instructions may be found in Appendix D. A list of papers generated by these studies is also given in Appendix E.

3.13.1 KAP surveys:

Three KAP surveys were to be conducted — one before the beginning of the house-to-house distribution, one at the end of second year, and one at the end of third year or at the time of termination of the project. The first two were conducted as proposed but the last one was not attempted due to a change in the design of the project in third year.

The first KAP survey known as base-line KAP survey was conducted during the period from September 16, 1975 to November 21, 1975. Interviews in the treatment area were completed before October 15 when contraceptive distribution began.

A two stage clustered probability sample of households was drawn from a complete household listing arranged by village. The first stage was the selection of 60 villages from 233 villages of the Matlab Field Surveillance

Area. The second stage was the selection of households within villages. In each of the 60 sample villages, 22 households were selected, yielding a total of 1,320 households. In each household that was selected all eligible women (married women of age 15-44 years) were interviewed. In the 1,320 sample households, there were about 1,200 eligible women of whom 1,011 (84%) were successfully interviewed. The sample yielded equal representation from both treatment and control areas.

Interviews were done by trained female interviewers with the help of a standard conventional family planning KAP questionnaire (Appendix D.4). The questionnaire was divided into four sections. The first section related to pregnancy history and demographic information, the second section sought data on family size preference, the third on knowledge and practice of contraceptives, and the fourth on costs and benefits of children.

The data were edited, punched and validated at the CRL. A copy of these data was taken to the University of Michigan by Mr. Langsten for analysis. However, no comprehensive report has yet been published, except partial utilization of some selected findings in some other reports of the project.

The second KAP survey was conducted among the same respondents of the base-line survey during the period from April to June, 1977. The questionnaire was almost identical except deletion of some questions in the first section and addition of few questions in the last section about contraceptive distribution activities.

The data were coded and punched at the CRL and are now being validated by Mr. Langsten at Michigan. No report has yet been published.

3.13.2 Prevalence Surveys:

Within the period from September, 1975 to October, 1977 eight prevalence surveys were conducted as per following time schedule. Except second, third and fourth surveys, all these surveys were conducted simultaneously in both the treatment and control areas.

1st or base-line prevalence survey	- September 23, 1975 to November 11, 1975.
2nd prevalence survey	- February 3, 1976 to March 26, 1976 (Treatment Area). March 27, 1976 to May 20, 1976 (Control Area).
3rd prevalence survey	- April 23, 1976 to May 21, 1976 (Treatment Area). May 21 1976 to June 20, 1976 (Control Area).

4th prevalence survey	- July 20, 1976 to August 24, 1976 (Treatment Area). August 23, 1976 to September 23, 1976 (Control Area).
5th or annual prevalence survey	- October 13, 1976 to December 6, 1976.
6th prevalence survey	- January 17, 1977 to March 2, 1977.
7th prevalence survey	- April 19, 1977 to June 3, 1977.
8th prevalence survey	- September 23, 1977 to October 28, 1977

The first, second and fifth (or annual) surveys were conducted among all eligible women (married women of age 15-44 years) of the treatment and control areas. The third, fourth, sixth, seventh and eighth surveys were conducted among a sample of roughly 20% eligible women of both the treatment and control area. The sample was drawn at the time of third prevalence survey. The villages of both the treatment and control area were listed along with population size. Beginning with a random start, villages were systematically drawn until they yielded a sample size roughly equal to 20% of the total eligible women. The sample contained 30 villages from the treatment area and 17 from the control area (Appendix A.3, 4).

Since information sought in the prevalence surveys was factual in nature no standardized questionnaire was developed. However, the interviewers were supplied with printed instructions specifying questions to be asked and codes to be used for recording answers (Appendix D.2, 3). Only the code numbers were recorded in the prevalence book to facilitate direct key punch. As mentioned earlier, the eight field assistants assigned to this project conducted the interviews. Contraceptive use status of the respondent was confirmed by probing questions. In case of reported pill use, the interviewer examined the page from which the respondent claimed to have used pills.

The data of the first five surveys were punched and varified earlier. Findings have been presented in a number of published reports. The data of the remaining three surveys have just been punched and validated and will be reported in the result chapter of this report, along with the findings of the other five surveys.

3.13.3 Special Studies:

(a) Investigation of Contraceptive Side Effects and Their Impact on Contraceptive Usage: In order to investigate the problems being reported from the distribution villages and to help formulate any remedial actions which should be taken, a survey was conducted among a sample of 1,853 women

who accepted supplies of pills during the period October, 1975 to January, 1976. Interviews were conducted within eight to thirteen weeks following the acceptance of supplies. These data were analysed by two senior Australian medical students and a draft mimeo paper was internally circulated [Appendix E.2(5)].

(b) Case-Control Maternal and Child Health Survey of Oral Contraceptive Users and Non-users: A case-control health status survey of mothers was undertaken in September, 1976. The objective of the study was to analyze the relative frequency of health problems experienced by women using oral pills and women not using any contraceptives.

All women reported to be using oral contraceptive at the time of fourth prevalence survey (August, 1976) in the 20% sample villages of the treatment area were selected as cases for the study. For each case two married women not using oral contraceptives were chosen as controls — one from the same village and a second from the control villages. Cases and controls were matched by age, parity and reproductive status (pregnant, post-partum amenorrhea, menstruating, etc.) as recorded during the October, 1975 base-line prevalence survey. The procedure yielded 232 cases, each matched with two controls.

The data of this study were analysed at the Bangladesh Fertility Research Project (BFRP), Dacca and a report was published with the title "Oral Contraceptive Users and Their Children — A Health Survey In Rural Bangladesh" [Appendix E.1(9)].

(c) A Survey of Knowledge and Use of Condom: The study arose from the felt need to examine some of the factors associated with low level of condom use and the lethargic response to the special condom distribution campaign launched during October to November, 1976. The survey was conducted during the period January through February, 1977 among 510 baries (the sampling units) in the treatment area and a similar number in the control area. In this study there were 299 respondents from the treatment area and 288 from the control area. The data were tabulated manually and the report has been published as a CRL working paper [Appendix E.1(8)].

(d) Evaluation of Injectable Contraceptives: In the month of February, 1977 an attempt was made to evaluate acceptability of DMPA, its side effects and continuity of its use.

The study sample consisted of 173 women who accepted DMPA during the last 6 months time. All the study women belonged to the six villages of the treatment area (list in Appendix A.6) where DMPA was made available on a trial basis from August, 1976. The data were tabulated manually and the findings were presented in a workshop organised by the BFRP, Dacca [Appendix E.3(5)].

(e) Follow-up of Pill Drop-Outs: During the period from March through April, 1977 a follow-up survey was conducted among 1,065 pill discontinuing women from the contraceptive treatment area.

The sample consisted of all pill acceptors who reported to have given up use during the fifth prevalence survey in November, 1976. Four male field assistants conducted interviews with the assistance of local dais. A total of 877 women were interviewed. The data were tabulated manually and the findings were presented in a draft mimeo report "Utilization of Dais in promotion of contraceptive practice" [Appendix E.2(6)].

(f) A Survey of the Utilization of Dais in Promotion of Contraceptive Practices: In order to assess knowledge of dais acquired through training about pills and condoms, and to examine relationship, if any, between dais knowledge and level of contraceptive practices in their villages, a survey was conducted among 154 dais of the contraceptive treatment area in March, 1977. The data were tabulated manually and the findings were published in the CRL working paper No. 5 [Appendix E.1(3)].

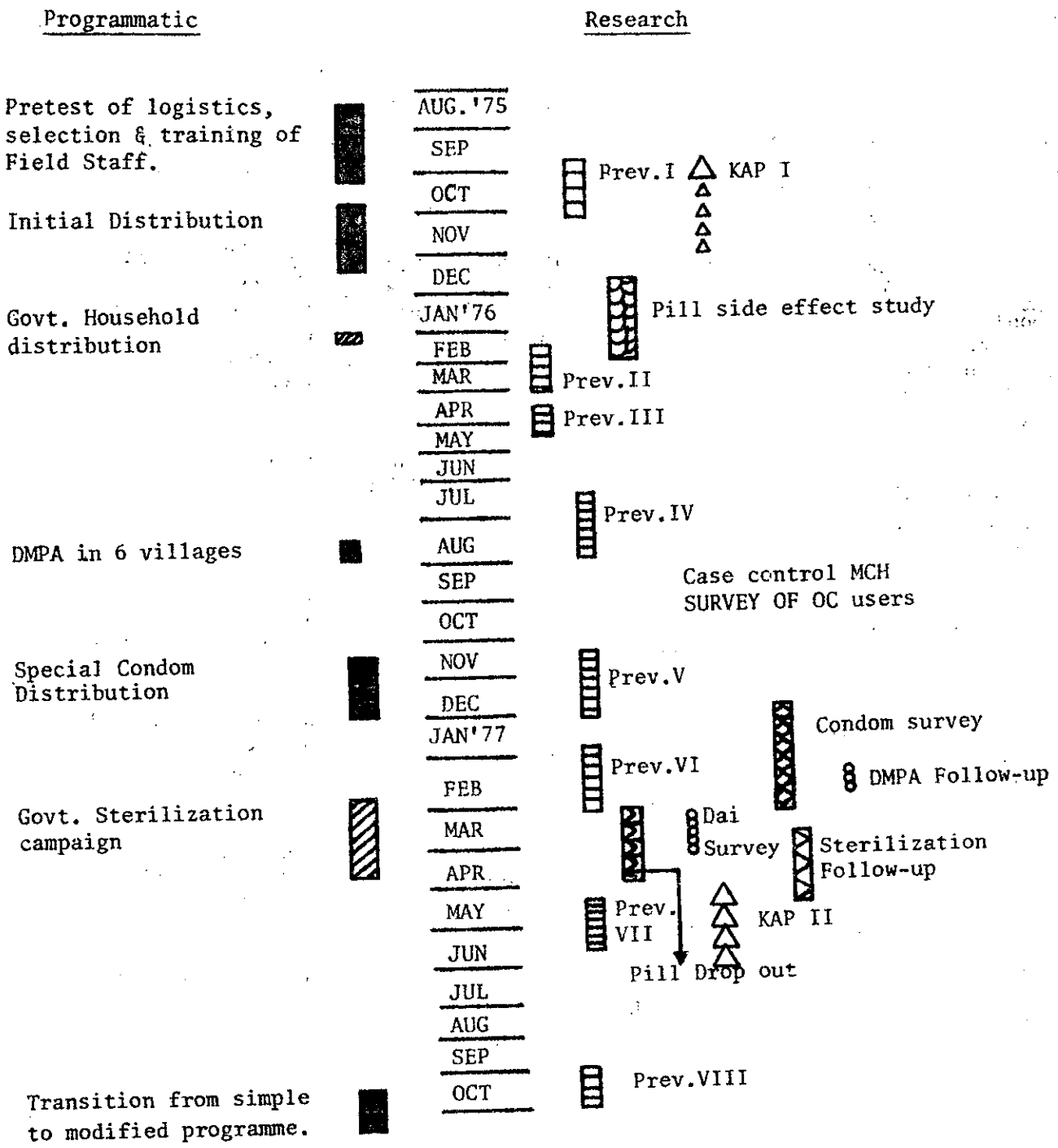
(g) A Follow-up Survey of Sterilization Clients: The survey was conducted during the period from March 3 to May 11, 1977. The objective of the survey was to learn about socio-demographic characteristics of the sterilization clients and their receptivity to the procedures.

The study sample consisted of 185 vasectomized men and 136 tubectomized women of the Matlab field surveillance area who underwent operation during the eight-week nation-wide intensive sterilization campaign, beginning from February 15, 1977.

The data were tabulated manually and the findings were presented in a seminar organised by the Government Family Planning Division [Appendix E.3(6)]. The report of this study has also been published as a CRL working paper [Appendix E.1(6)].

(h) Demographic Surveillance System (DSS): The DSS is essentially a vital registration system and has been operative in both the treatment and control villages since 1966. The system functions largely outside the Contraceptive Distribution Project and provides an unique opportunity to assess the demographic effectiveness of the Contraceptive Distribution Project. The description of the DSS in details may be found in many publications of the CRL, including the CRL Scientific Report No. 9(11).

FIG. IV CALENDAR OF MAJOR ACTIVITIES, AUGUST 1975-OCTOBER 1977



4. RESULTS

In this chapter an attempt is made to describe the effect of the house-to-house contraceptive distribution programme on the practice of contraception. We will begin with a description of some selected findings of the base-line KAP survey in order to provide a general overview of potential for receptivity to and acceptance of impending contraceptive distribution programme in the area. Next we will present the results of the initial mass distribution of oral pills and condoms. Third, we will look at the cumulative and point prevalence contraceptive use rates as reported by the quarterly prevalence surveys. Finally, we will examine the influence, if any, of some social and biological factors on the acceptance of contraception. Details of sample size, questionnaire and data collection procedure for the base-line KAP and prevalence surveys have been given in the preceding chapter.

4.1 Base-line KAP Survey.

4.1.1 Desired Family Size:

Popular explanations of high fertility in Bangladesh usually embody the belief that people here are indifferent to, or favour, unlimited family. Proverbs such as "For every mouth God provides a pair of hands", "One must accept whatever number of children God sends", and "Where one eats, so can many" are presumed to reflect the thinking of Bangladeshi women, and also of men, on family size preferences. However, the evidence from the base-line KAP survey does not support generalization of such contentions. The survey revealed that over 80 percent of the women expressed their preference for some specific number of children, the average being 4 to 5 of which the expected number of sons was 1 more than the number of daughters. The reminder (less than 20%) expressed their unwillingness to specify any number (11).

On an average, a married woman was found to achieve her desired family of 4.5 living children by about 33 or 34 years of age. Fully 38 percent of the respondents were reported to have achieved or exceeded their individual desired family size and may, therefore, be considered to be currently in need of contraception.

4.1.2 Knowledge and Practice of Contraception:

Awareness about the possibility of contraception was found to be fairly wide spread among the study population. Over two-thirds of the women claimed either to know or to have heard about some contraceptive methods.

But the extent of knowledge about available programme methods was very limited. Only 10.5 percent of the respondents did mention the name of IUD, 4.7 percent condom, 3.8 percent vasectomy and 3.7 percent female sterilization. In contrast, a good number of women mentioned the name of oral pills (33%) and injectable contraceptives (11%) — the two methods which had recently been made available to the neighbouring villages of Matlab Bazar by the John Hopkins Fertility Research Clinic.

However, knowledge about contraceptive methods appeared to lead very few women to practice them. Only 2 percent of the respondents reported to be currently using a modern method — oral pills (1.5%), IUD (0.2%) condom (0.2%) and injectable contraceptives (0.1%). Another 5.6 percent claimed to be current users of some traditional methods like rhythm and "Kabiraji". But there was evidence that current use of traditional method was over reported by some interviewers due to a vague definition for rhythm method(11).

4.1.3 Intention of Future Use:

Although the level of current use was very low, which indicates either an inadequate service delivery system and/or a low level of demand for contraception, there appeared to exist a large reserve of future intentions. Thus, in addition to 7.6 percent current users, another 37.7 percent of the women expressed their intention of future use. The following table shows their preferred methods.

TABLE 2

DISTRIBUTION OF 1,011 RESPONDENTS ACCORDING TO THEIR METHOD OF CHOICE FOR FUTURE USE

Response	N	%
Will not use in future	460	45.5
Will use in future:		
Pills	269	26.6
Condom	8	0.8
Injectable	30	3.0
Other modern	11	1.1
Rhythm	5	0.5
Other traditional	6	0.6
Whichever is best	50	4.9
Don't know	2	0.2
Not Applicable (currently using)	76	7.6
Undecided	94	9.2
Total	1,011	100.0

The 460 (45.5%) respondents who expressed their unwillingness to use any contraceptive in future advanced the following reasons:

Response	N	%
Want more children	116	(11.4)
Husband opposed	42	(4.1)
Respondent herself opposed	19	(1.9)
Bad for health	20	(2.0)
Sterile, has not conceived for a long time	128	(12.7)
Against God's will	111	(11.0)
Others	24	(2.4)
Total	460	(45.5)

The data indicate that future use of contraceptives was not of much relevance to about 13 percent of the respondents. The women considered them as sterile, most probably for the reason that they had experienced a long open birth interval and/or had reached the age of menopause. Another 11 percent expressed their unwillingness on the ground that they wanted more children. This group may be assumed to consist of mostly young mothers with no or fewer children. Probably these women have not yet thought about limiting their family size and it may be expected that demand for contraception will eventually emerge among them. There then remains about one-fifth of the eligible women whose future intention of use appears to be blocked by some socio-cultural constraints. In absence of data we cannot say anything definitely whether simple availability of contraceptives can remove these constraints and create demand for contraception among this group of women.

In sum, it would appear that demand for contraceptive services is definitely present among the study population, but that effective utilization of the services is still a thing of the future.

4.2 Initial Distribution.

As discussed in the preceding chapter the initial round of house-to-house distribution began from October 9, 1975. Attempts were made to contact all the 23,395 eligible women (all married women 15-44 years updated from the 1974 CRL census) of the treatment area. On the initial visit 19,027

(81.3%) were present, of which 13,087 (68.8%) received the supplies, usually 6 cycles of oral pills.

As can be seen from the table below, the field assistants spent a total of 443 man-days of work on the distribution, averaging 29.5 contraceptive recipients and about 180 cycles of pills per man-day.

TABLE 3

DISTRIBUTION OF ORAL CONTRACEPTIVES IN THE TREATMENT AREA, MATLAB, OCTOBER 9-DECEMBER 10, 1975

Working Period	Eligible Women Contacted			Eligible Women Absent	Total Eligible Women in Area	Man-days Effort
	Recipients	Non-Recipients	Total			
9-10 Oct.	287	247	534	179	713	17
11-15 Oct.	1146	576	1722	547	2269	37
17-20 Oct.	940	500	1440	256	1696	32
23 Oct.- 2 Nov.	2460	1205	3665	703	4368	80
6-10 Nov.	1103	405	1508	264	1772	35
13-17 Nov.	1445	604	2049	423	2472	42
20-24 Nov.	1255	494	1749	370	2119	40
27 Nov.- 1 Dec.	1586	823	2409	627	3036	59
4-10 Dec.	2865	1086	3951	999	4950	101
Total	13087	5940	19027	4368	23395	443
Percent	68.8%	31.2%	(100.0%)	18.7%	(100.0%)	

4.3 Post Distribution Contraceptive Practices.

The following table illustrates prevalence of contraceptive use during the first two years of the project. Only data from the 20% sample villages collected during first through eighth surveys will be presented here. As mentioned earlier (Chapter 3, Section 3.6) women were instructed not to

start pills during postpartum amenorrhea until their breastfeeding child was 6 months old. But in 24 villages women were instructed to wait 18 months. The 20% sample included six of these villages. The acceptance and use rates in these villages were observed to be low and are presented separately in the table.

TABLE 4

% DISTRIBUTION OF ELIGIBLE WOMEN (20% SAMPLE) ACCORDING TO THEIR CONTRACEPTIVE USE STATUS ON EIGHT QUARTERLY PREVALENCE SURVEYS, OCTOBER 1975-SEPTEMBER 1977

Survey	Women Contacted	% Cumulative Acceptors				% Current Users			
		Pills	Condoms	Others	Total	Pills	Condoms	Others	Total
		Treatment Area (6 month PPA instruction)							
Baseline	4132	-	-	-	-	0.8	0.02	0.2	1.0
3 mo.	3690	23.9	0.3	0.8	25.0	16.9	0.4	0.5	17.8
6 mo.	3774	25.7	0.9	0.6	27.2	15.4	0.8	0.6	16.8
9 mo.	3735	26.8	1.5	0.6	28.9	12.5	1.1	0.6	14.2
12 mo.	3850	28.3	4.8	1.0	34.1	10.3	3.3	0.8	14.4
15 mo.	3908	-[a]	-	-	-	9.2	2.5	0.7	12.5
18 mo.	3949	-	-	-	-	8.6	2.3	1.9	12.8
24 mo.	4001	-	-	-	-	8.4	1.8	1.8	12.0
		Treatment Area (18 month PPA instruction)							
Baseline	825	-	-	-	-	0.2	-	0.6	0.8
3 mo.	760	13.8	0.3	0.1	14.2	9.2	0.3	0.1	9.6
6 mo.	734	15.4	0.8	0.7	16.9	8.2	0.8	0.7	9.7
9 mo.	745	17.2	1.3	0.9	19.4	5.9	0.9	0.9	7.8
12 mo.	766	17.6	5.1	1.0	23.7	5.5	4.2	0.5	10.2
15 mo.	807	-[a]	-	-	-	5.1	3.8	0.5	9.4
18 mo.	770	-	-	-	-	5.5	2.5	1.4	9.4
24 mo.	823	-	-	-	-	6.1	2.3	2.1	10.4
		Control Area							
Baseline	3702	-	-	-	-	2.2	0.2	0.5	2.9
3 mo.	3889	3.8	0.2	0.5	4.7	2.7	0.1	0.6	3.4
6 mo.	3763	4.4	0.2	0.6	5.2	2.9	0.2	0.6	3.7
9 mo.	3738	4.4	0.3	1.0	5.7	2.4	0.2	1.0	3.6
12 mo.	3781	4.4	0.2	1.2	5.8	2.0	0.2	1.2	3.4
15 mo.	3876	-[a]	-	-	-	1.9	0.2	1.5	3.5
18 mo.	3734	-	-	-	-	1.8	0.3	1.9	3.9
24 mo.	3748	-	-	-	-	1.5	0.4	1.9	3.8

Acceptors: Have been using or used a method any time since distribution.
Current Users: Using to date or used in past 2 weeks time.

a Unlike the first five surveys which defined ever-use as used a method any time since the initial distribution, the last three surveys defined ever-use as used a method any time since last 3 months, 6 months and one year respectively. As such, at this stage of analysis, the data do not permit calculation of cumulative acceptors for the last three surveys.

From the table it is evident that early results of the distribution programme were quite encouraging. Immediately following the initial distribution of oral pills the acceptance rate went up to 25 percent. The current use rate also rose from 1 percent at the base-line survey to 17.8 percent at the 3 month survey. However, over the next nine months the rate of enrolment of acceptors was very low and current use rate declined steadily. There was then a slight rise in both acceptance and current use following special condom distribution effort during the period between the fourth and fifth prevalence survey. But the findings of the subsequent prevalence surveys confirmed that the current use rate declined again and came down to a level around 12 percent in the second year of the programme. However, as mentioned in section 3.9 under chapter 3, the 20% sample villages received comparatively more support and supervision, and as such this use rate of 12 percent may be an over estimation for other villages of the study area. The preliminary analysis of the data from the modified programme reveals that current use rate for those treatment villages which have been covered by the modified programme came down below 10 percent in October 1977 (details will be available soon in the subsequent paper).

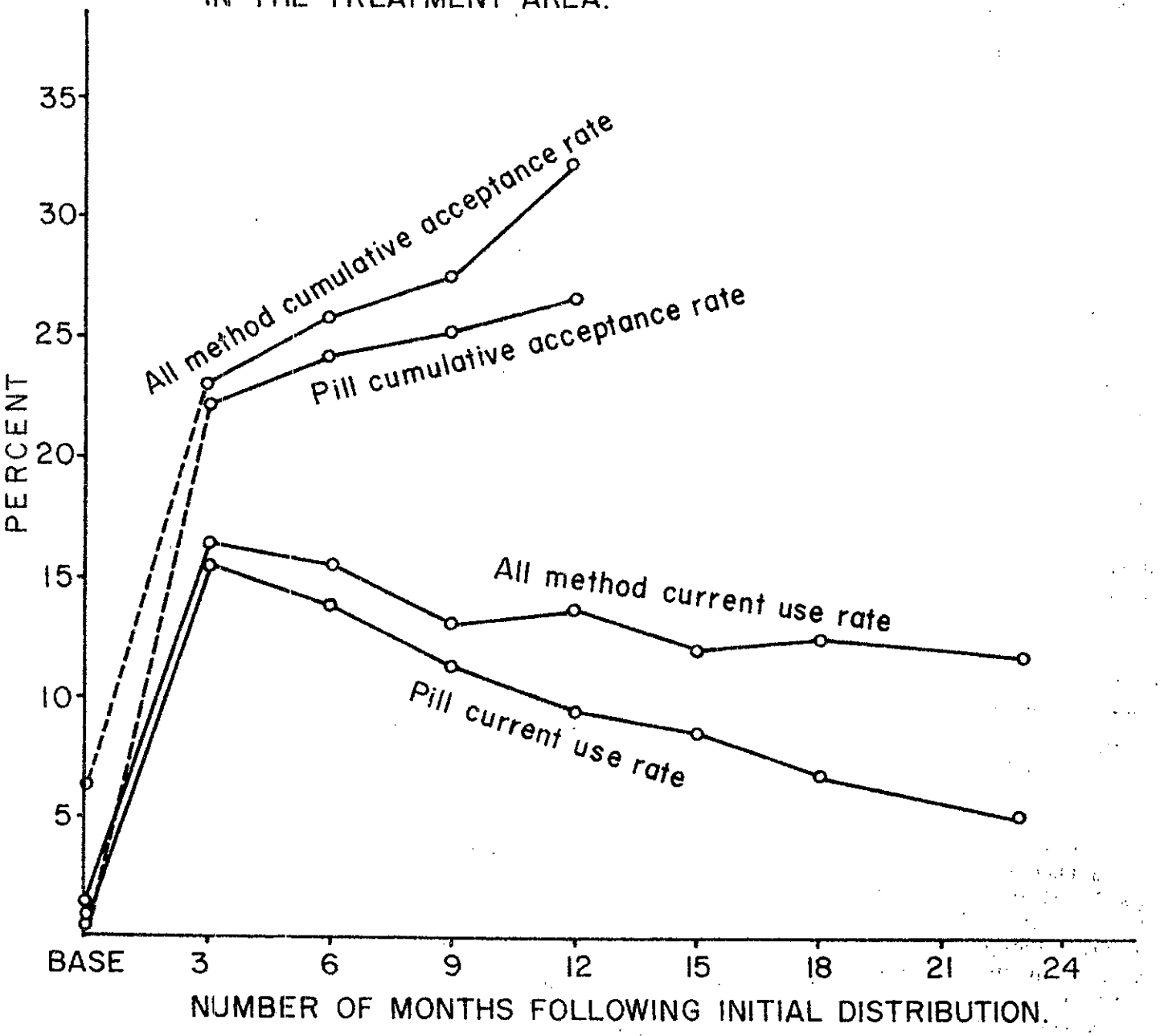
The rate of contraceptive acceptance was much lower in the villages where women were instructed not to start pills during their post-partum amenorrhea period until their breastfeeding child was 18 months old. The difference in current use rates was quite significant. At this time, we are not sure about any difference in the resultant demographic effectiveness between the two groups of women taking pills following 6 months and 18 months post-partum periods respectively.

The control area experienced some increase but very small in its contraceptive use rates during the period. The base-line use rate of 2.9% rose to 3.4% after one year. The use rate was found a bit higher (3.7%) during the third prevalence survey, probably due to the one-week nation-wide campaign of oral pills and condom conducted in the last week of January that year (see chapter 3, 3.11).

4.4. Continuation of Use:

The prevalence of contraceptive practice in the treatment area exhibited an initial peak followed by a gradual decline over time. This was due to the fact that the number of cases lost due to discontinuation was not compensated by enrolment of new acceptors. As is evident from the cumulative acceptance rates shown in the Table 4 almost two-thirds of the acceptors were recruited in the first quarter after the start of the distribution. But an analysis of the first cohort of acceptors (Table 5) indicates that over three-fifths of the acceptors of this quarter abandoned use within 10-12 months of acceptance. During the last 3 quarters of the year the

FIG.VI. CUMULATIVE ACCEPTANCE (OCTOBER 1975-NOVEMBER 1976) & CURRENT USE RATES (OCTOBER 1975-SEPTEMBER 1977) IN THE TREATMENT AREA.



enrolment of new acceptors was very poor and it was observed that the use-continuation rates for the acceptors of these quarters were also not much different from the first quarter.

The following table shows all-method current use rates for the first cohort of 1,033 acceptors from the 20% sample villages. The women in this cohort reported acceptance of pills (95.5%) or other methods (4.5%) in the period from the initial distribution to the second prevalence survey conducted after about 4 months of the distribution.

TABLE 5

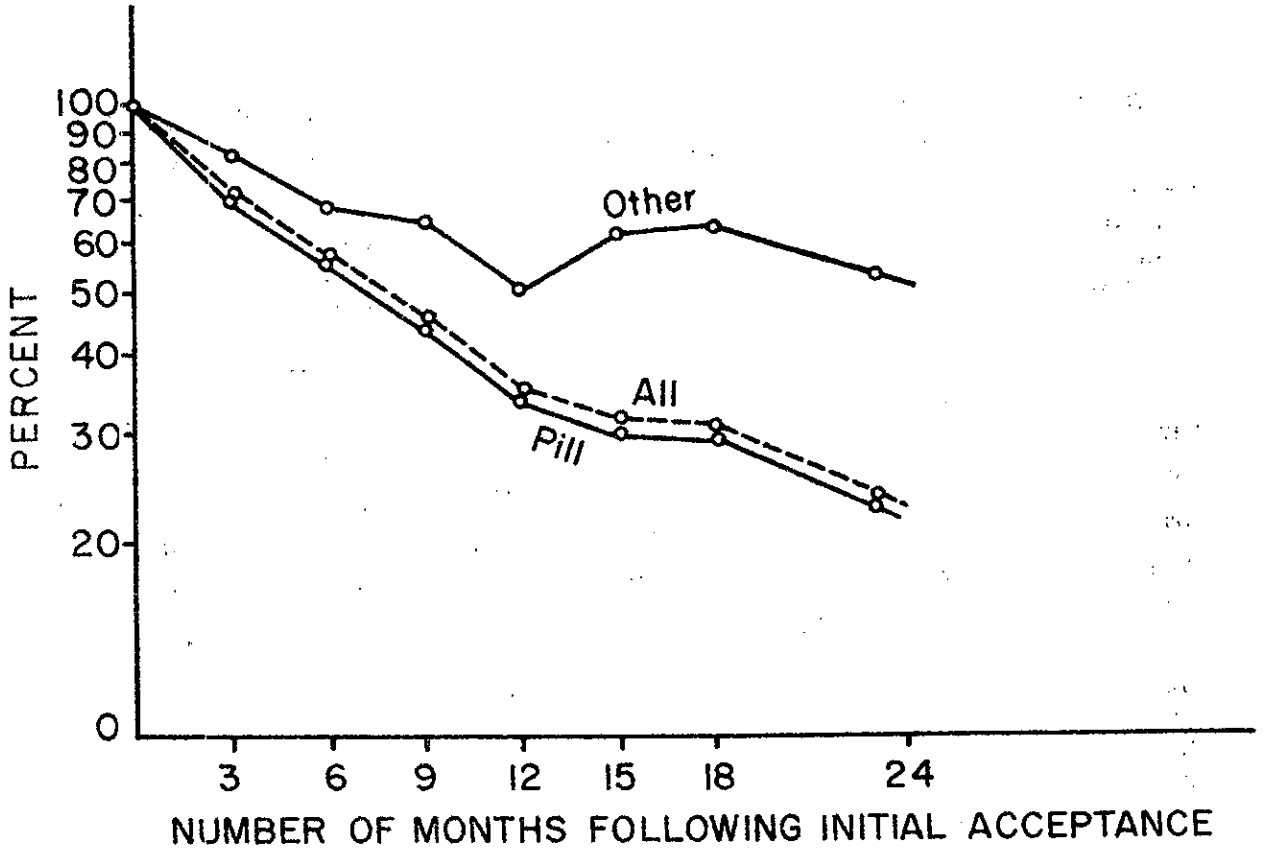
ALL-METHOD CURRENT USE RATES FOR A COHORT OF 1033 EARLY ACCEPTORS BY METHOD FIRST ACCEPTED

Months since Acceptance	Pill		Other[a]		All	
	Contacted in Surveys	Currently Using (%)	Contacted in Surveys	Currently Using (%)	Contacted in Surveys	Currently Using (%)
3 or less	988	70.2	45	82.2	1033	70.8
4-6	898	56.8	42	69.0	940	57.3
7-9	886	44.4	40	65.0	926	45.2
10-12	927	37.6	43	51.2	970	38.2
13-15	919	31.7	40	62.5	959	32.9
16-18	932	30.3	41	63.4	973	31.7
19-24	935	26.1	41	53.7	976	27.2

a The "Other" methods include Condom, IUD, Sterilization and other modern and traditional contraceptives.

It is interesting to note that the pill, which was almost consistently the method most accepted and supported by the programme, exhibits a lower continuation rate than other methods. Thus, while fully 55% of the acceptors of other methods were still using a method after 10 to 12 months of the initial acceptance, it was only 37.6% of the pill acceptors who were still continuing use of some methods, 32.9% pills and 4.7% other methods (not shown in the table). At 19-23 months, the proportion of current users for pills came down to 26.1% and for other methods 53.7%. However, it should not be overlooked that the number of acceptors of other methods is very small and inclusion of few sterilization or IUD acceptors might inflate the continuation rate.

FIG. VII. ALL METHOD CURRENT USE RATES BY METHOD FIRST ACCEPTED OCTOBER 1975 – SEPTEMBER 1977



4.5 Biological and Social Influence on Contraceptive Practice:

Since human reproduction is a function of both social and biological factors contraceptive practice at any point in time (prevalence) will be subject to both social and biological constraints. Thus, for example, at any point in time a pregnant woman will not be using contraceptives. Similarly, a woman who is trying to have another child will not be demanding contraceptives.

An analysis of information on menstrual status collected during the baseline prevalence survey shows that only about 35% of the eligible women of the treatment area were currently menstruating (Table 6) during the month before

TABLE 6

DISTRIBUTION OF WOMEN (20% SAMPLE) AT DIFFERENT LENGTH OF OPEN BIRTH INTERVALS ACCORDING TO THEIR MENSTRUAL STATUS, OCTOBER 1975

Year of last termination	Women Contacted	% Menstruating	% Postpartum Amenorrhea	% Pregnant	% Amenorrhea for other reason	% Menopause	% Don't know
1975	788	11.2	85.7	2.0	0.8	0.1	0.3
1974	1300	23.5	64.9	7.9	3.5	-	0.2
1973	1177	37.4	37.0	19.5	5.3	0.5	0.3
1972	411	51.1	15.6	23.8	8.3	1.0	0.2
1971	183	56.8	10.4	18.0	8.2	6.6	-
1970 or before	710	49.4	1.1	3.9	6.5	38.9	0.1
Not applicable (No termination yet)	299	69.6	-	19.7	7.4	2.7	0.3
Don't know	89	25.8	0.3	-	2.2	46.1	25.8
All	4957	34.9	41.3	11.4	4.7	7.0	0.7

starting of the initial distribution. The remaining all were either in postpartum amenorrhea (41.3%), or pregnant (11.4%), or reached menopause (7.0%) or in amenorrhea for other reason (4.7%). This means about two-thirds of the eligible women at a given point in time were naturally protected against conception. Any contraceptive delivery programme could expect a cent-percent

protection against pregnancy among these eligible women at that particular point of time by providing service successfully to only 35% currently menstruating women. A similar analysis (not shown here) of menstrual status of eligible women in the control area reported by all the five quarterly prevalence surveys conducted during the period from October 1975 to November 1976 revealed that the proportion of currently menstruating women never exceeded 40% during the period.

Open Birth Interval: Early studies in Matlab suggest that the median duration of post-partum amenorrhea among the married women of Matlab may extend beyond 18 months with birth intervals of approximately 3 years (12). This means an woman may not be demanding contraceptives for a period of 18 months, on the average, after delivery of a baby. This appears to get support from the data in Table 7 which shows that despite instruction by the project to

TABLE 7

% DISTRIBUTION OF WOMEN (20% SAMPLE) AT DIFFERENT LENGTH OF OPEN BIRTH INTERVALS ACCORDING TO THEIR CONTRACEPTIVE USE STATUS

Year of last termination in October 1975 survey	Women contacted in Nov. 1976 survey	% Currently using at Nov. 1976 survey	% Ever used since initial distribution
1975	696	16.4	37.2
1974	1144	19.4	44.6
1973	1067	15.9	36.0
1972	373	12.3	33.2
1971	164	10.4	29.3
1970 or before	646	6.3	17.6
Not applicable (No termination yet)	212	1.4	5.2
Don't know	314	7.0	14.0
Total	4616	13.8	32.4

start pills after 6 months of delivery irrespective of menstrual status, the contraceptive use rate was lower among the women who had a birth in 1975 than the women who had a birth in 1974.

The analysis in the following table aims at showing influence of open birth interval on use of contraceptives. The date of last termination for the women in this analysis was recorded during the first prevalence survey preceding initial distribution. The data on contraceptive use presented in the table relates to the information collected during the 12 month prevalence survey.

The table shows that the proportion of women who accepted contraceptives over the year following the initial distribution was higher among the 1974 termination group. The difference of acceptance between the 1974 and 1975 groups appears mainly due to an over representation of women at post-partum amenorrhea period and mothers who were still nursing their infants in the latter group. However, though the proportion of women at post-partum declined gradually with the length of last termination, as is evident from the table, the proportion of acceptors did not increase. The percentage of acceptors rather decreased gradually. There may be two probably reasons. One is that women had got sufficient rest to beget another child. The second is that women, especially those who reached menopause, did not feel need for any protection against further pregnancy.

Age and Parity: Table 8 shows a curvilinear relationship between age and contraceptive acceptance. Rates of acceptance and continuation of use

TABLE 8

% DISTRIBUTION OF ELIGIBLE WOMEN OF THE TREATMENT AREA (20% SAMPLE) ACCORDING TO THEIR AGE[a] AND CONTRACEPTIVE PRACTICE AT FIFTH PREVALENCE SURVEY, NOVEMBER 1976

Age in years	Women Contacted	% Acceptors[b]	% Current Users[c]	% of Cumulative Acceptors currently Using
15-19	694	14.6	6.5	44.5
20-24	900	27.9	11.1	40.0
25-29	820	38.8	16.7	43.1
30-34	949	44.9	18.2	40.6
35-39	711	41.5	20.1	48.2
40-44	542	19.0	6.8	36.0
All	4616	32.4	13.8	42.5

a Updated in October 1975 from the 1974 CRL Census.

b Have been using or used a method anytime since initial distribution.

c Have been still using or used a method in past 2 weeks.

are highest for those aged 25-39 years, when spacing and limitation are particularly acute problems. The rates are lowest among women aged under 20 years and for those aged 40-44 years. This is quite expected given the fact that during the early years of marriage there is little need for contraception, since one or two children are usually desired right away. Again, with the decline of fecundity after age around 40 years the need for contraception becomes gradually reduced.

Parity appears to have a strong influence on contraceptive practice. The table below shows that rates of cumulative acceptance and current use increase consistently with increase in the number of total live births. If we look closely at the table, one fact is strikingly clear. That is, the

TABLE 9

% DISTRIBUTION OF ELIGIBLE WOMEN OF THE TREATMENT AREA (20% SAMPLE) ACCORDING TO THEIR NUMBER OF LIVE BIRTHS AS ON OCTOBER 1975 AND CONTRACEPTIVE PRACTICES ON NOVEMBER 1976 PREVALENCE SURVEY

No. of Live Births	Women Contacted	% Acceptors[a]	% Current Users[b]	% of Cumulative Acceptors Currently Using
0	229	5.7	1.7	30.8
1	486	15.2	6.8	44.6
2	493	26.0	9.1	35.1
3	469	30.9	11.3	37.0
4	508	35.2	14.0	40.0
5	484	39.9	18.4	46.1
6	444	41.7	16.9	40.5
7 & more	1214	43.2	19.7	45.5
Unknown	289	18.0	9.0	50.0
All	4616	32.4	13.8	42.6

a Have been using or used any time since initial distribution.

b Have been still using or used in past 2 weeks.

concept of family planning among the village women is no more limited within a narrow definition of "termination of child birth period". Over one-fourth of the respondents with two live-births accepted contraceptives, obviously for spacing purpose. Another interesting observation is that some women aged above 30 years with no live-birth accepted contraceptives. These women were found to be pill acceptors and our experience in the field suggests that they accepted pills to regain menses.

An analysis of the relationship (Table 10) between number of live-births and current contraceptive practice, controlling for age, shows that parity, more than age, has a powerful influence on contraceptive practice. In each age group the rates of current use increase with an increase in the number of total live-births. Since number of live-births is associated with age it would appear that both of them jointly affect the contraceptive practice more effectively than each of them separately.

Religion: The base-line prevalence survey recorded a contraceptive use rate of 0.9% for Muslims and 1.8% for Hindus of the treatment area. After one year of the house-to-house distribution programme the corresponding figures rose to 13.4% and 15.8% respectively. A plausible explanation for this disproportionate use rates among Muslims and Hindus is that Hindu women have greater mobility and so more access to the sources of contraceptive facilities. Prior to the distribution programme this explanation might have been sufficient. But in light of the household availability of contraceptives this explanation seems to be inadequate. In-depth analysis is necessary to examine the attitudinal, social, and demographic factors which may be associated with the higher practice among Hindus.

Occupation: As seen in Table 12, occupation of the head of a family appears to make a marked difference in practice of contraceptives. In general, acceptance is higher among service and business categories, moderate among agricultural families and mill or factory workers, and lower among fishing families. A similar trend is observed in continuation of use. The higher acceptance and continuation among the service holders and businessmen may indicate a realization of disadvantages associated with a large family, in addition to a possibility of modernization influence. Unlike agricultural or labourer families, they cannot expect a net early return from their children. The lower practice rate among the fishing families may reflect a fatalistic out look towards their life. This is quite understandable given the fact that a fisherman is dependent on the mercy of nature for his livelihood and every day he remembers his luck for a successful catch. Moreover, his son can be a useful assistant even before age 7 or 8 years.

Education of Wife: As can be seen from Table 13, literacy of wife appears to make no notable difference in acceptance of contraceptives. Near about one-third of the women irrespective of their educational attainments tried a method in one year period from the initial distribution to the 12 month prevalence survey. However, literacy seems to make definite differentiation in contraceptive use persistance. Thus, while 55% of the cumulative acceptors with V or above education were still using a method by the end of one year of the distribution programme it is only 40% in case of women with no formal schooling. It is interesting to note that women with maktab

TABLE 10

RELATIONSHIP BETWEEN CURRENT CONTRACEPTIVE PRACTICE AND NUMBER OF LIVE-BIRTHS, CONTROLLING AGE

Number of Live-Births	15 - 19		20 - 24		25 - 29		30 - 34		35 - 39		40 - 44		All	
	% CU	N	% CU	N	% CU	N	% CU	N	% CU	N	% CU	N	% CU	N
1 - 2	8.8	420	7.5	424	5.5	73	20.0	25	0.0	17	0.0	20	8.0	979
3 - 4	17.4	23	15.9	346	11.8	372	12.1	141	5.2	58	2.7	37	12.7	977
5 - 6			19.5	41	24.8	274	19.1	350	8.9	158	6.7	105	17.6	928
7 - 8					21.2	52	21.1	279	23.8	244	6.1	163	18.7	738
9 & above							21.4	98	31.8	195	9.3	183	20.9	476
Total	9.3	443	11.7	811	16.5	771	18.9	893	20.4	672	6.9	508	14.8	4098*

CU = Current Use

* Women with zero and unknown parity have been excluded.

TABLE 11

% DISTRIBUTION OF ELIGIBLE WOMEN OF THE TREATMENT AREA (20% SAMPLE) ACCORDING TO THEIR RELIGIOUS AFFILIATION AND CONTRACEPTIVE PRACTICES, NOVEMBER 1976

Religion	Women contacted	% Acceptors[a]	% Current Users[b]
Muslims	3972	33.1	13.4
Hindus	644	34.2	15.8

a Have been still using or used anytime since initial distribution.

b Using or used in past 2 weeks.

TABLE 12

% DISTRIBUTION OF ELIGIBLE WOMEN OF THE TREATMENT AREA (20% SAMPLE) ACCORDING TO THE OCCUPATION[a] OF THEIR FAMILY HEADS AND CONTRACEPTIVE PRACTICES, NOVEMBER 1976

Occupation of Family Head	Women Contacted	%Acceptors[b]	% Current Users	% Cumulative of Acceptors currently using
Land owner and owner workers	2,106	33.0	14.1	42.5
Share Croppers and Agri. labour	871	31.3	11.6	37.0
Fisherman	180	28.3	5.6	19.6
Non-Agri. labour	387	31.3	14.2	45.5
Service	255	37.3	21.6	58.0
Business	381	36.7	16.8	46.0
Mill/Factory Workers	206	31.1	16.8	50.0
Other (like Cottage industry)	71	20.0	7.1	35.7
Not in any gainful employment (housewife), students, disabled, etc.)	153	26.1	9.8	37.5
All	4,610*	32.4	13.8	42.5

a As per 1974 CRL census

b Have been using still or used anytime since initial distribution.

c Using or used in past 2 weeks.

* 6 Women reported begging as occupation of their family heads and are not shown in the table as none of them ever accepted a method.

TABLE 13

% DISTRIBUTION OF ELIGIBLE WOMEN OF THE TREATMENT AREA (20% SAMPLE) ACCORDING TO THEIR EDUCATIONAL ATTAINMENTS[a] AND PRACTICE OF CONTRACEPTION, NOVEMBER 1976

Level of Education	Women Contacted	% Acceptors[b]	% Current[c] Users	% of Cumulative Acceptors Currently Using
No formal schooling	2,369	33.3	13.3	40.0
Maktab	1,118	29.7	11.8	39.7
Less than V Standard	544	32.5	14.7	45.2
V and above	585	33.5	18.2	55.0
All	4,616	32.4	13.8	42.5

a Taken from the 1974 CRL Census.

b Have been still using or used anytime since initial distribution

c Using or used in past 2 weeks.

or religious education would be less interested for contraception than their illiterate counterparts, although students in Maktabs[1] receive no instruction in favour or against contraceptive. One probable explanation may be that religious teaching reminds people about their dependency on God and thereby intensifies their fatalistic attitude towards the subject of family size.

1 A primary informal religious institution where students learn how to say prayers, reading of the Holy Book and selected religious prescriptions for leading a religious life.

5. PROGRAMME ANALYSIS

The results of the first two years of the house-to-house Contraceptive Distribution Programme have confirmed that there exists an unmet demand for contraception in the rural areas of Bangladesh. The base-line KAP survey indicated that about 40% of the eligible women, including 2% who were current users of some modern methods at the time of the survey, would use contraception if the means were made available to them. The information elicited by the KAP survey about desire for contraception appears to be quite valid when the subsequent prevalence surveys revealed that over 34% of the eligible women had really tried some programme methods within the first year of the contraceptive distribution programme.

The Matlab Contraceptive Distribution Project further shows that house-to-house distribution of contraceptives by a cadre of field workers like the CRL field assistants and dais can achieve a level of initial use many times higher than existed before. However, large number of initial users cannot assure the attainment of programme goals relating to fertility reduction unless a substantial portion of them continue to use. The successive prevalence surveys revealed that the rate of contraceptive use reached its peak immediately after the distribution started and thereafter declined continually. It appears that the simplified house-to-house distribution programme not only failed in generating new demand, but also failed to sufficiently satisfy existing demand in terms of encouraging a high continuity of use.

A number of special studies were conducted during this period to learn the factors responsible for this failure. What we have learned from these studies and from our observations in the field can be summarized under three broad categories: programme factors, method factors and user factors.

Programme Factors:

1. An infra-structure of the CRL field assistants and dais to reach the people was considered to be optimal in terms of economy, efficiency and acceptance of house-to-house distribution programme. However, no preceding experience of the CRL field staff or others was directly applicable in this new endeavour. The implementation of the contraceptive distribution project by the CRL basically followed a "passive participation" strategy of its past activities. The strategy sought no initiation or motivation from client side. The contraceptive distributor appeared to treat the acceptor as one-time customer and tried to push supplies without taking into consideration the motivation of the acceptor.

2. Probably the strategy adopted by the CRL was all right given the fact that the household distribution programme was based on the assumption that once the population was saturated with contraceptives people would be automatically induced to try them. This assumption may be appropriate in case of a familiar commodity (such as soap, etc.), but here the contraceptive methods were new to virtually all women (and men) of the study area. The project design stipulated that recipients be provided with minimal information on use of the products. The result was that the oral pills was misunderstood by many women. One woman, for example, reported to have taken six cycles of pills at a time to demolish a tumour inside. Some women volunteered their husbands to take iron tablets from the pill page under the impression that the iron could help producing more blood. Some women also took pills just to start menses and regain fecundity. Many users considered it unnecessary to take pill during the absence of their husbands from the house. A good number of women also took pills for aborting pregnancy.

All these instances of improper and incorrect use of pills resulted from ignorance about reproductive physiology, mode of action of contraceptives, side-effects, etc. Significant is the fact that even the distributors were not given adequate information on these aspects. The result was misguidance of women by the distributors in many situations. When, for example, it came to the notice of the supervisors that some women had been taking pills to abort pregnancy they instructed dais to prohibit women from doing so. In order to make their suggestion effective some dais started threatening women saying that use of pills during pregnancy would result in a deformed baby. This caused an unnecessary panic especially among the women who took pills during their uncertain period of early pregnancy or those who became pregnant immediately after giving up use. The supervisors then had to caution dais to refrain from such threatening propaganda.

3. Another weakness of the programme was that the distributors were all male persons. Husbands were present in only about 25% of home visits during the initial distribution and, as the pill was a female method, even in these cases, the women had to be contacted. Although the male field assistants were successful in canvassing among women with the help of dais, the modesty of the women did not permit them to be free in hearing carefully the message conveyed to them or in asking the distributors for any further clarification.

4. After the initial distribution by male field assistants the project entrusted dais with the responsibility of maintaining supplies in their respective areas and follow-up of acceptors to counsel on the use and side-effects. But the gradual diminishing trend in the enrolment of new acceptors and continuing decline in use-prevalence suggested that dais were not adequate for this task.

A survey on the utilization of dais in promotion of contraceptive practice conducted in early 1977 (see chapter 3, section 3.13.3) revealed that the median age for dais was in the 45-50 age group, almost two-thirds were widows and over three-fourths were illiterate. The study concluded that the problem was not only their low level of education and limited knowledge about contraceptive methods, but, more importantly, the dais low social status and personal inexperience in contraceptive use. The social layer of dais generally ranks below the land owning and sometimes even the landless peasantry. Further, only 8 percent of dais were proven users of contraceptives. In the village social setting it is not unreasonable to expect that a village woman is less likely to believe and adopt suggestions coming from a social "inferior" who is perceived to be less knowledgeable and experienced than the woman herself [Appendix E.2 (7)].

Concomitant with the dai study, another survey was conducted among 877 pill drop-out cases (see chapter 3, section 3.13.3). The survey revealed that only 25% of those who discontinued use for bleeding problems and 10% of those who discontinued use due to dizziness ever tried the treatments suggested by dais. More striking was the finding that among the drop-out clients those who reported taking some medicine for their complications about half of them directly accepted the treatments from village quacks, kabiraj or other sources without consulting dais or trying the treatments prescribed by them. The study concluded that dais failed to be the respected confidants of pill users [Appendix E.2(7)].

5. There was no system of routine supervision for the dais' contraceptive distribution work. Initially supervision of distribution activities was integrated into the current demographic surveillance system. The demographic field assistants were asked to supervise dais contraceptive distribution work. But the demographic field assistants complained of getting no time for this additional duty after completing their routine vital registration work.

The task of distributing contraceptives was given as an additional assignments to currently employed dais, but they saw it only as a temporary task providing no extra rewards or benefits for satisfactory performance. An apparently indifferent attitude of their immediate supervisors (demographic field assistants) to the contraceptive distribution work, coupled with frequent complaints from pill users, had resulted in less enthusiasm by dais for their new and additional work which they also found harder than their original work.

Method Factors:

1. The contraceptive distribution programme was basically a one-method programme. Emphasis was on oral pills. Condoms were, of course,

made available through dais from the beginning of the programme, but with relatively less emphasis. However, after about ten months of initial distribution of pills, a special educational effort was made for distribution of condoms. But the condom use rate never exceeded 4 percent. Most of the couples abandoned use of condoms after a very short period, on the grounds that it interfered with their sex pleasure. Some husbands reported to become intolerant about the time consumed or delay in the sex act in using condoms.

There was also a belief among some villagers that male semen works as a health tonic for the woman. Some thought that use of condom over a long period makes a man impotent. Storing of condoms and disposal of the used condoms appeared to create serious problems especially for couples from poor and over-crowded families.

A survey of knowledge about condoms conducted in early 1977 (see chapter 3, section 3.13.3) showed that only 12 percent of men in the control area could identify condom as a family planning method and only about 10 percent could describe the procedure of its use. There was a substantial improvement in the treatment area where 47% correctly identified the condom and about 44% appeared to know how to use it [Appendix E.1(8)]. The improvement in knowledge obviously related to the special educational and distribution efforts. However, the fact that even in the treatment area more than half of the men could not identify the condom after one year of the distribution program indicates the inadequacy of the simplified delivery programme.

A major programmatic problem with distribution of condom was absence of male members in house. During the special educational and distributional efforts made by male field assistants only 25% of husbands were available at home. No further attempt was made to contact the absentee husbands. It was also not easy for dais to contact males. Moreover, since the condom is a male method, modesty was a major barrier for dais to talk with males about it.

2. A one-method program could be very economical and efficient, provided the method is entirely safe, has no side-effects, is effective, and convenient to use. Unfortunately, the contraceptive method that has all of these virtues and no fault does not exist.

The most serious limitation of the household distribution programme was that it depended mainly on the oral pill, and this method experienced a very high drop-out rate. About two-thirds of the acceptors gave up use within one year of acceptance. Two types of factors appear to be responsible for this high discontinuation rate. The first type relates to the properties intrinsic to the method itself. The second type relates to what may be termed as programme deficiency.

In the survey mentioned earlier, a total of 1898 multiple responses were obtained from 877 pill drop-out women as reasons for their discontinuation of use. Of these reasons, about 87% may be termed as medical reasons such as bleeding, dizziness, weakness, burning sensation, and so forth. The remaining 13% may be termed as personal reasons like husband's objection, want another child, heard rumours, etc. [Appendix E.2(7)].

Although the overwhelming majority of the acceptors reported that they gave up use on medical grounds, the medical backup from the project was entirely passive. Simple treatments like doubling of pill dose in case of prolonged or heavy bleeding, or changing of low dose pill brand (Norinyl 1/50) by high dose branch (Norinyl 1/80) in case of inter-menstrual bleeding or spotting were found to be satisfactory to some extent in controlling bleeding problem. But the project did not provide any treatment for dizziness, even though this was the chief complaint, reported by over 75% of the pill drop-out cases.

Initially the project told the women that dizziness was something like the problem an woman usually experienced in her early stage of pregnancy and would disappear if they continued pill use for two to three months. However, many women suffered from this problem even after three to four months of continued use. Most importantly, dizziness was found to be associated with the complaint of weakness which tended to reduce work capability of an woman and thereby incurred displeasure of her husband and mother-in-law. In the village social setting, the implication of losing work capability due to pregnancy versus due to taking contraceptive pill is very different. In the first instance an woman not only deserves special care from her family members but also gets sympathy from the neighbours. In the latter instance she not only incurs the displeasure of her family members but also can rarely expect sympathy from others, because it is she, and she only, to be blamed for taking pill.

Based on the experience of the Concerned Women Project at Dacca (13), the women suffering from dizziness were advised to drink more cold water and, if possible, water with "gur" or molases. This treatment evolved from the fact that dizziness was also found to be associated with the complaint of burning sensation in the body. But the results were not satisfactory, possibly because it was not an adequate treatment or because women did not have confidence in such a simple treatment. Many women requested vitamins, and this was also a common treatment prescribed by village quacks. However, the project did not comply with this request because the study design stipulated not to provide such supportive element, and because it was the impression of some field staff that the provision of vitamins could become a kind of "Bokshish" (prize) for the acceptors. Furthermore, a small double-blind study conducted in the early period of the project demonstrated that either multiple vitamin capsules or placebos were equally effective in providing improvement in dizziness [Appendix E.3(1)].

There were some other complaints from the pill drop-out women like swelling, loose motion, fever, and so forth, which did not seem to be related to the general side-effects of pills. Added with these were the personal reasons like forget to take pills every day, sickness of the child, and so forth. The decision to abandon use may not have been inevitable in most of these cases. Interpretation of side-effects, encouragements and sympathetic support could probably have prevented many such decisions from being taken. A deficiency of the project was that dais were made responsible for counselling, but they were not the respected confidants of the village women.

3. The introduction of injectable contraceptive on trial basis in 6 villages of the study area led to considerable number of women switching to this new method. Despite switching this method raised the total use rate, suggesting that the programme should endeavour to provide a wide range of contraceptives offering alternatives to choose from.

Also, some women had been continually requesting a permanent method of birth control. Some accepted ligation during the eight-week nation-wide intensive sterilization campaign. A significant number of males also accepted vasectomy during this campaign. These observations indicate the limitation of a one-method programme and demonstrate the potential of "cafeteria" approach.

User Factors

The adoption of contraceptives is apparently mediated by a great many demographic, social, cultural and psychological factors. Variations relating to age, parity, occupation, and education have been well documented in a number of studies from several countries. Most of the user factors that influence decisions to accept or continue using contraceptives are probably beyond the power of a family planning programme to control or change. But if a programme cannot change the characteristics of acceptors, it can take steps to minimize the effects of these characteristics. The programme can counteract myths and false belief. Rumours can be checked with accurate information. Encouragement and psychological support can be given to the uncertain. A significant early finding of the project was that contraceptive use was often the result of a group decision: when one woman of a bari decided to use pills, several others often did so. However, a disadvantage of this clustering of users was that when one discontinued use due to some side effects of the method other appeared to follow her.

Over 45% of the eligible women during the base-line KAP survey expressed their unwillingness to practice contraception. The project never tried to directly reach this group. Since the philosophy of the project was

not to motivate any client, it did not try to deal even with those women who were reported to have given up contraceptive use due to such personal reasons as "heard rumours," husband's objection, religion prohibits, etc. The result was that the project not only failed in enlisting new acceptors under the program, but also failed in ensuring continuity of use for any given period of time.

6. SUMMARY AND CONCLUSION

The results of the first two years of the Matlab Contraceptive Distribution Project have confirmed that there exists an unmet demand for contraception in rural Bangladesh. Between October and December, 1975, eight CRL field assistants with the help of 154 CRL resident dais made a house-to-house distribution of oral pills in 150 villages of the Matlab field research area. Roughly 81 percent of the eligible women (currently married women of age between 15-44 years) were found present in their homes, of whom about 69 percent accepted the supplies, usually 6 cycles of oral pills. Within 3 months following the distribution, the percentage of the eligible women currently using contraceptives rose from a base-line level of 1 percent to 17 percent.

An early conclusion derived from the above findings was that with a similar effort the national family planning programme could achieve the similar level of contraceptive practice [Appendix E.1(1)]. However, the conclusion turned out to be somewhat optimistic when the Government conducted a nation-wide intensive house-to-house distribution of oral pills and condoms in January, 1976, using all the field level staff of the Health and Family Planning Division and also recruiting some temporary daily wagers. The prevalence survey conducted in the control villages of the Matlab study area found that the national intensive effort could increase the current use rate from only about 3 to 4 percent in these villages. While part of this difference in success could be attributed to a difference in the logistics in delivery system, a large part of this difference, as evident from our experience in the field, might be found in the relationship of caring and confidence between the acceptors and the distributors. Certainly much of the credit for the success of the CRL distribution programme must go to its good rapport that has been established with the study population for the past decade and to the existence of an infra-structure of its field assistants and dais, who are available at anytime to provide supplies and necessary advice to the acceptors.

A corollary hypothesis of the Matlab Contraceptive Distribution Project was that household availability of contraceptives would generate additional demands for contraception. However, the prevalence of contraceptive

practice exhibited an initial peak followed by a gradual decline over time. Within one year about 34% of the eligible women tried some method, mostly pills, for some period of time. The current use rate came down from about 17% at 3 months following initial distribution to about 13% at 9 months. There was then a slight rise following a special condom distribution effort. But the current use rate declined again and came down to a level around 12% in the second year of the programme (Table 4, Chapter 4).

The declining prevalence rates were due to both declining rates of new acceptors and briefer rates of method continuation over time. The number of new acceptors, for example, declined from 24% of the eligible women in the first 3 month period to only 2% in a corresponding period during the remaining part of the year (Table 4, Chapter 4). An analysis with the first cohort of pill acceptors showed that only about 37% of the acceptors were still continuing use of some method after 10 to 12 months of the initial acceptance, and only about 26% after 21 months (Table 5, Chapter 4).

The conclusion derived from the above findings was that the simple household distribution programme not only failed in generating sufficient additional demand but also failed to adequately satisfy existing demand in terms of encouraging continuity of use [Appendix E2(2)]. A number of studies were undertaken during the life time of the project. The findings of these studies indicated many areas for improvement to increase continuation and recruit new acceptors.

Based on the recommendations derived from these studies, the project was restructured in October, 1977, after two years of its operation. The restructured programme envisaged replacement of dais by a cadre of better educated and better trained local female village workers; distribution of a wider array of contraceptives by these workers, backed by strong supervision and technical staff; upgrading of the centralized clinic facility in Matlab to provide the full range of medical and surgical fertility control services, and provision of selected health and MCH services. The results of the restructured programme have so far shown that the contraceptive use rate has been steadily increasing. At the end of one year the current use rate rose to above 30 percent.

The Government has adopted a similar programatic approach and developed a comparable infra-structure of field workers for household delivery of contraceptives. It may be assumed that the national family planning programme could eventually achieve a similar level of contraceptive practice in the country. However, our experience with the Matlab Contraceptive Distribution Project to date suggests that the validity of this assumption will largely depend upon the success of establishing a continuing relationship of caring and confidence between the service providers and the acceptors.

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APPENDICES

APPENDIX A: STUDY VILLAGES

A.1 Villages under Contraceptive Treatment Area

Code	Name of the Village
H	Lamchari
K	Shahpur
L	Tatkhana
M	Char Nayergaon
N	Aswinpur
O	Nayergaon
P	Titirkandi
Q	Char Shibpur
R	Tatua
V20	Dagarpur
V21	Khadirgaon
V22	Beloti
V23	Baluchar
V24	Machuakhal
V26	Narayanpur
V27	Panchgoria
V28	Khidirpur
V30	Harion
V33	Shibpur (North)
V34	Satparia
V35	Durgapur
V37	Char Putia
V38	Galimkha
V39	Gobindapur
V40	Masundia
V41	Paton
V42	Adhara
V43	Kanarchak
V44	Panchdona
V45	Backchar
V46	Silinda
V47	Tulatoly
V48	Gangkanda
V49	Harina Bhabanipur
V50	Bakharpur
V51	Induriakandi
V57	Baluchar
V58	Mahishmari
V64	Kawadi
V65	Nayachar
V66	Thatalia
V68	Sobahan
V69	Naobhanga
V70	South Joypur
V71	Khamarpara
V73	Sadardia
V74	Ketundi
V75	Mukundi
V76	Chosoi
V77	Digalgaon
V78	Solodana
V79	Pitambardi
V80	Dairbond
V82	Dhonarpar
V83	Padmapal
V85	Bhanurpar
V86	Adara
V87	Hurmahisha
V88	Datikara
V90	Narinda
V91	Kachiara
V92	Uzzalpur
V93	Bordail
V94	Khidirpur (North)
V96	North Rampur
V97	Dhonagoda
V98	Santoshpur
V99	Baluakandi
VB1	Taltoly
VB2	Sree Rayerchar
VB3	Rayerkandi
VB4	Ramdaspur
VB5	Thakurpara
VB6	Sarkerpara
VB7	Mirpur
VB8	Farazikandi
VB9	Ramanathgonj
VB11	Meharan
VB12	Nagda
VB13	Naogaon
D28	Bazarkhola

Code	Name of the Village
D29	Kirtonkhola
D30	Bonuakandi
D31	Horina Bazarkhola
D32	Khalisha
D33	Nayanagar
D34	Saidkhar Kandi
D35	Mollakandi
D36	Chota Basurchar
D37	Basarchar
D38	Bara Basurchar
D39	Datterchar
D40	Kadamtali
D41	Simulia
D42	Gogachia
D43	Jamalpur
D44	Nabipur
D45	Khogoria
D46	Hapania
D47	Bara Kinarchawk
D48	Chota Kinarchawk
D49	Sadullapur
D50	Badarpur
D51	Mollakandi
D52	Nayakandi
D53	Gopalkandi
D54	Miktirkandi
D55	Jamalpur
D56	Ramayetkandi
D57	Goalmari
D58	Jamalkandi
D59	Mauthan
D60	Lamchari
D61	Kalairkandi
D62	South Nasoruddin
D63	Jhautala
D64	Sonakanda
D65	Chandrakandi
D66	Putiarpar
D67	Subairkandi
D68	Shyamnagar
D69	Bari Banga
D70	Kalipur
D71	Imampur
D72	Lalpur East
D73	Lalpur West

Code	Name of the Village
D74	Char Charani
D75	Shaitnal Bara & Chota
D76	Shaitnal Molopara
D77	Sotaki
D78	Mullukmazir Kandi
D79	Mallakandi
D80	Manikerkandi
D81	Chand Saidu Kandi
D82	Sugandi
D83	Sikichar East
D84	Sikirchar West
D85	Jorkhali
D86	Buluchar
D87	Bara Ani
D88	Shankibhanga
D89	Shankibanga Namapara
D90	Zahirabaz
D91	Joypur North
D92	Joypur West
D95	Tapadirkandi
D96	Shakharipara
D97	Nayakandi
D100	Baragaon
D101	Naujan

A.2 Villages under Control Area

Code	Name of the Village	Code	Name of the Village
A	Uddamdi	V61	Munsobdi
B	Charmasua	V62	Shilmondi
C	Sardarkandi	V63	Islamabad East
D	Charmukundi	V67	Mojlishpur
F	Sepoikandi	V72	Upadi
G	Thatalia	V81	Sonaterkandi
J	Char Harigope	V84	Shahbazkandi
S	Tatua	V89	Islamabad Middle
T	Amuakanda	V95	Baluchar
U	Baishpur	VB10	Rampur (South)
W	Kaladi	D1	Danodardi
V1	Kadamtali	D2	Bishnupur
V2	Nilokhi	D3	Monaharkandi
V3	Char Nilokhi	D4	Madhyamamchari
V4	Char Pathalia	D5	Kanudi
V5	Gazipur	D6	Dhanpardi
V6	Fatepur	D7	Sarongdi
V7	Nayakandi	D8	Kasadi
V8	Goalbhar	D9	Sugandi
V9	Naburkandi	D10	Nurullapur
V10	Dhakirgaon	D11	Prajapordi
V11	Nabakalash	D12	Rangergaon
V12	Bhangerphar	D13	Lalpur
V13	Baburpara	D14	Pathalia
V14	Enayetnagar	D15	Kherudia
V15	Bhati Rasulpur	D16	Dasdi
V16	Binandapur	D17	Raldia
V17	Hatighata	D18	Amanullapur
V18	Torky	D19	Paikasta
V19	Lakshmipur	D20	Hapania
V25	Char Pathalia	D21	Sengaon
V29	Shibpur (South)	D22	Ashitathi
V31	Digholdi	D23	Hussainpur
V32	Mobarkdi	D24	Kallayandi
V36	Ludhua	D25	Dasadi
V52	Nayakandi	D26	Purandapur
V53	Chota Haldia	D27	Safarmali
V54	Balairkandi	D93	Maizkandi
V55	Induria (Islamabad)	D94	Hazipur
V56	Pailpara	D98	Bara Haldia
V59	Doshpara	D99	Mandaitali
V60	Suvankordi		

A.3 20% Sample Prevalence Survey Villages of the Treatment Area

Code	Name of the Village	Code	Name of the Village
0	Nayergaon	VB9	Ramanathgonj
R	Nandalalpur	VB12	Nagda
V20	Dagarpur	D37	Basarchar
V23	Baluchar	D42	Gogachia
V35	Durgapur	D46	Hapania
V41	Paton	D51	Mollakandi
V42	Adhara	D56	Ramayetkandi
V51	Induriakandi	D61	Kalairkandi
V64	Kawdi	D65	Chandrakandi
V65	Nayachar	D70	Kalipur
V76	Chosoi	D73	Lalpur West
V86	Adhara	D80	Manikerkandi
V90	Narinda	D85	Jorkhali
VB1	Taltoly	D89	Shankibanga Namapara
VB4	Ramdaspur	D101	Naujan

A.4 20% Sample Prevalence Survey Villages of the Control Area

Code	Name of the Village
J	Char Harigope
S	Tatua
W	Kaladi
V5	Gazipur
V10	Dakirgaon
V17	Hatighata
V36	Ludua
V56	Pailpara
V63	Islamabad East
D2	Bishnupur
D7	Sarongdi
D11	Prajapordi
D16	Dasdi
D21	Sengaon
D26	Purandapur
D93	Maizkandi
D98	Bara Haldia

A.5 Villages with Instruction Not to start Pills Until 18 Months Post-partum Ammenorrhea

Code	Name of the Village	Code	Name of the Village
VB3	Rayerkandi	D45	Khagoria
D34	Saidkharkandi	D46	Hapania
D35	Mollakandi	D47	Bara Kinarchawk
D36	Chota Basurchar	D48	Chota Kinarchawk
D37	Basarchar	D49	Sadullapur
D38	Bara Basurchar	D50	Badarpur
D39	Datterchar	D51	Mollakandi
D40	Kadamtali	D52	Nayakandi
D41	Simulia	D53	Gopalkandi
D42	Gogachia	D55	Jamalpur
D43	Jamalpur	D56	Ranayetkandi
D44	Nabipur	D65	Chandrakandi

A.6 DMPA Injectable Villages

Code	Name of the Village
H	Lamchari
K	Shahpur
V24	Machuakhal
V26	Narayanpur
V27	Panchghoria
V28	Khidirpur

A.7 Villages Under Modified Contraceptive Programme

Code	Name of the Village
DO	Charmukundi
H	Lamchari
K	Shahpur
L	Tatkhana
M	Char Nayergaon
N	Aswinpur
0	Nayergaon
P	Titerkandi
Q	Char Shibpur
R	Nandalalpur
S	Tatna
T	Amuakanda
W	Kaladi
V10	Dakirgaon
V11	Nabakalash
V12	Bhangerpar
V13	Baburpara
V15	Bhati Rasulpur
V16	Binandapur
V17	Hatighata
V18	Torkey
V19	Lakshmipur
V20	Dagarpur
V21	Khadergaon
V22	Beloti
V23	Baluchar
V24	Machuakhal
V25	Char Pathalia
V26	Narayanpur
V27	Panchghoria
V28	Khidirpur
V29	Shibpur (South)
V30	Harion
V31	Digholdi
V32	Mobarakdi
V33	Shibpur (North)
V34	Satparia
V39	Gobindapur
V40	Masumdia
V41	Paton
V42	Adhara
V43	Kauarchawk
V44	Panchdona
V52	Nayakandi
V54	Balairkandi
V55	Induria (Islamabad)
V56	Pailpara
V57	Baluchar
V59	Doshpara
V60	Suvankardi
V61	Munsobdi
V62	Shilmondi
V63	Islamabad East
V64	Kawadi
V67	Majlishpur
V72	Upadi
V81	Sonatirkandi
V82	Dhonarpara
V83	Padmapal
V84	Shahbazkandi
V85	Bhanurpar
V86	Adhara
V87	Hurmahisha
V88	Datikara
V89	Islamabad Middle
VB11	Meheran
VB12	Nagda
VB13	Naogaon
D100	Baragaon
D101	Naujan

APPENDIX B: STAFF OF THE INITIAL DISTRIBUTION PROGRAMME

Supervisory Staff:

Dr. George T. Curlin	Head, Epidemiology Division, CRL
Dr. Atiqur Rahman Khan	Director, Family Planning Post-partum Programme
Dr. Douglas Huber	Medical Epidemiologist, CRL
Mr. K.M.A. Aziz	Head, Special Studies Branch, CRL
Mr. Makhlisur Rahman	Project Manager, CRL
Mr. J. Chakraborty	Supervisor, CRL
Mr. D.M. Gazi	Asst. Supervisor, CRL
Mr. Makbul Hossain	Asst. Supervisor, CRL

Field Staff:

Mr. Sekander Hayet	Sr. Field Assistant
Mr. Shahidullah	Sr. Field Assistant
Mr. Mahfuzul Islam	Sr. Field Assistant
Mr. D.C. Shaha	Field Assistant
Mr. Abu Taher	Field Assistant
Mr. Khalilur Rahman, II	Field Assistant
Mr. Sirajul Hoque	Field Assistant
Mr. A.H. Bhayuian	Field Assistant

Clerk:

Mr. Shahidulla Khan

APPENDIX C: INSTRUCTIONS

C.1 Directions for Oral Contraceptive Use (Field Staff)

Cholera Research Laboratory

1. These tablets are one of the very best methods of family planning available. Longer spacing between pregnancies can improve the woman's health. The tablets will only work to prevent pregnancy, however, if the woman takes one every day. If she stops or forgets to take her tablets, she will become pregnant. A woman should generally continue taking the pills even if she is taking other medicine for illness.

2. To begin the tablets, if the last menstrual bleeding started less than 10 days back, the woman may begin right away to take one tablet each day. If the last menstrual bleeding started more than 10 days back, the woman should begin taking tablets on the 5th day after her next menstrual bleeding starts, even if the woman is still bleeding. Condoms should be used until the tablets are started. Tablets may be swallowed with water. The woman should first take all the white tablets - one each day for 21 days. When they are finished she should begin the colored tablets, taking one each day. Bleeding should begin while taking the colored tablets. When all the tablets, white and brown, on one card are finished, the woman should begin a new card the very next day starting with the white tablets, even if she is still bleeding.

3. If a woman who has recently delivered a baby wishes to begin taking family planning pills, there are special instructions as to when she should begin her tablets. If her infant died, if she is not breastfeeding the infant, or if she has started having regular menstrual periods, she may begin taking tablets regardless of when she delivered. However, if she is breastfeeding and menstruation has not yet resumed, she should wait until the six-month birthday of her infant to begin taking the tablets. That is, if the infant was born on January 1, she may begin taking tablets on July 1.

4. Pregnancy does not occur if the woman takes one of these tablets each day. When a baby is desired, she stops taking the tablets. If a woman has forgotten to take a tablet, she should be advised to take the tablet as soon as she realizes she has forgotten it. In addition, the regular tablet should be taken at the usual time. To help the woman in remembering to take a tablet each day, it is good practice to set a specific time to take the tablet every day, such as the "magreb" prayer or after the evening meal.

5. The woman should not become concerned if during the use of these tablets some signs similar to pregnancy may occur such as slight headache, nausea, or dizziness. These are temporary occurrences in some women only and should disappear with regular use of pills. If bleeding or spotting should occur between menstrual periods (while taking the white tablets) do not be alarmed. This, too, is a temporary occurrence in some women which should subside with regular use of the tablets.

C.2 Directions for Oral Contraceptive Use (For Client)

Cholera Research Laboratory

1. These tablets are one of the very best methods of family planning available. Longer spacing between pregnancies can improve the woman's health. The tablets will only work to prevent pregnancy, however, if the woman takes one every day. If she stops or forgets to take her tablets, she will become pregnant. A woman should generally continue taking the tablets even if she is taking other medicine for illness.

2. To begin the tablets, if the last menstrual bleeding started less than 10 days back, the woman may begin right away to take one tablet each day. If the last menstrual bleeding started more than 10 days back, the woman should begin taking the tablets on the 5th day after her next menstrual bleeding starts. Condoms should be used until the tablets are started. Tablets may be swallowed with water. The woman should first take all the white tablets - one each day for 21 days. When they are finished she should begin the colored tablets, taking one each day. Bleeding should begin while taking the colored tablets. When all the tablets, white and brown, on one card are finished, the woman should begin a new card the very next day starting with the white tablets, even if she is still bleeding.

3. Pregnancy does not occur if the woman takes one of these tablets each day. When a baby is desired, she stops taking the tablets. To help the woman in remembering to take a tablet each day, it is good practice to set a specific time to take the tablet every day, such as the "magreb" prayer or after the evening meal.

4. The woman should not become concerned if during the use of these tablets some signs similar to pregnancy may occur such as slight headache, nausea, or dizziness. These are temporary occurrences in some women only and should disappear with regular use of the tablets. If bleeding or spotting should occur between menstrual periods (while taking the white tablets), do not be alarmed. This, too, is a temporary occurrence in some women which should subside with regular use of the tablets.

C.3 Case Examples -- Initial Distribution

1. Situation: Woman 7 months since last delivery. Breastfeeding and no menses. Does not want to use the pill because pregnancy has not occurred to her before menses return.

Response: Women usually do not become pregnant before menses return but any woman has a slight chance of pregnancy before menses return. Therefore, if she wants to be certain of preventing pregnancy, she should start pills now. Otherwise, she may wait until the first menstrual period and then begin pills on the 5th day.

2. Situation: Woman 4 months after delivery. Breastfeeding and wants to prevent all pregnancy for certain.

Response: She should wait until the infant is 6 months old and then begin pills. Her menses will return with regular use of pills, but she is protected against pregnancy. If she begins taking pills too soon after delivery, the breast milk may be slightly lessened.

3. Situation: Woman 4 months after delivery, breastfeeding, and menses have already returned.

Response: She may begin pills now (even though breast milk might be slightly decreased on pills, the risk of another pregnancy can result in reduction of breast milk also).

4. Situation: Woman with baby aged 3 months who died last week.

Response: Woman may begin taking pills immediately. If baby dies or the woman has had a miscarriage, she can become pregnant again within 1 or 2 months after pregnancy termination or death of baby.

5. Situation: Woman 12 months after delivery, breastfeeding. Husband is away (amenorrhea still). She is worried husband will not approve.

Response: Leave pills with woman and she can discuss it with the husband when he returns. The woman does not have to agree to take the pills in order to receive them.

6. Situation: Woman 18 months after delivery and menses have returned. She is breastfeeding baby. Last period began 8 days back.

Response: May begin pills immediately.

7. Situation: Woman 18 months after delivery and menses have returned. Last period began 12 days back.

Response: She should wait until next period and begin pills on the 5th day after bleeding begins. Should use condoms until beginning the pills.

8. Situation: Woman is currently 8 months pregnant and wants to use pills in the future.

Response: She may be given the pills (6 cycles) with definite instructions that she should NOT take the pills during pregnancy and should wait until the baby is 6 months old before beginning pills. (If the baby dies or if she has a miscarriage, then she may begin pills immediately).

9. Situation: Woman has not had a pregnancy for 4 years and believes she is not likely to become pregnant. She is 30 years old and is having menstrual periods regularly.

Response: Unless she is not living with husband, she may still have a chance to become pregnant and should probably begin taking the pills. The woman's own judgment must be used somewhat.

10. Situation: Woman 40 years old and has not had a pregnancy for 6 years. Believes she does not need contraceptives. She is still menstruating.

Response: In this case the woman is probably correct. If there is no pregnancy in 5 years or longer, she is unlikely to become pregnant, but cannot be certain. If she wants to be CERTAIN of preventing pregnancy, she should begin the pills.

11. Situation: Woman in ill health and therefore feels she should not take contraceptives.

Response: She should take pills because pregnancy should be avoided during ill health.

12. Situation: Woman has irregular periods and wants to begin pills. She has had no menstrual period for 2 months.

Response: If woman believes she is not pregnant, she may beging the pills immediately. If she believes she is pregnant, then the pills should not be taken during pregnancy. Pills will NOT cause abortion or miscarriage. If pregnancy is undetermined, she should use condoms until next menstruation and then begin the pills.

C.4 Follow-up Case Examples

Situations after initial delivery:

1. Situation: Woman complains of headache two weeks after she begins taking the pills.

Response: Slight headache sometimes occurs when first taking the pills. This usually goes away after 1 or 2 pages of pills. Also, many women get headache without pills and headache now may not be related to taking the pills.

2. Situation: Woman complains of nausea 3 weeks after starting the pills.

Response: Pills sometimes cause slight complaints similar to early stages of pregnancy, such as nausea, but these usually go away with regular pill use in short time. Should continue using the pills.

3. Situation: Woman complains of burning in her hands and feet two weeks after starting pills.

Response: These complaints are not caused by the pill and she should continue taking the pills.

4. Situation: Woman has fever 1 month after beginning pills and feels she is not **strong** enough to take pills.

Response: Pills do not cause fever. If she is ill and taking other medication, she should continue taking pills to prevent pregnancy. If she is ill, this is all the more reason not to become pregnant at this time.

5. Situation: Woman after 3 pages of pills complains of slight bleeding between periods (while taking white tablets). Bleeding lasts for 4 days.

Response: This is not unusual and is nothing to be worried about. The irregular bleeding usually does not continue with regular pill use. If it does not subside, the woman may take two WHITE tablets per day for 3 to 4 days until the bleeding stops. (The extra pills should be taken from a separate packet so as not to disrupt the regular packet).

C.5 Cholera Research Laboratory Instructions for Condom Use

1. The condom is a good method of family planning used by the male partner. This method is only effective in preventing pregnancy if used correctly during each act of intercourse.

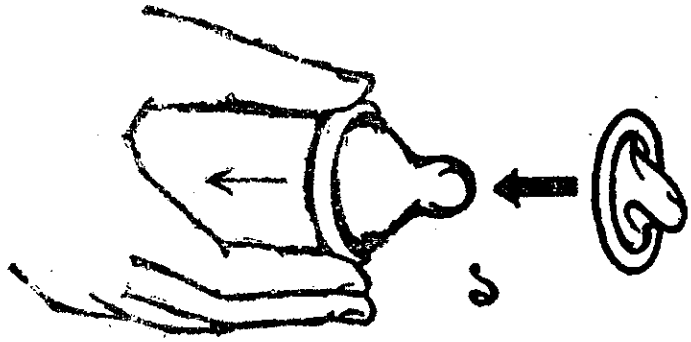
2. The condom should be removed from its wrapper and rolled completely over the already erect penis just before the penis is inserted into the vagina. After ejaculation the still-erect penis should be removed from the vagina. Hold on to the condom during withdrawal so that no semen is spilled. After complete withdrawal, remove the condom from the penis.

3. A condom should be used only once -- do not re-use the condom.

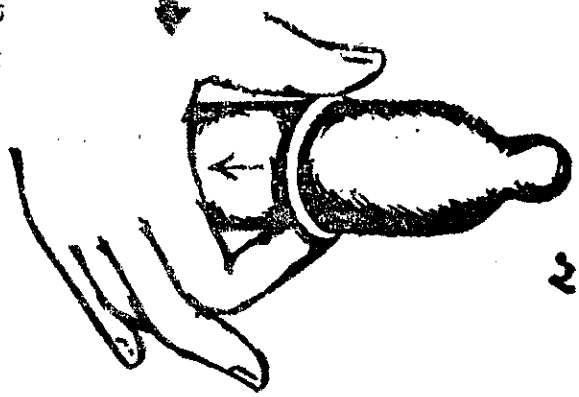
C.6 **কলেরা গবেষণাগার, মতলব**

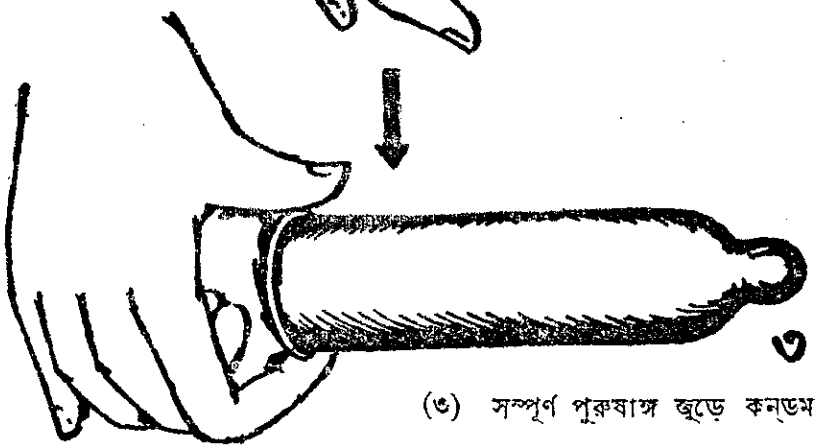
কন্‌ডম ব্যবহারের নিয়ম
(কেবলমাত্র বিবাহিতদের জন্য)

(১) কন্‌ডমটি পুরুষাঙ্গের আগায় এইভাবে পরাইতে শুরু করিবেন।



(২) কন্‌ডমটি আস্তে আস্তে খুলিতে থাকেন এবং পুরুষাঙ্গের গোড়ার দিকে টানিয়া আনেন।





(৩) সম্পূর্ণ পুরুষাঙ্গ জুড়ে কন্‌ডমটি লাগান।

বীর্য্য বাহির হইয়া পুরুষাঙ্গ শিথিল হইবার পূর্বে কন্‌ডমটি হাত দিয়া চাপিয়া ধরিয়া এমনভাবে বাহির করিবেন যাহাতে বীর্য্য কোন রকমেই কন্‌ডমের বাহিরে না যায়।

একটি কন্‌ডম একবার ব্যবহার করিবেন।

APPENDIX D : RESEARCH RECORDS

D.1 Computer Printout Sheet

Cholera Research Laboratory

List of Females Having Age between 15 to 44

Census #	Age	Marital Status	Religion	Head Edu.	Head Occu.	Education	Head Occu.	Education	House	Articles	Cows	Boat	Parity
V36-0096-02	22	1	1	5	09	5	09	5	0198	24	0	0	01
V36-0097-02	27	1	1	6	18	-	18	-	0300	30	0	1	05
V36-0098-05	16	0	1	6	01	4	01	4	0294	30	3	1	
V36-0099-02	26	1	1	8	01	4	01	4	0322	08	3	1	
V36-0100-01	42	2	1		25		25		0144	01	0	1	0200

D.2 Instructions for Completion of Contraceptive Prevalence Survey Questions (Sept. 1975)

Complete the 6 questions below for all married women ages 15-44. Update the marital status for women using the following code: (correct the survey sheet using these numbers).

0 never married
1 currently married
2 widowed
3 divorced
4 separated

Give code numbers on the survey sheets for the six questions. When asked to "specify" information write in above the code number.

When there is misinformation on the survey sheet, such as a duplicated number or the census number is for a male, write in the correct information next to the census number and indicate the error.

For each married woman present (aged 15-44) give 12 code numbers for the 6 questions as follows:

(1) Date of Last Termination			(2) Menstruating	(3) Current Method Contraception	(4) Method in past 3 months	(5) Source	(6) Parity
— —	— —	— —					
day	mo.	year					
			—	—	—	—	— —
1 2	3 4	5 6	7	8	9	10	11 12

1. Date of last termination (of any pregnancy) usually obtained from family record.

example, live birth on 8 June 1975

0 8	0 6	7 5
day	mon.	year

(6 numbers placed in 1st open space on computer printout listing)

When day, month, or year is unknown, indicate with 9's- Example, last live birth in 1966, day and month unknown.

9 9	9 9	6 6
day	mo.	year

If "not applicable" fill in with zeros.
Example, woman has never been pregnant.

0 0	0 0	0 0
day	mo.	year

2. Is woman currently menstruating? (M P in past 30 days)

1. absent from household
2. yes, is menstruating
3. no, post-partum amenorrhea
4. no, currently pregnant
5. no, menopausal
6. no, amenorrhea for other or unknown reasons
9. undetermined
0 not applicable

3. Is woman or husband using anything at present to prevent pregnancy? (in past 2 weeks):

1. Nothing
2. Pill
3. Condom
4. I.U.D.
5. Injection
6. Sterilization (man or woman)
8. Other (specify)
9. Undetermined
0 Not applicable

4. Has woman or husband used anything (at any time) in past three months to prevent pregnancy?
   1. Nothing
   2. Pill
   3. Condom
   4. I.U.D.
   5. Injection
   6. Sterilization (man or woman)
   8. Other (specify)
   9. Undetermined
   0. Not applicable

5. Source of contraception used during past 3 months. Give most recent source of contraception
   1. CRL field staff (dai, F.A.)
   2. Matlab Hospital Clinic (F.R.P. Dr. Saleha)
   3. Govt. worker or govt. clinic
   4. market (shop)
   8. Other (specify)
   9. Undetermined (unknown)
   0 not applicable

6. Parity What is the total number of live births the woman has had? (fill in blank space on computer printout on same line as woman's census number).

   Parity is total number of live births for the woman (including those born alive and now dead). It does not include stillbirths and miscarriages.

   Example, Woman had 6 live births and 1 miscarriage.

   Parity

   0 6

   If parity undetermined, write 99

D.3 Instructions for Second Prevalence Survey - January 1976
(3 months following initial distribution)

Six numbers will be coded in the next open space on the Prevalence Survey volumes:

Menstrual status	Current method of contraception	Method in past 3 months	Source	Pills given	Condoms given

1. Is woman currently menstruating? (M P in past 30 days)

   1. Absent from household
   2. Yes, is having natural menstrual periods (has stopped pills more than 30 days previously and has had 2 or more periods since stopping)
   3. No, post-partum amenorrhea
   4. No, currently pregnant
   5. No, menopausal
   6. No, amenorrhea for other or unknown reasons
   7. Yes, is menstruating, related to pill taking (has taken pills in last 30 days)
   9. Undetermined
   0. Not applicable

2. Is woman or husband using anything at present to prevent pregnancy? (in past 2 weeks):

1. Nothing
2. Pill
3. Condom
4. I.U.D.
5. Injection
6. Sterilization (man or woman)
8. Other (specify)
9. Undetermined
0 Not applicable

3. Has woman or husband used anything (at any time) in past 3 months (since distribution for treatment area) to prevent pregnancy?

1. Nothing
2. Pill
3. Condom
4. I.U.D.
5. Injection
6. Sterilization (man or woman)
8. Other (specify)
9. Undetermined
0. Not applicable

4. Source of contraception used. Give most recent source of contraception during past 3 months.

1. CRL field staff (dai, F.A.)
2. Matlab Hospital Clinic (F.R.P., Dr. Saleha)
3. Government worker or government clinic
4. Market (shop)
8. Other (specify)
9. Undetermined (unknown)
0. Not applicable

5. How many pages of pills given (note: There are three pages in one package). Include any supplies previously given by dai that have not already been recorded in Prevalence Volume.

0. None
1. One page given
2. Two pages given
3. Three pages given
9. Nine or more pages given

6. How many condoms were given (Note: There are three condoms in one strip. Give strips of condoms, do not give individual condoms except in unusual circumstances and make the proper record).

0. None
1. One strip of condoms
2. Two strips of condoms
9. Nine or more strips given

EMAMPLE: A woman presently menstruating and currently taking the CRL pill is given an additional 3 pages and no condoms. Record as follows:

7	2	2	1	3	0

D.4 Matlab Contraceptive Saturation Program
Baseline KAP

/0/1/ (1)

Name (Respondent)_____ (3) (5)

Village No._____ Village Name_____ (7) (9)

House No._____ Census No._____ (10)

Bari Name _____ (12)

Interview Calls	1	2	3	4	(14)
Date					(15) (17) (19)
Interviewer's Name					(20)
Time Started					
Time Finished					
Duration (Leave Blank)					(22) (24)
Result(See Codes Below)*					(25) (26) (27) (28)
Next Visit :					
Date					
Time					

* Result Codes: 1-Completed
2-Absent
3-Deferred (Note date and time of next visit)
4-Refused
5-Parity Completed (Note Date and time of next visit)

Scrutinized /_/	Reinterviewed Spot Checked /_/	Edited /_/	Coded /_/
Name:	Name:	Name:	Name:
Date:	Date	Date:	Date:
Remarks:	Remarks:	Remarks:	Remarks:

To begin with we need some information about your background.

A1) In what month and year were you born?

_____ month _____ year DK ____ 29 — 31 —

(Skip to Question A2)

A1a) How old are you?
_____ years 33 —

A2) Have you always liked here in _____ (name of place) ?

Yes 1 No 2 35

(Skip to Question A4)

A2a) In what kind of area did you live mostly when you were growing up, say to age 12? Was it in the country side, in a town; or in a city?

Country side 1 Town 2 City 3 36

A3) Have you ever lived in a town or city?

Yes 1 No 2 37

(Skip to question A4)

A3a) For how long did you live in the town or city?

_____ Years _____ Months DK _____ 38 — 40

A4) Are you currently married?

Yes ____ No ____

Thank the respondent and terminate interview

A4a) Do you have a husband?

Yes ____ No ____ 41

Thank the respondent and terminate interview

Marital and Pregnancy History

A5) Have you been married more than once?

Yes 1 — No 2 (Skip to question A7) 42

A6) How many times have you been married?

_____ times 43

A7) When, in what month and year, were you first married?

Month _____ Year _____ DK _____ 44 — 46 —

A8) How old were you when you were first married?

_____ years 48 —

A9) When, in what month and year, did you go to live with your first husband?

Month _____ Year _____ DK _____ 50 — 52 —

A10) How old were you when you went to live with your first husband?

_____ years 54 —

A11) We should like to get a complete record of all the babies each woman has actually given birth to in all of her life. Do you have any sons you have given birth to now living with you?

Yes 1 — No 2 (Skip to Question A13) 56

A11a) How many sons live with you?

_____ Sons 57 —

A12) Do you have any sons you have given birth to who do not live with you?

Yes 1 → A12a) How many sons do not live with you? _____ Sons

No 2 → (Skip to Question A13)

59

60

A13) Do you have any daughters you have given birth to now living with you?

Yes 1 → A13a) How many daughters live with you? _____ Daughters

No 2 → (Skip to Question A14)

62

63

A14) Do you have any daughters you have given birth to who do not live with you?

Yes 1 → A14a) How many daughters do not live with you? _____ Daughters

No 2 → (Skip to Question A15)

65

66

A15) Have you ever given birth to any boy or girl who later died, even if the child lived only for a short time?

Yes 1 → A15a) How many of your children have died? _____ children

No 2 → (Skip to Question A16)

68

69

A16) Interviewer Sum Answers, A11a, A12a, A13a, A14a and A15a and enter total here:

_____ (Sum)

A17) Interviewer, Enter here the number of living children (A16 minus A15a)

_____ living children

71

73

A18) Just to make sure I have this right, you have had_____ (number in A16) births. Is that correct

Yes ____ No ____

(Interviewer: Probe and correct Responses as Necessary)

A19) Are you now pregnant?

Yes 1 No. 2 75

Interviewer: Tick Appropriate Box (See A16 and A19)

No live births and now not pregnant 1 Live birth or now pregnant 2 76

A20) Have you ever been pregnant? (If "No" Probe: I mean, have you ever had a pregnancy, even one that lasted for just a few weeks or for a few months?)

Yes 1 No 2 (Skip to B1)

A20a) How many times have you been pregnant?

.....Pregnancies

A21) Aside from the pregnancies that resulted in a live birth, have there been other times you were pregnant? (If "No", Probe: I mean, have you ever had a pregnancy that lasted for just a few weeks or for a few months?)

Yes 1 No 2 (Skip to B1) 77

A21a) How many such pregnancies have you had?

..... Pregnancies 78

Family size and sex preferences

B1) Many people do not have or expect to have just the number of children they most want. If you were just getting married, how many children would you most like to have when you are through having children?

0 1 2 — 3 — 5 — 7 — 9

_____Children Depends __ god's will, Fate, DK____ 10 — 12 —

Blaa) Many people feel as you do and accept what happens, but still have an idea of what they want.

Bla) As you feel now, if you could have what you want, how many children would that be?

____ Children god's will, DK 9 14 —

(Skip to B4 or B4a)

B2) Of these_____ (Interviewer: Fill blank with number given in B1 or Bla) children, how many would you like to be boys and how many girls?

_____ Boys _____ girls Either all right ____ 16 17

B3) If you couldn't have _____ (Number from B1 or Bla) would you rather have _____(one more) or _____ (one less)?

One more 1 One less 2 DK., Indifferent 9 18

(Skip to B4 or B4a)

B3a) Well, what do you think, would you rather have _____(one more) or_____ (one less) child?

One more 1 one less 2 DK, Indifferent 9 19

B4) We know that the number of children people expect to have is not always the same as what they would like to have. On these cards there are 16 family compositions with different numbers of boys and girls. We would like you to put them in the order of your preference. Put the card you would like most on top and the card you like least on the bottom.

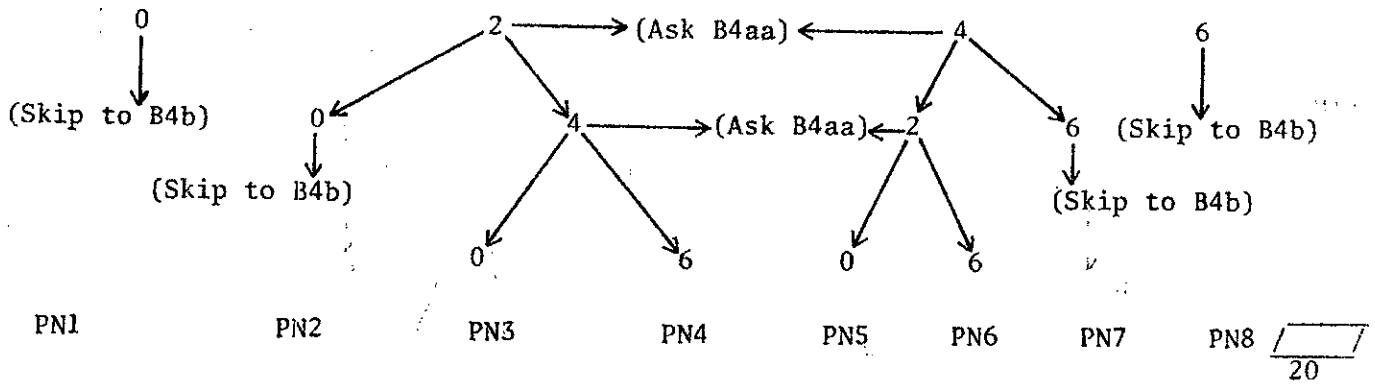
(Interviewer: When the respondent has the cards in order, ask her to go over them again, emphasizing that the one she likes best should be first, etc. Then place a rubber band around the cards making sure to keep them in order. After the interview is finished fill in the preference order.)

	Number of Boys	Number of Girls
1st preference	_____	_____
2nd preference	_____	_____
3rd preference	_____	_____
4th preference	_____	_____
5th preference	_____	_____
6th preference	_____	_____
7th preference	_____	_____
8th preference	_____	_____
9th preference	_____	_____
10th preference	_____	_____
11th preference	_____	_____
12th preference	_____	_____
13th preference	_____	_____
14th preference	_____	_____
15th preference	_____	_____
16th preference	_____	_____

Short Form

B4a) Now let me ask you to do something a little different. On these cards there are 4 different family sizes, each having the same number of boys as girls. Which of these family sizes do you most prefer?

(Interviewer; Circle on the first line of the figure below the number representing the family size chosen and proceed as instructed)



(Go to B4b)

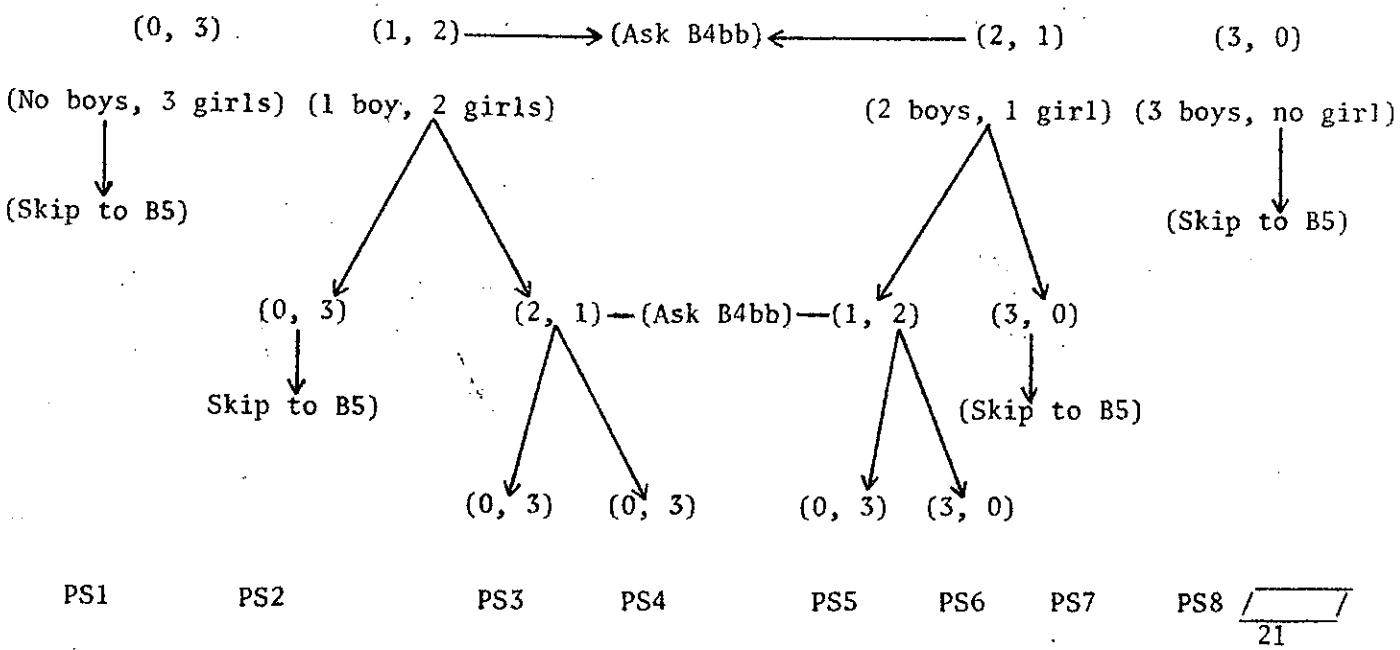
B4aa) If you couldn't have _____(Number chosen), would you rather have _____(Number to the left on the next line) or _____(Number to right on the next line)?

Respondant could not understand task _____

Respondant could not make a choice _____

B4b) Now, this is another somewhat different question. On these 4 cards there are four families each with three children, but with different numbers of boys and girls. Of these families do you most prefer the one with 3 girls, a boy and 2 girls, a girl and 2 boys, or 3 boys?

(Interviewer; Circle on the first line of the figure below the combination the respondant choose first and proceed as instructed.)



(Go to B5)

B4bb) If you couldn't have _____(combination chosen), would you rather have _____(combination to the left on the next line) or _____(combination to the right on the next line)?

Respondant could not understand task _____

Respondant could not make a choice _____

B5) If you had your desired number of children, but no boys, would you try to have more children in hopes of having at least one boy?

Yes 1 No 2 Uncertain 9 22

(Skip to B7)

B5a) Would you stop after a certain number of girls or would you continue to try for a boy regardless of how many girls you had?

Stop 1 Not stop 2 Uncertain 9 23

(Skip to B6)

B5b) After how many girls would you stop?

_____girls DK 9 24

B6) If you had your desired number of children, but only one was a boy and the rest were girls, would you try to have more children in hopes of having a second boy?

Yes 1 No 2 Uncertain 9 26

(Skip to B7)

B6a) Would you continue to try until you got the second boy, or would you stop after you had a certain number of girls?

Stop 1 Not stop 2 Uncertain 9 27

(Skip to B7)

B6b) After how many girls would you stop?

_____ girls DK 9 28

B7) If you had your desired number of children, but had no girls, would you try to have more children in hopes of having at least one girl?

Yes 1 No 2 Uncertain 9 30

(Skip to B8)

B7a) Would you continue to try for a girl regardless of how many boys you had or stop after a certain number of boys?

Stop 1 Not stop 2 Uncertain 9 31

(Skip to B8)

B7b) After how many boys would you stop?

_____ boys DK 9 32

B8) We have been talking about the number of children you would like to have. How about your husband? If he could have just the number of children he wanted, how many children do you think he would like to have when you are through having children?

_____ Children God's will, Fate, DK 9 34

(Skip to B9)

B8a) Well, do you think he would want more or less or the same number as you?

More 1 Same 2 Less 3 DK 9 36

B9) And, how many children do you think a daughter-in-law of yours should have?

_____ Children DK 9 37

Knowledge and use of contraceptives

C1) Now I want to talk about a somewhat different topic. As you may know, there are various ways that a couple can delay the next pregnancy or avoid having a baby. Do you know of, or have you heard of, any medicine or ways to do this?

Yes 1 → No 2 (Skip to instruction above C4) 39

C2) Which methods do you know of? _____

Probe: Do you know of any others? _____

Interviewer: Record Answer, and then proceed to tick box(es) in Col. 1 corresponding to the method(s) mentioned. For each method so ticket, Ask:

C3) Have you ever used (Method)?

(Refer to Method in same words used by R in C2. Tick response in Col. 3 corresponding to the particular method.)

Now Ask C4-C14, in turn, skipping those methods ticked in Col. 1. preface the questioning with:

There are some other methods which you have not mentioned, and I would like to find out if you might have heard of them.

Col.1	For those who said "No" To C1, Preface Q.C4 with: Just to make sure, let me describe some methods to see if you have heard of them.	Col. 2 Ever Heard of	Col.3 Ever Used	
Pill	C4) One way a woman can delay the next pregnancy, or avoid getting pregnant, is to take a pill every day. Have you ever heard of this method? (Tick Response in Col. 2). If No, Skip to next unticked method. If Yes: Have you ever used this method? (Tick Response in Col. 3)	Yes 1 No 2	Yes 1 No 2	40 41 42
IUD	C5) A woman may have a loop or coil of plastic or metal, the intrauterine device (IUD), inserted in her womb by a doctor and left there. Have you ever heard of this method? (As Above). If Yes: Have you ever used this method? (As above)	Yes 1 No 2	Yes 1 No 2	43 44 45

Col. 1		Col. 2 Ever Heard of	Col. 3 Ever Used	
Injection	C6) There are other method of not becoming pregnant, such as to receive an injection which is effective for a period of 3 months. Have you ever heard of the use of such method? If yes, have you ever used this method?	Yes _ No _	Yes _ No _	46 47 48
Condom	C7) There are also some methods men use so that their wives will not get pregnant. Some men wear a condom (e.g. Durex, rubber, safe, or prophylactic) during sex. Have you ever heard of this method? If yes: Did you and your husband ever use this method?	Yes 1 No 2	Yes 1 No 2	49 50 51
Rhythm	C8) Some couples avoid having sex on particular days of the month when the woman is most able to become pregnant. This is called the safe period or rhythm method. Have you ever heard of this method? If Yes: Did you and your husband ever do this?	Yes 1 No 2	Yes 1 No 2	52 53 54
Abstain	C9) Another way is to go without sex for several months or longer to avoid getting pregnant. Have you ever heard of this method being used? If Yes: Have you ever done this to avoid getting pregnant?	Yes 1 No 1	Yes 1 No 1	55 56 57
Withdrawal	C10) Some men practise withdrawal, that is, they are careful and pull out before climax. Have you ever heard of this method? If Yes: Did you and your husband ever use this method?	Yes 1 No 2	Yes 1 No 2	58 59 60
Douche	C11) Some women wash themselves immediately after sex, with water or perhaps some other liquid to avoid getting pregnant? Have you ever heard of this method? If Yes; Have you ever used this method?	Yes 1 No 2	Yes 1 No 2	61 62 63

Col. 1		Col. 2 Ever Heard of	Col. 3 Ever Used	
Female Steril	C12) Some women have an operation, called sterilization, such as having their tubes tied, in order not to have any more children. Have you ever heard of this method? (Tick Response in Col. 2)	Yes 1 No 2	Yes 1 No 2	64 65 66
Male Steril	C13) Some men have a sterilization operation, called vasectomy, so that their wife will not have more children. Have you ever heard of this method? (Tick Response in Col. 2)	Yes 1 No 2	Yes 1 No 2	67 68 69
Other	C14) Have you ever heard of any other methods which women or men use to avoid pregnancy? If Yes: (Specify)_____ For Each Method, Ask: Did you and your husband ever use this method so that you would not get pregnant?		Yes _ No _ Yes _ No _	70 71 72 73 74 75

Interviewer : Check appropriate box

Respondent and Husband Not Sterilized → Respondent or Husband Sterilized 3 (Skip to C33)

Used any method except Sterilization 1 (Go to C15)

Never used any method 2 (Skip to C24)

0 3 / 1 — 3 — 5 — 7 — 9 — 10 — 12

C15) During the past two weeks, did you or your husband use any method to keep from becoming pregnant?

Yes 1 No 2 — 13

(Skip to C21)

C16) What method did you or your husband use during the past two weeks?

IUD 1 — Pill 2 — Condom 3 — Foam 4 — Diaphragm 5 — Other (Specify) _____ — 14

C17) From whom did you first heat about the _____(method currently using)?

Female friend	1	(Family Planning Worker) Parikalpana	4
Female relative	2	Doctor	5
Husband	3	Other (Specify)_____	

15

C18) From what source did you get your _____(method currently using)?

Doctor	1	Family Planning Clinic	4
Bazar (shop)	2	(Probe) Matlab FPC	5
Parikalpana	3	Other (Specify) _____	

16

C19) Do you use____ (Method currently using) regularly when you need to use it?

Yes 1 No 2

17

C20) Are you satisfied with _____(Method currently using) ?

Yes 1 No 2

18

(Skip to Instruction Before C29)

C20a) Why not?

_____

_____

19

(Skip to Instruction Before C29)

Interviewer; If respondant has used any method in the past but is not currently using a method, ask questions C21-C23

C21) What was the last method you used?

IUD	1	Foam	4
Pill	2	Diaphragm	5
Condom	3	Other (Specify)	_____

20

C22) Where did you get your _____(Method used) ?

Doctor	1	Family Planning Clinic	4
Bazar	2	(Probe:) Matlab FPC	5
Parikalpana	3	Other (Specify)	_____

21

C23) Why did you stop using that method?

_____

_____

(Interviewer: Skip to C26)

22

Interviewer: Ask questions C24 and C25 only of those women who never used any method

C24) If you wanted to use some method to keep from getting pregnant, do you know where you could get this method?

Yes	1	No	2

(Skip to C26)

23

C25) Where would you get this method?

Doctor	1	Family Planning Clinic	4
Bazar (Shop)	2	(Probe) Matlab FPC	5
Parikalpana	3	Other (Specify)	_____

24

Intervierwer: Ask questions C26-C28 of all women except those sterilized or currently using any method.

C26) Would you consider using some method to limit the number of children or postpone a pregnancy?

Yes 1 → (Skip to C27)

No 2

DK 9 → (Skip to C29)

25

C26a) Why not? _____ (Skip to C29)

26

C27) What method would you consider using?

IUD 1

Pill 2

Condom 3

Foam 4

Diaphragm ___

Other (Specify) _____

27

C28) After how many children would you use some method?

_____ Children

DK 9

28

Interviewer: Place a tick mark in appropriate Boxes:

Respondent and husband not sterilized ____ ↓

Respondent or Husband Sterilized ____ ↓ (Skip to C33)

Not Currently Using Condom ____ ↓

Currently Using Condom ____ ↓ (Skip to Instruction Before C30)

C29) If condoms were enexpensive and easy to get would you like your husband to use them?

Yes 1 ↓ (Skip to Instruction Before C30)

No 2 ↓

C29a) Why not? _____ 30

_____ 31

Interviewer: Place tick mark in appropriate box:

Not Currently Using Pill ____ ↓

Currently Using Pill ____ ↓ (Skip to C31)

C30) Would you take birth control pills if they were inexpensive and easy to get?

Yes 1 ↓ (Skip to C31)

No 2 ↓ 32

C30) Why won't you take? _____ 33

_____

C31) Would you like to be sterilized?

Yes 1 No 2 34

C32) How about your husband, would you like him to be sterilized?

Yes 1 No 2 35

Interviewer: Ask question C33 of all women

Have you ever talked about any of the methods of limiting the number of pregnancies with anyone?

Yes 1 No 2 36

	C34) With whom have you talked about these methods to limit family size. (Probe:) With any one else?	C35) For all persons listed below, but not previously mentioned: ask) Just to be certain have you ever discussed with _____ (person) any method to keep from getting pregnant?	C36) (For all persons with whom the respondent has discussed Family Planning, ask): Where does _____ (the person) live? In this bari, out-in ____ (name of village), or outside the village?	
Female Relative		Yes 1 No 2	Bari 1 In village 2 Out village 3	37 38 39
Female Friend		Yes 1 No 2	Bari 1 In village 2 Out village 3	40 41 42
Husband		Yes 1 No 2		43 44
Family Planning		Yes 1 No 2	Bari 1 In village 2 Out village 3	45 46 47
Doctor		Yes 1 No 2	Bari 1 In village 2 Out village 3	48 49 50
Other		Yes 1 No 2	Bari 1 In village 2 Out village 3	51 52 53

Interviewer: Place tick mark in the appropriate boxes;

Discussed Methods With Female Friend	Yes	___	Discussed Methods With Female Relatives	Yes	___
	No	___		No	___

At least one Yes ___ → (For each "Yes": ask question C37)

Both No ___ → (Skip to Question C40)

	C37) Was _____ (the person) using, or had she ever used any method to keep from getting pregnant at the time or before you talked with her?		C38) Did _____ (the person) begin using contraception since you talked with her?		
Female Friend	Yes	1			
	No	___ →	Yes	3	
	DK	___ →	No	2	54
			DK	9	
Female Relative	Yes	___			
	No	___ →	Yes	3	
	DK	___ →	No	2	55
			DK	9	

Interviewer: Place tick mark in appropriate box:

Respondent has used contraception ___ →

Respondent has never used contraception ___ → (Skip to C40)

C39a) Did you talk with anyone about limiting the number of pregnancies you had before using some method to keep from getting pregnant?

Yes 1 No 2 — 56

C39b) Since you first used some method to keep from getting pregnant have you talked with anyone about any of these methods?

Yes 1 No 2 — 57

C40) Would you like to know more about methods to keep from getting pregnant?

Yes 1 No 2

C41) Do you know anyone who needs to know more about methods to keep from getting pregnant? 58

Yes 1 No 2 59

C42) Now, in general, are you for or against the use of methods to keep from getting pregnant?

For 1 Against 2 Depends 7 DK 9 60

(Skip to question C43)

C42a) Do you feel strongly _____ (for/against) the use of methods to keep from getting pregnant, or not so strongly? 61

Strongly 1 Not so strongly 2 DK 9

C43) And, how about your husband? Would you say that, in general, he was for or against the use of methods to keep from getting pregnant? 62

For 1 Against 2 Depends 3

No Opinion 4 DK 9

Costs and Benefits of Children

0 4

We are interested in studying the financial problems of parents in supporting children, nowadays

E1) Most people feel that a couple with 5 or more children has a large family. In your view, what are the advantages of having such a large family?

_____

_____

E1a) Are there any important disadvantages to having 5 or more children?

Yes 1 → E1b) What are the disadvantages?

_____

_____

No 2 → (Skip to Question E2)

E2) Most people feel that a couple with only 3 children or less has a small family. What are the main advantages of having such a small family?

_____

_____

E2a) Are there any important disadvantages to having only 3 children?

Yes 1 → E2b) What are the disadvantages?

_____

_____

No 2 → (Skip to Question E3)

E3) We are interested in some information about schooling for children. In your opinion, what is the minimum class/degree you think boys should have nowadays?

_____ Class None 0 DK 9 18

(Skip to Question E5)

E4) Do you expect (your sons/any sons you might have) to attain this level of education?

Yes 1 No 2 Depends 7 20

(Skip to Question E5)

E4a) Depends on What? _____ 21

E4b) Why not?

1 Education too expensive

2 Children not capable

3 Children have to work

4 Education not useful

Other (specify)_____ 22

E5) In your opinion, what is the minimum class/degree you think girls should have nowadays?

_____ Class None 0 DK 9 23

(Skip to Question E7)

E6) Do you expect (your daughters/any daughters you might have) to attain this level of education? 25

Yes 1 → (Skip to E7)

No 2 →

Depends 7 →

E6a) Depends on what? 26

_____

_____

E6b) Why not? 27

1 Education too expensive

2 Children not capable

3 Children have to work

4 Education not useful

___ Other (specify)_____

E7) Outside of taking care of your house and family, have you done any other work, either for pay or profit, or to help in the family farm or business during this past year?

Yes 1 →

No 2 → (Skip to Question E10) 28

E7a) What kind of work did you do?

(Interviewer be specific)

_____ 29

_____

Interviewer: Tick Appropriate Box

Work (is, was) farming ___1___ ↓

Work (is, was) not farming ___2___ ↓ (Skip to Question E9) 31

E8) (Do, did) you do this work on your family farm?

Yes ___1___ ↓ (Skip to Question E13)

No ___2___ ↓ (Skip to Question E16) 32

E9) (Are, were) you employed by some member of your family, or by someone else, or (are, were) you self-employed?

___1___ Family Member

___2___ Someone else 33

___3___ Self-employed

E9a) (Do, did) you work mostly at home or (do, did) you work mostly away from home in that job?

___1___ At home (Skip to E13)

34

___2___ Away from home (Skip to E16)

___3___ Both (Skip to E13)

Interviewer: Ask the following questions only of those who have not worked in the past year.

E10) If you wanted to work to earn money, do you think you could find work around here which would be alright for you?

_1_ Yes

_2_ Qualified Yes

_3_ May be, Uncertain Don't know

_4_ Qualified No

_5_ No

35

E11) Do you think it is alright for a mother to work if her children can be adequately cared for, or should she confine herself to caring for the children and doing housework?

(Interviewer: Check only one response)

_1_ Confine to child care and house work →

_2_ Alright to work →

_8_ Uncertain, DK →

(Skip to Question E12)

_7_ Depends

36

E11a) Depends on what? _____

_____

37

E12) And how would your husband feel about your working? Would he be against it, allow it or what?

_1_ Against

_2_ Allow it

_8_ Uncertain, D.K.

_7_ Depends

(Skip to Question E17)

38

E12a) Depends on what? _____

_____

39

Interviewer: Skip to Question E17

Interviewer: Ask the following questions only of those who have worked for a family member or who were self-employed during the past year.

E13) If you wanted to work to earn money outside of your family (farm/business), do you think you could find work around here which would be alright for you?

1	Yes	3	May be, Uncertain Don't know	4	Qualified No
2	Qualified Yes			5	No

40

E14) Do you think it is alright for a mother to work away from home if her children can be adequately cared for, or should she stay at home?

1 Stay at home
2 Alright to work away
8 Uncertain, D.K.
7 Depends

Skip to Question E15

41

E14a) Depends on what?

_____

_____

42

E15) And how would your husband feel about your working outside of the family (business/farm)? Would he be against it, allow it, or what?

1 Against
2 Allow it
8 Uncertain; D.K.
7 Depends

Skip to Question E17

43

E15a) Depends on what?

_____

_____

44

Interviewer: Skip to Question E17

Interviewer: Ask the following question only of those who have worked for someone else during the past year.

E16) How does your husband feel about your working? Is he against it, does he think it is alright, or what?

1 Against it

2 Alright

9 Uncertain, D.K.

___ Other (Specify)_____ 45

E17) Children often help on the farm, in the business, or around the house. Thinking of a family like your own, at what age would you say sons begin to make a useful contribution to the work that needs to be done?

_____ Years 46

___ No help or contribution expected

___ Don't know

E17a) And how about daughters, at what age would they begin to work? 48

_____ Years

___ No help or contribution expected

___ Don't know

E18) Do you have any children between the ages of 6 and 12?

Yes 1 — No 2 → (Skip to E20) 50

E19) Do your children between 6 and 12 do any kind of work?

Yes 1 — No 2 → (Skip to E20) 51

E19a) Do they work for you only or for others?

Others 1 — Only help Respondent 2 52

E19b) What kind of help do they give you? (Interviewer, be Specific)

_____ 53

_____

E19c) How valuable is that help to you? Is it a great deal of help, a moderate amount of help, or only a little help?

1 A great deal of help

2 Moderate help

3 Little help 54

4 No help

___ Other (Specify)_____

E20) Do you have any unmarried children over the age of 12 years?

Yes 1 → No 2 → (Skip to Question E22) 55

E21) Do any of these unmarried children over 12 years presently work for pay?

Yes 1 → No 2 → (Skip to Question E22) 56

E21a) Are they contributing any of their earnings to the household regularly, occasionally, or not at all?

1 Regularly

2 Occasionally 57

3 Not at all

E22) Do you expect that your children later on are likely to help the family for a while by working for pay and contributing to your household? 58

Yes 1 No 2 Uncertain 3

E23) What means of financial support do you think you might have when you and your husband are old and your husband can no longer work? (Interviewer:-Check as many as are mentioned)

1 Help from Children

2 Savings or income from farm business or other property

3 Pension or social security 59

___ Other (Specify)_____

7 None _____

E24) Do you expect to rely for financial support on your children a great deal, only a little, or not at all?

1 A great deal
2 A little
3 Not at all
7 Depends

(Skip to Question E25) 60

E24a) On what does it depend? 61

_____

_____

E25) When your children are grown up and married, do you expect to live together at any time with any of your married children?

Yes 1 No 2 Depends 7 62

(Terminate Interview)

E25a) On what does it depend? 63

_____

_____

(Terminate Interview)

E25b) Do you expect to live with them only for a few years after their marriage, for the rest of your life, or only when you are old?

1 Few years after marriage
2 Rest of life
3 Only when old
___ Other (Specify)_____ 64

(Terminated Interview)

Appendix E: List of Matlab CDP papers

E.1 Published Papers

1. Khan AR, Huber DH, Rahman M: Household Distribution of Contraceptives in Bangladesh--the Rural Experience. CRL Scientific Report No. 5, September 1977. Also published in Rural Demography (ISRT, Dacca University), Vol. IV, Nos. 1 & 2, 1977.

2. Osteria T. Rahman M, Langsten R, Khan AR, Huber DH, Mosley WH: Assessment of the Matlab Contraceptive Distribution Project--Implications for Program Strategy. CRL working paper No. 4, April 1978.

3. Rahman M, Osteria T, Chakraborty J, Huber DH, Mosley WH: A Study of the Field Worker Performance in the Matlab Contraceptive Distribution Project. CRL working paper No. 5, July 1978.

4. Langsten R, Chakraborty J: Constraints on Use and Impact of Contraceptives in Rural Bangladesh--Some Preliminary Speculations. CRL working paper No. 6, August 1978.

5. Osteria T, Mosley WH, Chowdhury AI: The Demographic Impact of the Contraceptive Distribution Project. CRL working paper No. 7, September 1978.

6. Rahman M, Huber DH, Chakraborty J: A Follow-up Survey of Sterilization Acceptors in Matlab, Bangladesh. CRL working paper No. 9, October 1978.

7. Rahman M: Parental Dependency on Children in Matlab, Bangladesh. CRL working paper No. 11, December 1978.

8. Huber DH, Rahman M, Chakraborty J: The Condom in Rural BangladeshA Special Effort is Needed. ICDDR,B Scientific Report No. 31, September 1979.

9. Huber SG; Khan AR, Huber DH, Rahman M, Chowdhury AU, Chakraborty J, Chowdhury AI: Oral Contraceptive Users and their Children--A Health Survey in Rural Bangladesh. Bangladesh Fertility Research Program (BFRP) Report No. 9, June 1977.

10. Khan AR, Huber DH: Household Contraceptive Distribution in Rural Bangladesh. BFRP Report No. 6, June 1976.

E.2 Unpublished Papers

1. Curlin GT, Khan AR: Contraceptive Distribution Project--Semi-annual Report, January 30, 1976. Dacca, CRL, 1976.

2. Mosley WH, Khan AR, Rahman M: Contraceptive Distribution Project--Semi-annual Report, January 1 — June 30, 1977. Dacca, CRL, 1977.

3. Khan AR, Mosley WH: Contraceptive Distribution Project—Semi-annual Report, July -- December 31, 1977. Dacca, CRL, 1978.

4. Langsten R: The Contraceptive Distribution Program—Base-Line and Prospect. Dacca, CRL, 1976.

5. Phillips M, Everett D, Huber DH: Investigation of Contraceptive Side Effects and their Impact on Contraceptive Usages. Dacca, CRL, 1976.

6. Rahman M: Utilization of Dais in Promotion of Contraceptive Practice. Dacca, CRL, 1977.

7. Rahman M: Some Facts about Low Acceptance and High Dis-continuation of Contraceptive Practices among the Population under House-to-House Contraceptive Distribution Project, Matlab. Dacca, CRL, June 1977.

8. Langsten R: Alternative Recommendations for Beginning Contraceptive Use—The Case of Bangladesh. Dacca, CRL, June 1977.

9. Rahman M, Khan AR, Chakraborty J, Huber DH: A Follow-up Study of Tubectomy Clients in Matlab Thana. Dacca, CRL, February 1977.

E.3 Papers Presented in Workshops/Seminars

1. Khan AR, Huber DH: Household Contraceptive Distribution Program in Rural Bangladesh—Six Months' Experience. Presented at the Regional Workshop on Village and Household Availability of Contraceptives, Manila, June 7-10, 1976.

2. Huber DH, Khan AR, Curlin GT, Langsten R: Contraceptive Distribution Project in Rural Bangladesh. Presented at the Seminar on Fertility in Bangladesh, Cox's Bazar, December 13-15, 1976.

3. Huber DH, Khan AR, Curlin GT, Langsten R: Contraceptive Distribution Project in Rural Bangladesh--One Year Experience. Presented at the CRL Technical Committee Meeting, February 1977.

4. Khan AR, Huber DH: Household Distribution of Contraceptives in Rural Bangladesh--Rural Experience. Presented at the Regional Conference on "Village and Household Availability of Contraceptives", Tunis, March 27-30, 1977.

5. Huber DH, Rahman M, Chakraborty J: Injectable Contraceptives in Six Villages of Matlab Thana, Bangladesh--Initial Experience. Presented at the Workshop on "The Role of Injectable Contraceptives in Bangladesh", Dacca, March 1, 1977.

6. Rahman M, Huber DH, Chakraborty J: A Follow-up Survey of Sterilization Clients in Matlab, Bangladesh. Presented at the Seminar on "Sterilization Follow-up and Oral Contraceptive Studies" organized by the Johns Hopkins University Fertility Research Project and the Bangladesh Fertility Research Program, Dacca, July 8, 1977.

7. Huber DH: An Experimental Design for Assessing the Effectiveness of Household Contraceptive Distribution. Presented at the Congress of the IUSSP, Informal Session No. 6, Mexico City, August 8-13, 1977.

8. Huber DH, Rahman M, Chakraborty J: Sterilization Clients in the National Campaign--A Follow-up in Matlab Thana. Presented at the Second National Conference on Voluntary Sterilization organized by Bangladesh Association for Voluntary Sterilization, Dacca, January 21-22, 1978.

9. Khan AR, Huber DH, Rahman M: Experience with Household Contraceptive Distribution Program in Rural Bangladesh and Evolution of New Strategy. Presented at the National Workshop on Innovetive Projects in Family Planning and Rural Institution in Bangladesh, Dacca, February 1-4, 1978.

10. Huber DH, Rahman M, Chakraborty J: The Condom in Rural Bangladesh--A Special Effort is Needed. Presented at the PARFR Workshop on Intravaginal Contraception, Guatemala City, April 25-27, 1979.

ICDDR,B (CRL) publications can be obtained from Publications Unit, International Centre for Diarrhoeal Disease Research, Bangladesh, G.P.O. Box 128, Dacca - 2, Bangladesh.

A. CRL Annual Report 1976.

CRL Annual Report 1977.

CRL Annual Report 1978.

B. Working Paper:

No. 1. The influence of drinking tubewell water on diarrhoea rates in Matlab Thana, Bangladesh by George T. Curlin, K.M.A. Aziz and M.R. Khan. June 1977 (Rep. Sept. 1978). 21 p.

No. 2. Water and the transmission of El Tor cholera in rural Bangladesh by James M. Hughes, John M. Boyce, Richard J. Levine, Moslemuddin Khan, George T. Curlin. Dec 1977. 27 p.

No. 3. Recent trends in fertility and mortality in rural Bangladesh 1966-1975 by A.K.M. Aluddin Chowdhury, George T. Curlin. Jan 1978. 14 p.

No. 4. Assessment of the Matlab contraceptive distribution project - implications for program strategy by T. Osteria, Makhlisur Rahman, R. Langsten, Atiqur R. Khan, Douglas H. Huber and W. Henry Mosley. Apr 1978. 25 p.

No. 5. A study of the field worker performance in the Matlab contraceptive distribution project by Makhlisur Rahman, T. Osteria, J. Chakraborty, Douglas H. Huber and W. Henry Mosley. Jul 1978. 17 p.

No. 6. Constraints on use and impact of contraceptives in rural Bangladesh: Some preliminary speculations by R. Langsten, J. Chakrabory. Aug 1978. 23 p.

No. 7. The demographic impact of the contraceptive distribution project by T. Osteria, W.H. Mosley and A.I. Chowdhury. Sept 1978. 17 p.

No. 8. Development of milk teeth in rural Meheran children of Bangladesh by Moslemusdin Khan and George T. Curlin. Sept 1978. 23 p.

No. 9. A follow-up survey of sterilization acceptors in Matlab, Bangladesh by Makhlisur Rahman, Douglas Huber and J. Chakraborty. Oct 1978. 31 p.

No. 10. The Demographic Impact of Sterilization in the Matlab Village-Based MCH-FP Program by T. Osteria, S. Bhatia, J. Chakraborty and A.I. Chowdhury. Nov 1978. 23 p.

No. 11. Parental dependency on children in Matlab, Bangladesh by Makhlisur Rahman. Dec 1978. 28 p.

No. 12. An areal analysis of family planning program performance in rural Bangladesh by T. Osteria, S. Bhatia, A.S.G. Faruque, J. Chakraborty. May 1979. 19 p.

No. 13. The people of Teknaf: births, deaths and migrations (1976-1977) by Mizanur Rahman, M. Mujibur Rahaman, K.M.S. Aziz, Yakub Patwari, M.H. Munshi, M. Shafiqul Islam. May 1979. 46 p.

C. Scientific Report:

No. 1. Double round survey on pregnancy and estimate of traditional fertility rates by A.K.M. Alauddin Chowdhury. Jul 1977 (Rep. May 1978). 28 p.

No. 2. Pattern of medical care for diarrheal patients in Dacca urban area by Moslemuddin Khan, George T. Curlin and Md. Shahidullah. Aug 1977. (Rep. June 1978). 20 p.

No. 3. The effects of nutrition on natural fertility by W. Henry Mosley. Aug 1977. (Rep. Aug 1978). 25 p.

No. 4. Early childhood survivorship related to the subsequent inter-pregnancy interval and outcome of the subsequent pregnancy by Ingrid Swenson. Aug 1977. (Rep. Apr 1979). 18 p.

No. 5. Household distribution of contraceptives in Bangladesh - the rural experience by Atiqur R. Khan, Douglas H. Huber and Makhlisur Rahman. Sept 1977. 19 p.

No. 6. The role of water supply in improving health in poor countries (with special reference to Bangladesh) by John Briscoe. Sept 1977. (Rep. Feb 1979). 37 p.

No. 7. Urban cholera study, 1974 and 1975, Dacca by Moslemuddin Khan and George T. Curlin. Dec 1977. 24 p.

No. 8. Immunological aspects of a cholera toxoid field trial in Bangladesh by George T. Curlin, Richard J. Levine, Ansaruddin Ahmed, K.M.A. Aziz, A.S.M. Mizanur Rahman and Willard F. Verwey. Mar 1978. 16 p.

No. 9. Demographic Surveillance System - Matlab. Volume One. Methods and procedures. Mar 1976. 28 p.

No. 10. Demographic Surveillance System - Matlab. Volume Two. Census 1974 by Lado T. Ruzicka, A.K.M. Alauddin Chowdhury. Mar 1978. 48 p.

No. 11. Demographic Surveillance System - Matlab. Volume Three. Vital events and migration, 1975 by Lado T. Ruzicka, A.K.M. Alauddin Chowdhury. Mar 1978. 45 p.

No. 12. Demographic Surveillance System - Matlab. Volume Four. Vital events and migration, 1975 by Lado T. Ruzicka, A.K.M. Alauddin Chowdhury. March 1978. 48 p.

No. 13. Demographic Surveillance System - Matlab. Volume Five. Vital events, migration, and marriages - 1976 by Lado T. Ruzicka, A.K.M.Alauddin Chowdhury. March 1978. 55 p.

No. 14. Ten years review of the age and sex of cholera patients by Moslemuddin Khan, A.K.M. Jamiul Alam and A.S.M. Mizanur Rahman. May 1978. 18 p.

No. 15. A study of selected intestinal bacteria from adult pilgrims by M.I. Huq, G. Kibryia, Aug 1978. 15 p.

No. 16. Water sources and the incidence of cholera in rural Bangladesh by Moslemuddin Khan, W. Henry Mosley, J. Chakraborty, A. Majid Sarder and M.R. Khan. Dec 1978. 19 p.

No. 17. Principles and prospects in the treatment of cholera and related dehydrating diarrheas by William B. Greenough, III. Jan 1979. 20 p.

No. 18. Demographic Surveillance System - Matlab. Volume Six. Vital events and migration 1977 by Aporn Samad, Kashem Sheikh, A.M. Sarder, Stanley Becker and Lincoln C. Chen. Feb 1979. 65 p.

No. 19. A follow-up survey of sterilization acceptors in the modified contraceptive distribution projects by Shushum Bhatia, Trinidad Osteria, J. Chakraborty and A.S.G. Faruque. Feb 1979. 25 p.

No. 20. Cholera due to the El Tor biotype equals the classical biotype in severity and attack rates by Moslemuddin Khan and Md. Shahidullah. March 1979. 20 p.

No. 21. An estimation of response bias of literacy in a census of rural Bangladesh by M. Shafiqul Islam, George T. Curlin and K.M.A. Aziz. March 1979. 26 p.

No. 22. *Vibrio cholerae* by William B. Greenough, III. Apr 1979. 43 p.

No. 23. M.R. clients in a village based family planning programme by Shushum Bhatia and Lado T. Ruzicka. Apr 1979. 26 p.

No. 24. Passive hemagglutination assays for quantitation of cholera antitoxin: gluteraldehyde and chromium chloride used as coupling reagents to sensitize human erythrocytes with purified choleragen by Ansaruddin Ahmed, Kh. Abdullah Al Mahmud, George T. Curlin. June 1979. 25 p.

No. 25. Investigation of outbreak of dysentery due to *Shigella sonnei* in a small community in Dacca by M.I. Huq. June 1979. 21 p.

No. 26. Indigenous birth practices in rural Bangladesh and their implications for a maternal and child health programme by Shushum Bhatia, J. Chakraborty, A.S.G. Faruque. July 1979. 24 p.

No. 27. Isolation, purification and characterization of a Shigella phage by M.I. Huq, M.A. Salek. July 1979. 18 p.

No. 28. Growth and development studies: Meheran by Moslemuddin Khan, George T. Curlin, J. Chakraborty. July 1979. 33 p.

No. 29. Report on reactigenicity and immunogenicity of Wellcome Cholera Toxoids in Bangladeshi Volunteers by Robert E. Black, Md. Yunus, Abu Eusof, Ansaruddin Ahmed, David A. Sack. July 1979. 5 p.

No. 30. Strongyloides Stercoralis Larvae recovered from patients with diarrhoea and dysentery by G.H. Rabbani, Robert H. Gilman, Asma Islam. July 1979. 18 p.

No. 31. The condom in rural Bangladesh -- A special effort is needed by Douglas Huber, Makhlisur Rahman, J. Chakraborty. Aug 1979. 14 p.

D. Special Publication:

No. 1. Management of cholera and other acute diarrhoeas in adults and children - World Health Organization. Sept 1977. 26 p.

No. 2. Index to CRL Publications and Scientific Presentations 1960-1976 by Susan Fuller Alamgir, M. Shamsul Islam Khan, H.A. Spira. Aug 1978. 70 p.

No. 3. Working Manual for *E.coli* enterotoxin assay and Elisa assay for Rota Virus antigen by M.I. Huq, D.A. Sack, R.E. Black. Apr 1979. 32 p.

E. Monograph Series:

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