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**FINAL EVALUATION
OF
WORLD RELIEF CORPORATION'S
CHILD SURVIVAL GRANT**

**Conducted By:
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**Under Contract No. OTR-0150-C-0143-00
Automation Research Systems, Limited**

WRC/CSS CHILD SURVIVAL PROJECT,
KHULNA DIVISION, BANGLADESH:

AN EVALUATION

Grant No.: OTR-0536-A-00-7224-00
Grant Period: 6/1/87-5/30/91
Dates of Evaluation: 1/11/91-
1/16/91
Evaluator: F. Curtiss Swezy,
Dr.P.H.

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Acknowledgments

I thank Mr. Paul Munshi, Executive Director of the Christian Service Society (CSS), Bangladesh, for his complete and unhesitating help in conducting this review. His accessibility and candor enabled me to learn a great deal in a short time. It was a pleasure to get to know, in a small way, this man who has contributed so much to the self-improvement of his fellow citizens in southern Bangladesh.

The CSS senior management staff, particularly Messrs. Bhai Hossin and Molla Batan, gave tirelessly of their time, even on days off, to educate me on the program and the ways of Bangladesh. It was only through their efforts that this task in any way succeeded. I particularly regret the abrupt leave-taking that was forced on us by circumstances but which they took completely in stride.

It would not be practical to adequately thank all of the staff who contributed substantively to my understanding of the program and whose insights I have in no small part taken as my own. I am deeply indebted to the union officers, supervisors, and volunteer village outreach workers who had the patience to explain the various aspects of the program to me.

I am most appreciative of the staff of AID/W and USAID/Dhaka for recruiting me and orienting me to the project. Both John McEneaney and Susan Morawetz were very thorough in their briefings. Misses. Ginnie Sewell and Sheryl Keller provided key insights into the dynamics of the program; their probing questions were useful guides in conducting this evaluation. I also appreciated Ms. Keller's guidance in helping me to leave Bangladesh in a timely manner. I only wish we had had time to discuss the program and my tentative findings.

Special thanks must go to Misses. Muriel Elmer and Mary Connor of WRC, Wheaton, for clarifying many points of confusion after my return to the United States and for obtaining additional information from Bangladesh. I also appreciated discussing the program with Ms. Dori Storms of Johns Hopkins University. The focus of the report is certainly clearer as a result of her questions.

Ms. Ellen Coates took care of the brunt of the logistical details surrounding the trip, from scheduling and obtaining visas to the unglamorous work of photocopying background documents. And all of this with grace and good humor.

Finally, I want to thank Butto Pradit for catering to my every wish, usually before I could ask, during my stay in Khulna. I

will long remember his quiet, friendly assistance at all hours of
the day and night.

Annandale, Virginia
February 3, 1991

List of Abbreviations

AID/W	Agency for International Development, Washington
CHW	Community health worker
CSS	Christian Service Society
DPT	Diphtheria, pertussis, and typhoid
EPI	Expanded programme on immunization
FVA/PVC	Bureau of Food and Voluntary Assistance, Office of Private and Voluntary Cooperation, Agency for International Development
ICCDR.B	International Cooperating Centre for Diarrheal Research, Bangladesh
IU	International Unit
KAP	Knowledge, attitude, and practice
MIS	Management information system
NAE	National Association of Evangelicals
NGO	Non-governmental organization
OPV	Oral polio vaccine
ORS	Oral rehydration solution
ORT	Oral rehydration therapy
PVO	Private voluntary organization
SAVE/US	Save the Children, United States
TBA	Tradition birth attendant (in Bangladesh, dai)
Tk.	Taka
USAID/D	U.S. Agency for International Development, Dhaka
WRC	World Relief Corporation

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Executive Summary

Bangladesh is one of the poorest, most densely populated countries in the world. Population growth rates are very high: current estimates indicate that the population will double in fewer than 30 years. Rates of preventable deaths, particularly among children and women, are high but are beginning to slacken under Government of Bangladesh policies to attack these problems. The task has been made more difficult by a series of natural and civil disruptions since independence from Pakistan in 1971.

To address some of these problems, the Christian Service Society (CSS) of Bangladesh has undertaken a Child Survival Project in five rural unions of Khulna Division in southwestern Bangladesh. The project was appended to a comprehensive poverty alleviation program developed by CSS over the past 15 years.

The core of the poverty alleviation program is its income generation activities, which are designed to develop self-sufficiency in the very poor rural population. The program supports agricultural productivity and production of marketable goods through the granting of loans that must be repaid with interest. This system enhances the self-respect and dignity of the borrower while at the same time promoting the long-term financial viability of the program. Over the past decade repayments of agricultural loans have been lower than those for market loans because a series of natural disasters -- floods, typhoons, and rip tides -- have wiped out many crops, making it impossible for participants to repay their initial loans.

An adjunct to the poverty alleviation program, the Child Survival Project provides preventive health services to villagers in five participating unions. Although the Government of Bangladesh is responsible for implementing preventive health programs in the country, activities are constrained by limited budget and staff. The result is that most government health services are provided in fixed facilities with low participation rates. CSS coordinates closely with the government program in the five project unions. Through a network of village outreach workers -- paid staff and volunteer community health workers -- the CSS project has enhanced participation in preventive health activities by 1) motivating villagers, 2) educating them on the benefits of participation, and 3) increasing access to needed services by providing preventive health services in the villages themselves.

The project's child survival interventions focus on immunization, family planning, oral rehydration therapy (ORT), and nutrition and growth monitoring. Although the government is responsible for immunization service delivery and maintains the cold chain,

CSS transports government vaccinators and vaccines to village camps. CSS also pays for treatment of immunization-related side effects. Family planning is promoted by the CSS network of extension workers who visit client families door-to-door. They not only motivate but also distribute oral contraceptives and condoms.

Growth monitoring sessions for children under age 3 are conducted bimonthly by CSS staff. Outreach workers instruct mothers on hygiene, the importance of continued breastfeeding, and the timing of and foods for weaning. They distribute packets of high-energy food to very malnourished children, teach mothers how to prepare and use oral rehydration solution (ORS), and distribute pre-made ORS packets when needed. They educate mothers about the importance of continued feeding, including breastfeeding, during episodes of diarrhea. Twice a year they distribute vitamin A capsules to children.

Related activities supported by CSS, but not attributed to child survival, include low-cost housing, kitchen gardens, and tube wells developed in conjunction with income generation activities that provide loans to increase the standard of living of villagers. CSS management staff believe that these poverty alleviation activities themselves promote improved health. A 4% premium on interest (16%, as opposed to 12%) is charged on loans in unions participating in the Child Survival Project to offset recurrent programmatic costs.

The impact of the Child Survival Project has been significant. Immunization coverage rates in the five participating unions are more than double those in the adjacent unions served only by government programs. Contraceptive use is also significantly higher, particularly for oral contraceptives and condoms, which are distributed by CSS outreach workers. Deaths from diarrhea are much lower in the project areas. In the 18 months preceding the evaluation, 65 children under age 5 died in the six unions adjacent to the CSS program area, but no deaths attributable to diarrhea occurred during this period in the five CSS unions.

The qualitative impact of the program is also apparent. The community actively participates in project activities, including the income generation activities that are outside the scope of child survival interventions. As a result, program sustainability has been institutionalized. A cadre of village volunteers, selected by the community, has been recruited and trained to work in the program.

The CSS staff, all Bengalis, view employment in the program as a career opportunity. This keeps costs down and also enhances continuity. The staff is clearly committed to village development in southern Bangladesh.

Key Findings

The Child Survival Project is particularly strong in four areas: management, child survival impact, sustainability, and income generation.

o Management

CSS has a strong management structure; chain of command is clear, and motivation is high. A key component of the management structure is the cadre of village volunteers who bring the program literally into people's homes.

o Child survival impact

The program has significantly increased immunization coverage rates, contraceptive prevalence, and use of ORT for diarrhea. This has undoubtedly reduced the number of infant and child deaths and unwanted pregnancies (and resulting maternal deaths) in the participating unions.

o Sustainability

CSS' focus on maintaining financial viability for its programs has carried over to the Child Survival Project. A 4% premium is charged on loans to support child survival interventions. A large cadre of volunteers carries the program door-to-door in the villages. All staff are Bengali and committed to making the program work. CSS has also demonstrated considerable skill in attracting offshore funding to support program operations.

o Income generation

A cornerstone of the CSS poverty alleviation program is its income generation activities. These are based on the establishment of self-sufficiency in the villagers. Support is in the form of loans, not grants. CSS has merged some of its other funds with child survival support to make additional funds available in the five unions where the primary health care program is operating. CSS staff believe the process of increasing the population's standard of living increases their health status. They also observe a greater willingness to participate in child survival interventions, even when incompletely understood. CSS is an interesting development model that should be monitored to test some of these assumptions and applicability to other regions and countries.

Recommendations

To strengthen an already effective project, three activities should be undertaken to increase the efficiency of program operations and maximize the impact from program efforts.

Recommendation 1. Add a public health specialist.

Although CSS management is very strong, no one on the staff is trained in public health. A mid-level MPH with international experience should be recruited to work in the program. This should be limited to a one-time 2-year contract.

Recommendation 2. Develop a comprehensive management information system.

Although CSS has developed a system for recording service statistics for the project, these data are not collated or analyzed. Important correlations, e.g., between tube wells and diarrhea, kitchen gardens and nutritional status, or infant mortality by sex, have not been calculated. In addition, skill training is needed in other data collection activities, such as baseline and KAP surveys. The existing system can be built into a comprehensive management information system by the judicious use of short-term consultants.

Recommendation 3. Strengthen health education and training.

Village outreach workers are continually engaged in health education. CSS professional staff regularly train subordinates in management and health interventions. Additional training would, however, enhance both health education and training skills. A program of short-term technical assistance and on-the-job skills training should be developed over an 18-month period to meet this training need.

I. Background

A. World Relief Corporation (WRC)

The World Relief Corporation (WRC) is the relief and development organization of the National Association of Evangelicals (NAE), a group of 46 Evangelical Protestant churches in the United States. WRC supports programs both in the United States and around the world.

B. Christian Service Society (CSS)

In 1972 WRC opened a branch in the newly independent nation of Bangladesh staffed by a combination of U.S. expatriates and Bengali citizens. The program operated successfully for 3 years. In 1975 a policy decision was made to continue operations strictly with Bengali nationals; this was the creation of the Christian Service Society (CSS). Mr. Paul Munshi, who had been the WRC Program Director from 1972 to 1975, was named director, WRC/Bangladesh, and chairman, CSS. He remains to the present as a WRC employee and chief operating officer of CSS, as well as chairman of the Board of Directors.

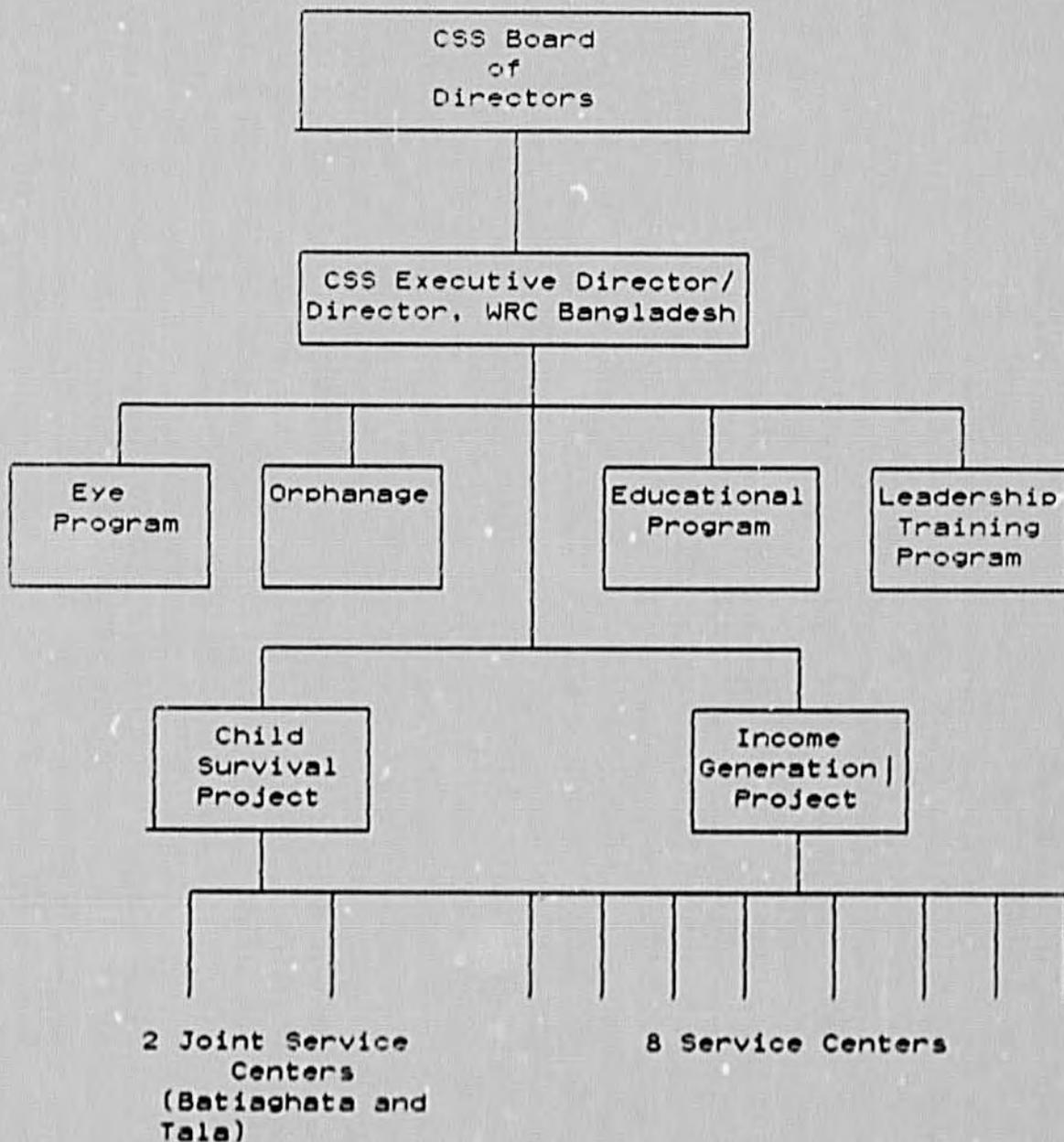
CSS has programs in income generation, education, and religious leadership training (Figure 1). They operate an orphanage and an eye hospital in Khulna City. The seven-person CSS board (all are members of the Assemblies of God denomination) sets policy guidelines and program directions (Table 1). Although WRC remains a principal source of funding, the Board of Directors of CSS solicits funds directly from a variety of sources.

In 1986 WRC/CSS asked the Agency for International Development (AID) to fund the addition of a Child Survival Project to their integrated rural development program. AID approved a matching grant (AID: 75%; WRC/CSS: 25%) and a 3-year grant was approved in June 1987. Funding and program delays prevented program activities from beginning until January 1988. A no-cost extension was given to extend program activities through May 1991. WRC/CSS has requested an expansion grant from AID to continue program activities and expand into seven additional geographic areas. A mid-term evaluation of the program was conducted in March 1989, and an assessment of financial sustainability was conducted in November 1990. This report evaluates the Child Survival Project through the end of 1990.

C. Bangladesh

Bangladesh, in the east central portion of the Indian subcontinent, is a vast delta plain approximately 30 to 350 feet above sea level. A small strip in southeastern Bangladesh, bordering India and Burma, rises 2,000 to 3,000 feet above sea

Figure 1. Christian Service Society, Bangladesh: Organizational chart



Source: CSS staff

Table 1. Christian Service Society, Bangladesh: Board of Directors

Mr. Paul Munshi	Chairman/Managing Director
The Rev. Benedict A. Baroi	Secretary
The Rev. Daniel Munshi	Treasurer
The Rev. Joseph Parai	Member
Mr. Alfred A. Adhikari	Member
Mr. Apurba Munshi	Member
Mr. Silas Nath	Member

SOURCE: CSS staff

level. The flat alluvial plain -- the Lower Gangetic Plain -- is crisscrossed by three large rivers and their tributaries and distributaries: the Padma (Ganges), the Jamuna (Brahmaputra), and the Meghna. Silt deposits support widespread agriculture, particularly rice and sugar, but the area is regularly subjected to disruptive floods, typhoons, and rip tides off the Bay of Bengal. Because of the country's severe population density and poor housing, these events cause widespread disruption and death.

With an area of 55,598 square miles, Bangladesh is about the size of Wisconsin; a population of 110 million makes it the most densely populated agrarian country in the world (Table 2). Approximately 85% of the population of Bangladesh live in rural areas; only 13% reside in urban centers of over 100,000 population. More than 60% are engaged in agriculture, hunting, forestry, and fishing; these activities account for something less than half the gross domestic product. Rice is the overwhelmingly predominant crop, followed, in tonnage, by sugar cane, jute, and potatoes. Animal husbandry is dominated by cattle; chickens are the principle poultry raised for both eggs and meat.

Administratively, Bangladesh is divided into four divisions: Chittagong, Dhaka, Khulna, and Raishahi (Figure 2). These

divisions are further subdivided into 64 districts, 492 subdistricts (upazilas) and 4,401 unions (clusters of villages).

The population of Bangladesh is remarkably culturally uniform; less than 2% of the population is not ethnically and linguistically Bengali. More than 95% of the population is Muslim; Hindus constitute the largest religious minority, making up approximately 12% of the population. Both Muslims and Hindus are Bengali and speak Bangla.

Per capita income has been estimated at \$160 per year, making Bangladesh one of the poorest countries in the world. Men predominate in the work force; only 15% of females work for cash or kind. Similarly, only 16% of females (over the age of 5) are literate, compared to 31% of men.

Table 2. Population of Bangladesh, 1974-1989 (in millions)

Year	Population
1974	76.4
1981	89.9
1986	100.6
1987	102.6
1988	104.5
1989	110.0

Sources: Europa World Year Book, 1990. London: Europa Pub., Ltd., 1990; Bangladesh Contraceptive Prevalence Survey - 1989. Dhaka: Mitra and Associates, 1990.

With such low levels of income and education and high levels of population concentration in modest housing in rural areas it is not surprising that health status is very poor. The infant mortality rate is 110/1,000 (Figure 3); the under-5 mortality rate, 188/1,000 (Figure 4). Since 17% of the population -- 18 million persons -- are under the age of 5, this means that 2,400 young children die in Bangladesh every day; 95% of the deaths are to children under age 1. Although under-5 mortality declined markedly between 1953 and 1968, declines were much more moderate in the next two decades and are now behind government-enunciated goals. The maternal mortality rate has remained relatively

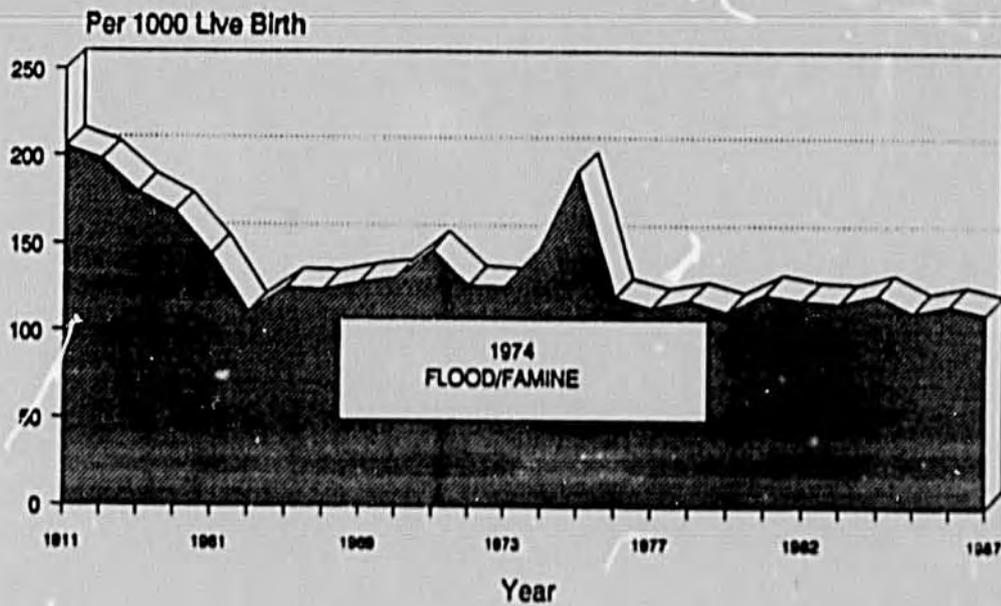
constant in recent years, at about 6/1,000 -- 100 times the rate for developed countries.

Vaccine-preventable diseases account for 17% of the excess mortality in Bangladesh (UNICEF/unpublished data). Protection from vaccine-preventable diseases has increased significantly during the past 5 years (Table 3). Although some health professionals believe that government figures are "optimistic," trends are positive. Knowledge about the use of oral rehydration therapy (ORT) is also widespread. According to UNICEF/Bangladesh staff, 90% of mothers know about ORT for the treatment of diarrhea. However, usage rates are estimated at only 25% to 45%.

Bangladesh is characterized by universal and early marriage for females, but the age of marriage for women has been rising during the post-British colonial period (Table 4). Approximately 3.7 million babies are born in Bangladesh each year.

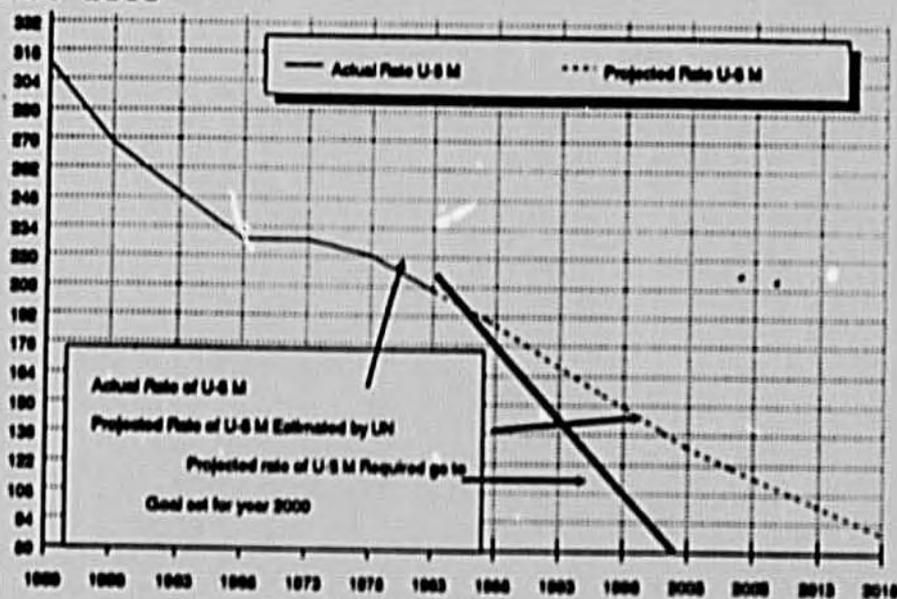
Contraceptive prevalence rates have risen over the past 20 years, from under 10% in 1970 to more than 30% in 1990 (Figure 5). This increase is beginning to show an impact on fertility. In the 1970s the total fertility rate was approximately 7.0; in the past 5 years it was 5.1, and in 1989, 4.9. Yet, 50% of currently sexually active women want to delay or curtail pregnancy but are not using contraceptives. A significant difference exists between those who have been visited by a family planning outreach worker in the previous 6 months and those who have not (Table 5). Contraceptives, particularly oral contraceptives and condoms, are available through the government health program, from the community distribution systems of private voluntary organizations (PVOs), and from commercial outlets. The government-supported Social Marketing Company makes contraceptives available to shops at highly subsidized prices.

Figure 3. Infant mortality rates, Bangladesh: 1911-1987



Source: Health Transition and Population in 1990s. Unpublished monograph. Cole P. Dodge, UNICEF/Dhaka, Figure 1.

Figure 4. Under-5 mortality rates and projections, Bangladesh: 1953-2018



Source: Health Transition and Population in 1990s. Unpublished monograph. Cole P. Dodge, UNICEF/Dhaka, Figure 2.

Table 3. Percentage of children under age 1 immunized against six vaccine-preventable diseases: 1987-November 1990

Year	DPT1/ OPV1	DPT3/ OPV3	Measles	BCG
1987	13%	10%	7%	15%
1988	32%	19%	15%	30%
1989	39%	49%	52%	38%
1990 (Nov)	78%	96%	71%	81%

Source: Unpublished data, UNICEF/Dhaka.

Table 4. Mean age of marriage of women, Bangladesh: 1956-1989

Years	Age
1956 - 1960	12.0
1971 - 1975	13.0
1976 - 1980	13.9
1986 - 1988	16.1
1989	17.7

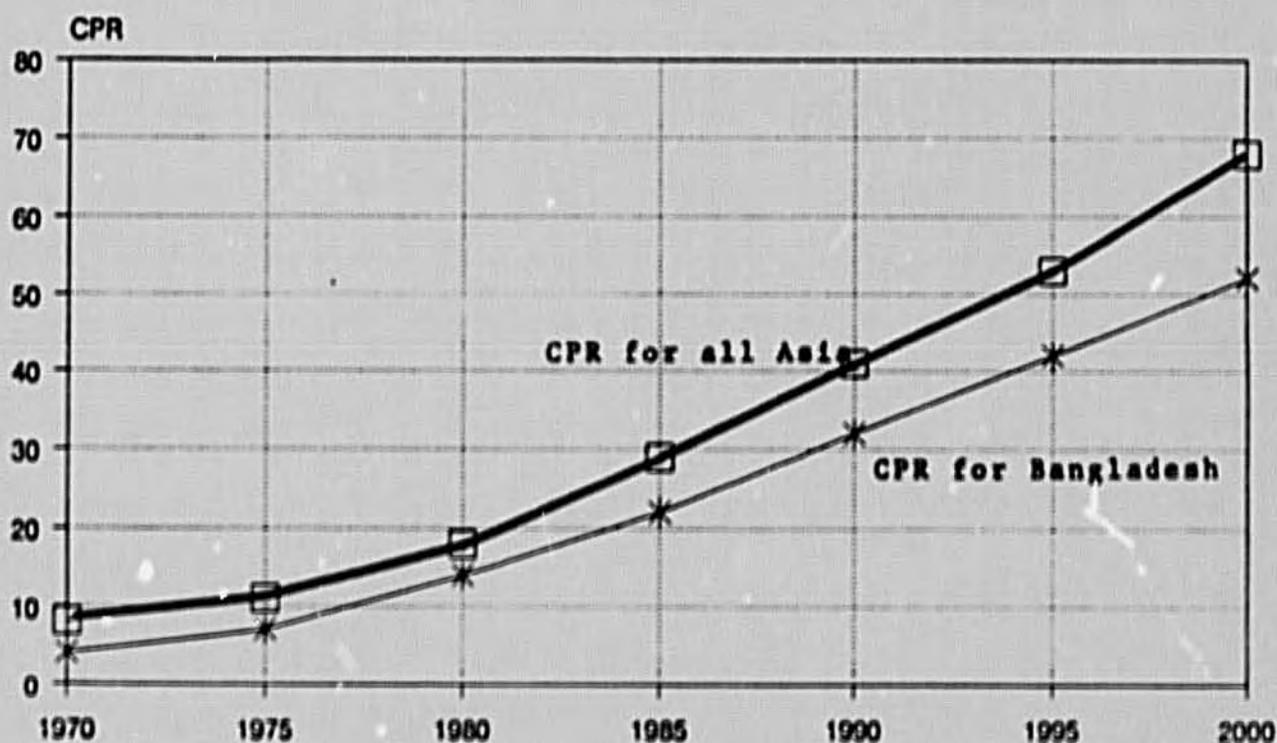
Source: Bangladesh Contraceptive Prevalence Survey - 1989. Dhaka: Mitra and Associates, 1990.

Table 5. Contraceptive use by women visited and not visited by a family planning worker in the previous 6 months

Residence	Percent Use: Visited	Percent Use: Not visited
Rural	21.9%	5.4%
Urban	38.7%	13.1%

Source: Bangladesh Contraceptive Prevalence Survey - 1989. Dhaka: Mitra and Associates, 1990.

Figure 5. Contraceptive prevalence rates, Bangladesh: 1970-1989 (actual) and 1990-2000 (projected)



Source: Health Transition and Population in 1990s. Unpublished monograph. Cole P. Dodge, UNICEF/Dhaka, Figure 4.

II. Evaluation Methodology

AID/W. Bureau of Food and Voluntary Assistance/Office of Private and Voluntary Cooperation (FVA/PVC), requested an assessment of the WRC/CSS Child Survival Project toward the end of the first AID matching grant. The focus of the review was to be the health components of the project, including the structure and process of service delivery of child survival interventions. (See Appendix A.)

To carry out the review, the consultant spent 1 day at the U.S. offices of FVA/PVC discussing the program, noting staff questions, and selecting background documents on the program. (See Appendix B.) An additional 3 days were spent reviewing background materials, including WRC/CSS annual reports, the Development Implementation Plan, and the mid-term evaluation team's report. (See Appendix C.)

After arriving in Bangladesh, the consultant spent 1 day in Dhaka discussing the program with staff of the U.S. Agency for International Development Mission, Dhaka (USAID/D), UNICEF, and PVO health professionals. A planned 10-day visit to the CSS project area in Khulna Division, site of CSS program operations, was discussed. It was agreed that the consultant would return to Dhaka and present a briefing to USAID/D staff before his departure from Bangladesh.

The consultant traveled to Khulna City, headquarters of CSS, and developed with project staff a plan for the 10-day review. It was agreed that the consultant would work intensively with the Child Survival Project Manager and Senior Project Officer. Two trips to the rural areas where the Child Survival Project is being implemented were planned. The consultant also indicated that he wanted to discuss the program with selected government health and administrative officials as well as staff from other PVOs and UNICEF. CSS staff agreed to schedule the requested appointments during the 10-day period.

Planned evaluation activities included the following:

- o Reviewing project documents and records
- o Discussing questions of fact and process with project management staff
- o Discussing questions of policy (and the history of the program) with the CSS Executive Director
- o Visiting project facilities and activity sites
- o Discussing program operations with paid staff, volunteers, and program participants
- o Discussing the CSS and government program with Ministry of Health officials and other health professionals

An outline of the evaluation report was drafted with the assistance of CSS management staff. Information requirements, including numerical data, were reviewed, and CSS staff agreed to assemble the information. It was agreed that the consultant would use CSS and government program figures, the mid-term evaluation data, and other sources as they became available. It was recognized that there would be insufficient time for the consultant to assess the validity or reliability of project service statistics and other data sources. The consultant met with the CSS Executive Director for an hour each evening to review progress and discuss any questions of fact or policy that had arisen. The Executive Director reviewed segments of the draft of the evaluation report as it was being written; his critiques were helpful in making the report conceptually and factually accurate.

The consultant was able to visit one joint child survival/income generation service center at Batiaghata Upazila, discuss the program with 12 supervisors (paid village outreach workers), and observe a community meeting conducted by a supervisor, a training program for 38 village volunteers, and a combined immunization and growth monitoring session for villagers, as well as development projects funded by income generation loans including a harvest from a fish pond, a tube well, and low-income housing.

On the morning of the sixth day of the field visit a USAID/D staff member asked the consultant to return to Dhaka and leave the country due to events external to Bangladesh. The consultant immediately complied. Because the field visit was truncated he was unable to make as many village visits as planned. Very limited discussions were held with Government of Bangladesh officials. CSS was most helpful in "faxing" additional requested material to the United States for incorporation into the evaluation report. A debriefing was held at AID/W with FVA/PVC staff before the written report was finalized.

III. WRC/CSS Income Generation Program

From its inception in 1975, CSS has continued poverty alleviation programs inaugurated by WRC/Bangladesh and targeted at the poorest segment of the community (and therefore one of the poorest populations in the world). The program is designed to increase the household income of villagers through the use of a revolving loan fund for economic and social development projects related to agriculture or production of marketable goods. The program is based on the principle of self-sufficiency, i.e., helping people to help themselves. The philosophy is that community members should not expect anything for free; self-sufficiency can be accomplished only on a pay-as-you-go basis. This premise is viewed as an important enhancement of self-esteem

for an all-but-disenfranchised segment of the population.

CSS requires prospective borrowers to be from the lowest economic group in the community. Applicants must have technical competence in the proposed endeavor, and materials for the endeavor must be available locally. The end product of the endeavor must be consumable by the community, and an immediate market for the product must be available. Religious affiliation is not a criteria for eligibility. Although loans are made to individuals, the borrower must be part of a group. For example, if a woman wants to purchase rice to be cooked into 'puffed rice' and sold in the market, she must convince four or five other women to take out loans for the same activity. The reasoning behind this stipulation is that, as part of a group, an individual will feel informal pressure to use profits to repay the loan. It also helps to ensure that loans will be used for the purposes for which they were made.

In addition to these criteria, in the five unions participating in the CSS Child Survival Project, loans are directed toward families that participate in activities supported by the project, e.g., immunization. Priority is given to families who have all eligible children in school; special efforts are also made to grant loans to women, particularly widows.

Considerable emphasis is placed on involving the community in decision making, including selection of eligible borrowers. This helps ensure that loans are granted to persons from the lowest economic strata and also helps create community reinforcement for repayment of the loans. Although income figures for loan eligibility are not fixed, applicants for agriculture-related loans must not be cultivating more than 1 acre of land. Most commonly, borrowers are landless sharecroppers who traditionally have had to turn 50% of their harvest over to the landowner.

Borrowers are requested to place 10% of their net profits into a bank account toward repayment of the loan. The bank account belongs to CSS, but the funds are held in special escrow accounts in the borrower's name. The borrower can withdraw funds only with the permission of CSS, normally when the loan is repaid. Any funds in the account above the loan remittance are paid to the borrower with interest. After full repayment, a borrower is eligible for a new loan.

The range of loans has been from Tk. 500 to 5,000 (U.S. \$15 to \$150) (Table 6). In more recent years, however, larger loans have been made to groups. For example, in Gopalganj loans of up to Tk. 46,000 have been made for irrigation pumps for a dry-season rice crop. Participants may cultivate only up to 1 acre of land each, but the pumps irrigate 50 to 60 acres. Because no one person can support such a loan, groups of contiguous farmers have been organized to take out a collective loan and repay in

Table 5. CSS income generation loans, 1975-1990

Activity	No. of loans	Individuals affected (No. X 6 family members)*	Amount (in Taka)
Agricultural cultivation	24,889	149,334	37,681,840
Small business	10,985	65,910	14,521,165
Tube wells	645 (X 60 families)**	232,200	1,611,134
Fish ponds	3,940	23,640	9,851,586
Rickshaws	3,496	20,976	15,382,929
Bicycles	175	1,050	619,459
TOTAL	44,130	398,857***	79,668,113**** (approximately U.S. \$2,414,185)

* This is a conservative figure; actual family size is approximately 6.9.

** It is estimated that 60 families use each tube well.

*** Approximately 25% of the loans are repeat loans so that this total has been reduced 25%.

**** Tk. 78,118,113 is from regular CSS budget, and Tk. 1,550,000 was allocated from Child Survival Project funds.

Source: CSS program records.

proportion to the acreage they cultivate. A secondary objective of the irrigation pump loans has been to negotiate with the landowners a reduction in their share of the crop from 50% to 25%, a sharp break with tradition in the Indian subcontinent. It was explained to the landowners that 25% of the irrigated crop would be more than 50% of production without the dry-season production. As an added inducement, landowners were permitted to participate in the loan program and cultivate up to 1 acre of land themselves. The net increase to the landless sharecroppers has been significant.

CSS reports that more than 90% of the small business and development loans have been repaid. Because of the natural hazards in Bangladesh, agricultural loans have a repayment record of approximately 75%. Due to physical and civil disruptions many borrowers have not been able to repay their loans in a routinely scheduled time (usually 6 months to 1 year). CSS program management staff feel they are much more flexible in adjusting loan repayments when circumstances warrant than the more famous Grameen Bank rural credit program operating in Bangladesh. James Rice points out in his November 1990 financial sustainability study, however, that CSS repayments, while proportionately high, are not recouped in a sufficient time frame to replenish income-generating revolving loan funds and that therefore the pool of loan funds must be consistently augmented (Rice, App. 14, pp. 4).

As noted, all of the products supported by income generation loans must be immediately consumable in the community. This requirement can be viewed as an antecedent to the concept of social marketing, i.e., that the products not only must be marketable at a profit but also must serve the needs of the community.

Approximately 95% of the loans have been to men. In recent years emphasis has been placed on channeling loans to women. This is particularly true in the five unions that comprise the geographic area for the Child Survival Project.

IV. WRC/CSS Child Survival Project

The WRC/CSS Child Survival Project is operating in five rural unions of Khulna Division, south of Khulna City. Four unions are in Batiaghata Upazila, and one union is in Tala Upazila (Figures 6 and 7).

The project is implemented by a cadre of paid and unpaid village outreach workers. In each union the Union Officer supervises the work of three salaried outreach workers titled "supervisors." These supervisors travel regularly to the villages to conduct group meetings on health topics, help with immunization camps, encourage community members to apply for development loans, and keep ledgers ("registers") on child survival

interventions.

The supervisors also oversee the work of 10 to 15 teams of volunteer community health workers (CHWs). Each team is composed of three persons, one man and two women. The three-person team is responsible for the day-to-day promotion of health for 100 assigned families. Each team is allowed to decide how team members will divide the tasks, but the male member is always the team leader. Each team member is selected by the community from which he/she works. CSS sets certain criteria for selection, one of which is that all CHWs must be literate -- an unusually high standard given the low literacy levels in the country.

The CHWs go door-to-door in their communities to promote health interventions and to instruct mothers on the preparation and administration of oral rehydration solution (ORS) and on correct breastfeeding and weaning practices. They inform mothers of schedules for immunization and growth monitoring sessions. In addition, the CHWs regularly hold small group meetings, primarily with women, to discuss health problems; an important component of this work is the conducting of basic literacy classes for women.

The CHWs attend service sessions and assist the CSS supervisor and government staff with immunizations. They also actively participate in growth measurements of children. The CHWs are supplied with, and regularly distribute, oral contraceptives, condoms, vitamin A tablets, and ORS packets. Families requiring additional services, e.g., surgical procedures for contraception, are referred to the appropriate facility.

The CHWs are "backstopped" in each of their activities by the salaried supervisor. Each team maintains a ledger on all members of their 100 families in which each vital event and health intervention is recorded as it occurs. This information is copied and forwarded to their supervisors once a month. (See Appendix D.) Twice a month each supervisor conducts an all-day in-service training session for all of his CHWs. The only remuneration the CHWs receive is Tk. 50 (Tk. 100/month) for attending these training sessions. CHWs were frank to state that they consider this a marginal payment for their efforts.

Senior project management staff include a Senior Project Officer and an overall Child Survival Project Manager (Figure 8). The management of the program appears rigorous at every level. CSS loan staff complement the health outreach efforts; they are housed in the same offices as the Child Survival Project Officers and supervisors. Policy direction comes from the CSS Executive Director and the Board of Directors.

The main components of the child survival interventions are 1) immunization, 2) family planning, 3) oral rehydration therapy, 4) nutrition and growth monitoring, and 5) related activities.

Figure 5. Batiaghata Upazila



PROJECT UNIONS

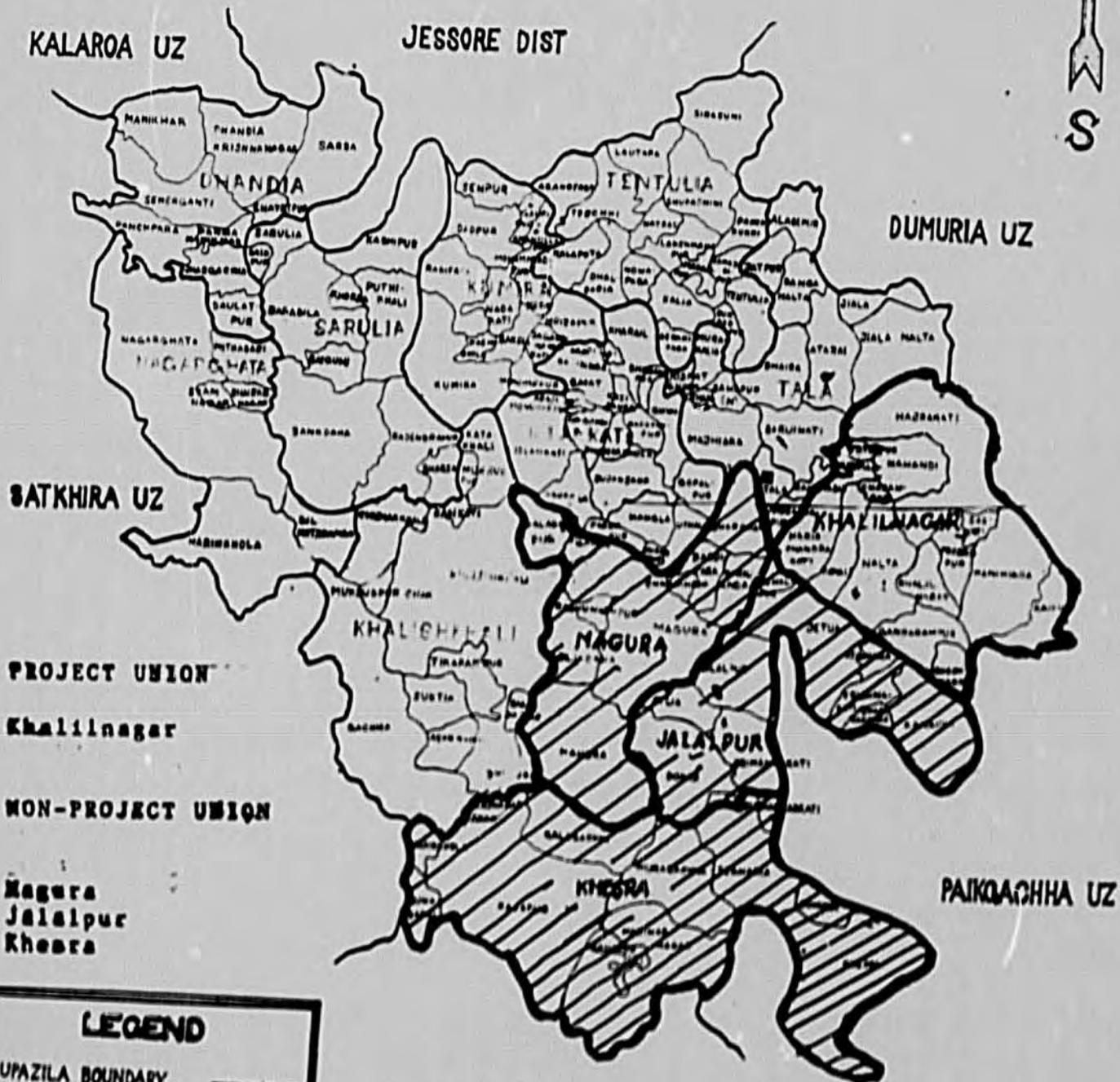
- 1. Jalma
- 2. Batiaghata
- 3. Gangarampur
- 6. Baliadanga

NON-PROJECT UNIONS

- 4. Surkhali
- 5. Vandercoart
- " Amirpur

Figure 7. Tala Upazila

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
 1 KM MILE



LEGEND

UPAZILA BOUNDARY ———

UNION BOUNDARY ———

MOUZA BOUNDARY ———

UPAZILA HEADQUARTER ■

A. Immunization

The Government of Bangladesh is committed to a nationwide Expanded Programme on Immunization (EPI) (Government of Bangladesh, Ministry of Health: Universal Child Immunization in Bangladesh, p. 3). In the Khulna Division the government implements the program by providing vaccines, maintaining the cold chain, and employing vaccinators. Government-provided immunizations are largely facility based, i.e., offered in hospitals, Upazila health complexes, and union sub-health centers. Staff and budget limitations preclude widescale extension efforts into the villages.

In the five unions in which the Child Survival Project operates, supervisors and CHWs educate parents about immunization and strongly motivate them to have their children immunized. General appeals are made to secular and religious leaders to support the program, and direct appeals are made to mothers of infants. These efforts are reinforced by health education songfests and audiovisual presentations in the villages.

CSS schedules immunization sessions in village locations and transports government vaccinators and vaccines to the sites for these sessions. Supervisors and CHWs record immunizations given, by child. CSS staff ensure that each mother has a properly completed immunization card for each child. In instances of post-immunization side effects, CSS staff bring afflicted children to medical facilities and pay for treatment. One government EPI official stated that these efforts increase immunizations by at least 25% in the participating unions.

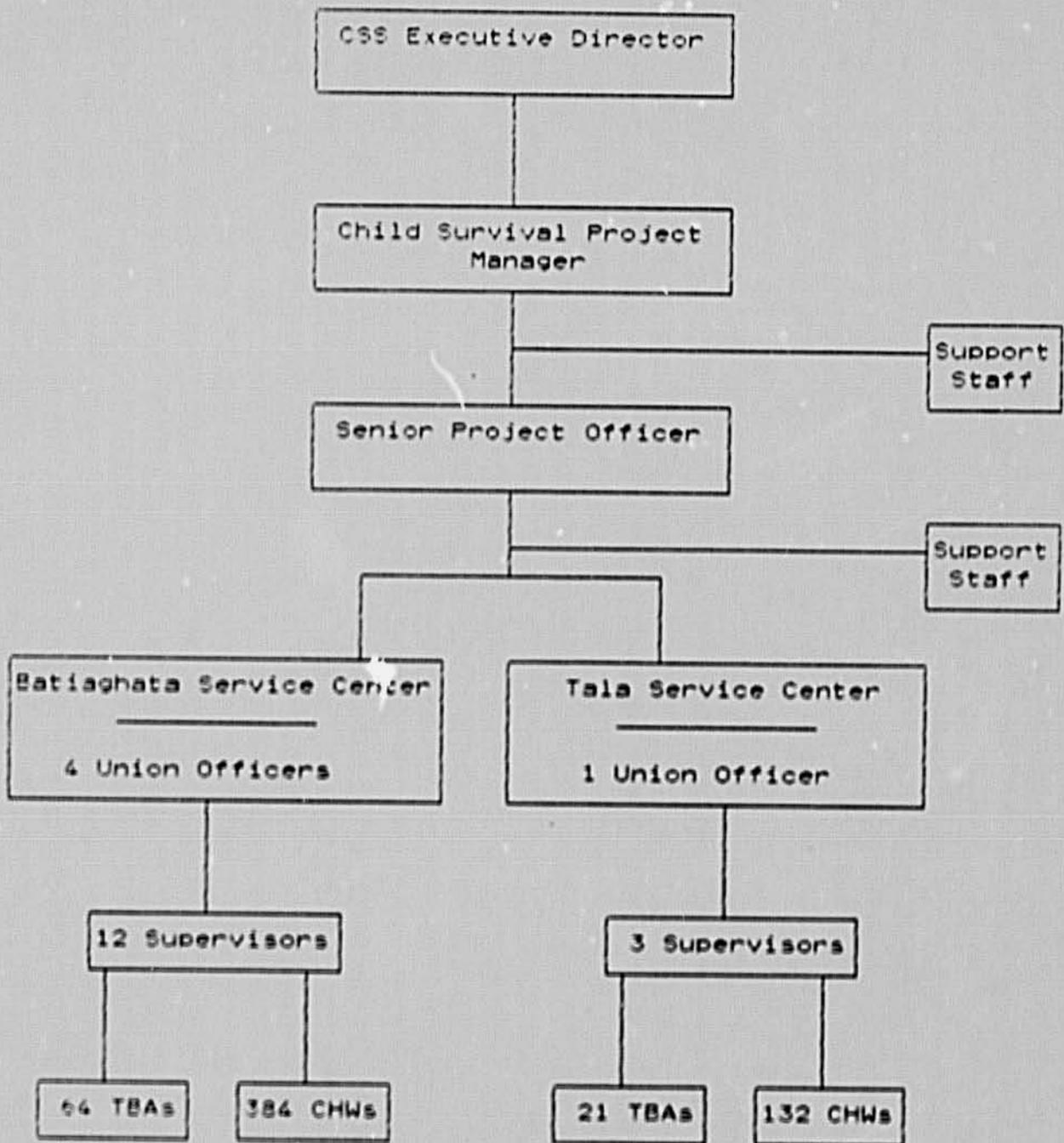
Measles immunization is an area of particular emphasis. Because the timing of the measles immunization is out of sequence with other inoculations, many children in past years have missed this important vaccination. A special effort is also made to immunize all women, ages 15 through 45, for tetanus, with particular emphasis on all pregnant women. Because the CHWs live in the same villages as the clients, they are particularly effective in identifying appropriate candidates for immunization.

At the time of this review CSS outreach staff were concerned about breakthrough infections, particularly of measles. They had documented a number of cases in which a child was immunized for measles and within 2 or 3 months contracted the disease. A breakdown in the cold chain was suspected, and the information was passed on to the appropriate Ministry of Health officials.

B. Family planning

The government provides an array of contraceptives for child spacing and family limitation, including condoms, oral contraceptives, intrauterine devices (IUDs), and injectables, as

Figure 3. CSS Child Survival Project: Organization chart



Source: CSS staff

well as vasectomy and tubal ligation. All contraceptives and surgical services are provided at no cost. The one exception was the recent introduction of a 50-paisa charge for a dozen condoms to eliminate misuse. As in the case of immunizations, government staff do little education or motivation for family planning outside of fixed facilities. Small shops also sell pills and condoms, subsidized by the government-supported Social Marketing Company.

CSS obtains contraceptives from the government. Supervisors and CHWs distribute condoms and oral contraceptives and refer clients to appropriate centers for medical procedures. In group meetings and one-on-one discussions, CSS outreach staff regularly stress the advantages of child spacing and family limitation. Although the recently released 1989 Contraceptive Prevalence Survey states that men are somewhat more interested than women in limiting family size (Bangladesh CPS, pp. 29), in discussions with some senior health professionals, outreach workers, and villagers the consensus was that in Khulna Division women are significantly more interested than men in both child spacing and family limitation.

Discussions with senior CSS management staff and village outreach workers revealed a clear awareness of the side effects of contraceptives. However, no CSS staff member or volunteer was able to articulate contraindications to taking oral contraceptives, and no protocol has been written on conditions that would preclude issuing pills to a woman.

C. Oral rehydration therapy

Government efforts to prevent infant mortality due to diarrhea are, again, largely facility based. The government does, however, supply approximately 20% of the ORS packets used by CSS. During 1990 CSS purchased an additional 14,000 packets of ORS for Tk. 42,000.

CSS outreach workers teach mothers how to use both homemade ORS and prepared packets. CHWs are regularly supplied with the packets, which they distribute and assist with mixing when appropriate. In addition, the village outreach staff educate mothers on appropriate hygiene to prevent diarrhea and motivate mothers to continue feeding breast milk and nutrient foods during diarrheal episodes. CHWs refer serious cases of diarrhea to medical facilities.

CSS staff indicated that they were unaware of the efficacy of carbohydrates, e.g., use of rice water, in preparing ORS. This is somewhat ironic since the technique was discovered by the International Cooperating Centre for Diarrheal Research, Bangladesh (ICCDR.B) in Dhaka.

D. Nutrition and growth monitoring

CSS conducts a number of activities to enhance and monitor proper nutrition in infants and children. Breastfeeding, as opposed to bottle feeding, is encouraged. However, in the very poor areas in which the program is operating, breastfeeding is essentially universal. A larger challenge is encouraging women to use their colostrum, which in Bengali society is traditionally discarded. Village outreach workers did report some success in getting new mothers to use this important component of breast milk.

CSS staff conduct extensive education on the introduction of weaning foods, especially the timing and use of high-energy foods. In conjunction with this, CSS has inaugurated growth monitoring of children ages 0 to 36 months every other month, using a Salter scale. A simple weight-for-age index is used to determine nutritional status. Growth monitoring is done in conjunction with village group meetings or, sometimes, with village immunization camps. The Government of Bangladesh is not in a position to offer any of these services.

In a typical growth monitoring session, the CHWs assist with the babies while the supervisor records the weight and plots the growth chart. Mothers are given a chart for each child. In the case of a severely malnourished child, the supervisor issues the mother a packet of satu, a high-energy food made from rice, lentils, and soy bean oil that is purchased, cooked, and packaged by CSS staff. The mother is then instructed in how to make this nutritious mix herself. The CHWs carefully monitor severely malnourished children until they achieve normal weight ranges.

To further enhance good nutritional status CSS has introduced a program to identify children with worms. CSS purchases medicine and arranges for a physician to administer it. A total of 250 children were dewormed in 1990; CSS plans to increase this activity in 1991 to include 2,000 children and mothers of infants ages 0 to 5 months, in the latter case to enhance their breastfeeding.

Vitamin A distribution is another health intervention undertaken by the government, again from fixed facilities. The government also provides CSS with 70% of the capsules they use in their village distribution program. CHWs are constantly alert to children with symptoms of night blindness. They distribute capsules according to government guidelines: 100,000 International Units (IUs) twice a year for children 6 to 12 months of age, and 200,000 IUs for children aged 12 to 72 months. Although Vitamin A deficiency is very widespread in Khulna, the government has no directives about the potential toxicity of vitamin A. CSS staff were not aware of this potential hazard.

Another CSS effort to improve the nutritional status of residents

in the five project unions is the introduction of kitchen gardens. Families are encouraged to start these gardens, and seeds, particularly for green leafy vegetables, are provided on a one-time basis for free. A cursory walk through the villages reveals that many families have started such gardens.

E. Related activities

CSS has initiated additional activities in the villages to support child survival objectives. These include an active campaign to introduce literacy to adults, particularly women. Outreach workers report an immediate increase in the self-esteem of participants in these classes. Health information is a significant component of the materials used to teach literacy.

An ancillary activity is the training of traditional birth attendants (TBAs -- dais). CSS pays health professionals to conduct short-term training for TBAs to improve birth outcomes for women using their services. CSS staff report an increase in the number of village women using the services of these trained dais.

As noted above, income generation is the cornerstone upon which the CSS village development program is built. This has been extended to the five unions in which the Child Survival Project is operating. In those five unions CSS and child survival funds have been combined, making it easier for residents in these unions to obtain loans. Priority is given to families with children under age 5, widows, and active participants in child survival activities. In turn, all loans in the five Child Survival Project unions are charged 16% interest (instead of the standard 12%). The additional income generated by CSS is used to support the Child Survival Project. While current returns from this 4% premium do not meet all recurrent costs, this mechanism enhances the long-term sustainability of the public health interventions inaugurated under this program (Rice, pp. 24). In random discussions with villagers it was apparent that the income generation loans are very positively received.

A small irony results from the fact that loans are granted only to the lowest income residents. The added 4% interest they pay on the loans helps pay for the child survival interventions. The more well to do (the richest of the poor, as it were) do not receive loans and therefore do not pay the premium to support health-care activities. The result is that the more well off of the poor have their preventive health care subsidized by the poorest segment of the community.

Although the income generation activities are not tabulated as child survival interventions, some have a clear potential for improving health. Loans are given for raising poultry and livestock as well as for starting fish ponds. The primary

purpose of the loans is to increase household income. However, project staff believe that the increased income, and the food products themselves, improve the diet of household members. Cross tabulations of participating households and growth records of their children have not yet been computed to document such correlations.

A more direct impact on child health may be derived from the drilling of tube wells to provide clean water. The task is undertaken strictly on a loan basis. A family may borrow the approximately Tk. 4,000 to drill a 250-foot well and install a pump and cement slab. CSS stipulates that the well must be open to the community and that an estimated 60 families use each well. To promote these wells CSS makes the loans available interest free. Again, no comparative data have been examined between, for example, children with access to tube well water and incidence of diarrheal episodes.

V. Program Impact

The impact of the Child Survival Project can be documented both quantitatively and qualitatively.

A. Data sources

1. Baseline surveys

Before initiating program activities in each union, CSS undertook a baseline survey of a 100% sample of each household in the union (Table 7). To develop the survey instrument, the staff reviewed instruments used by Save the Children, United States (SAVE/US) and by the Government of Bangladesh. From these forms they selectively chose data items they believed relevant to inaugurating a child survival project. The CSS survey instrument was reviewed with other PVOs before implementation.

CARE gave instruction to CSS management staff on techniques for conducting baseline surveys. Future village outreach workers -- supervisors and volunteer CHWs -- were trained by management staff in conducting the surveys. A 100% sample of the first 15 forms completed by each surveyor was rechecked and corrected, and additional instruction given to the survey teams. For the remainder of each survey a 1% random sample of households was reinterviewed by management staff. The surveys took 2 to 3 months each to complete. During the survey each house was numbered for program identification.

The forms from each union were tabulated by hand and the results used as a baseline for measuring the progress of the program. The Senior Project Officer acknowledged that later surveys were more accurate than the initial efforts. Staff have learned how better to locate houses, determine ages of a largely illiterate

population, and more accurately attribute causes of death, e.g., measles rather than diarrhea. The impression is that the reliability of these surveys is reasonably high but that the validity is somewhat weaker. Undoubtedly, there is some respondent error, with an expected small amount of recorder error in the data base.

2. Management information system

Program progress is measured against the survey data. Initial client participation is recorded by the three-person CHW teams. The information is then forwarded monthly through the supervisors to the union officers and on to the Senior Project Officer. The information is compiled monthly and program progress assessed. Quarterly, the information is assessed, with feedback given from the Project Manager back to the operational staff. A copy of the quarterly report is forwarded, over the signature of the CSS Executive Director, to WRC in Wheaton. (See Appendix D.)

Table 7. CSS schedule of baseline surveys, by union

UNION	DATE OF BASELINE SURVEY
Jalma	March 1988
Tala	April 1988
Batiaghata	September 1989
Baliadanga	September 1989
Ganganampur	October 1989

Source: CSS records.

B. Quantitative results

To quantify the impact of the Child Survival Project the consultant examined the records of the project. It was felt that comparisons with national rates might be misleading because many

factors are averaged into these figures. A comparison with a child survival project in another part of the country might mask different levels of government input, preexisting levels of coverage, and even differential levels of disruption from weather, civil disorder, or logistical constraints. There is also the problem of different skill levels in recording program participation.

The baseline surveys determined, among other things, existing levels of EPI coverage, contraceptive use, and understanding and use of ORS for the treatment of diarrhea. As part of the preparation for a proposal for additional AID funding, CSS collected comparable data from Government Upazila offices for six unions adjacent to the program area. While not a precise measurement, this comparison provides an indication of whether or not there is increased coverage in CSS unions than in those served only by government delivery systems. The mid-term evaluation team determined that CSS service statistics were reasonably accurate. (See Appendix E.) A comparison of adjacent unions minimizes differences in service delivery and climatological and cultural (if any) differentials between the two areas.

If anything, this comparison will err on the side of being conservative. There may be some contamination from project to non-project areas: friends and relatives will discuss the program with residents in non-project unions. In some instances, people may cross from non-project unions to receive CSS services. For example, a mother may bring her infant into a CSS union for an immunization. The child will then be recorded as a resident of a union served only by the government (the child will, of course, also be counted by CSS in their service statistics).

To determine if the CSS program has had an impact, data were examined on three program areas: immunization, family planning (contraceptive use), and oral rehydration therapy.

1. Immunization

Table 8 documents the percentage of children under age 1 who have been immunized in the five CSS project unions and six adjacent non-project unions. In every instance the coverage is higher in the project unions. For initial diphtheria/pertussis/tetanus (DPT1) and oral polio vaccine (OPV1) immunizations, the range of coverage in the five project unions is 71%-72%, compared to 28%-34% in the non-project unions.

Similarly, for the third (complete) DPT and OPV immunizations, the range in project unions is 92%-95%, versus 31%-41% in non-project unions. Coverage for measles immunizations ranges from 89% to 94% in the project unions, compared to 33%-42% in the non-project unions. Similar differentials can be observed for BCG.

Table 1. Percentage of EPI coverage in children under age 1 and women 15-45 years of age: CBS project unions and adjacent non-project unions, November 1990

Khulna District,
Batiaghata Upazila

Satkhira District,
Tala Upazila

Immuni- zation	Project union	%	Non- project union	%	Project union	%	Non- project union	%
DPT1/ OPV1	Jalma	72	Sur- khali	28	Khalil- nagar	71	Magura	30
	Batia- ghata	71	Vandar- coart	34			Jalal- pur	32
	Gangar- ampur	71	Amirpur	31			Khesra	33
	Balia- danga	71						
DPT3/ OPV3	Jalma	95	Sur- khali	31	Khalil- nagar	92	Magura	37
	Batia- ghata	94	Vandar- coart	36			Jalal- pur	41
	Gangar- ampur	92	Amirpur	35			Khesra	40
	Balia- danga	92						
Measles	Jalma	94	Sur- khali	33	Khalil- nagar	90	Magura	36
	Batia- ghata	92	Vandar- coart	39			Jalal- pur	40
	Gangar- ampur	89	Amirpur	37			Khesra	42
	Balia- danga	89						

BCG	Jalma	94	Sur-khali	31	Khalil-nagar	90	Magura	36
	Batia-ghata	43	Vandar-coant	39			Jalal-pur	40
	Gangar-ampur	29	Aminpur	37			Khesra	42
	Balia-danga	39						
TTG (Women 15 to 45)	Jalma	96	Sur-khali	16	Khalil-nagar	36	Magura	13
	Batia-ghata	33	Vandar-coant	9			Jalal-pur	20
	Gangar-ampur	90	Aminpur	5			Khesra	15
	Balia-danga	96						

Source: Data for project unions come from CSS service statistics. Figures for non-project unions were provided by Upzaila government offices.

The greatest differences are observed for the two doses of tetanus toxoid given to women ages 15 to 45. Coverage rates for project unions range from 23% to 96%; for adjacent non-project unions, rates range only from 5% to 20%.

2. Family planning

Table 9 records the percentage of married couples using contraception, by method, in project and non-project unions. Again, in every instance the rates of participation are higher in project unions than in non-project unions. This is particularly true for oral contraceptives and condoms, which are distributed by CSS CHWs. For oral contraceptives, the range of use in project unions is 16%-23%, with a median of 22%. In comparison, non-project unions have a range of 10%-12%, with a median of 11%. Similarly, for condoms, the range is 15%-19% (median, 16%) for project unions compared to a range of 7%-12% (median, 10.5%) for non-project unions. These data clearly suggest that increasing

Table 4. Percentage of couples using contraception, by method: CFI project unions and adjacent non-project unions, November 1990

Khulna District,
Batiaghata Upazila

Satkhira District,
Tala Upazila

Contra- ceptive Method	Project Union		Non- Project Union		Project Union		Non- Project Union	
		%		%		%		%
Pills	Jalma	23	Sun- khali	12	Khalil- nagar	23	Magura	12
	Batia- ghata	22	Vandar- coart	12			Jalal- pur	10
	Gangar- ampur	21	Amirpur	10			Khesra	10
	Balia- danga	16						
Condoms	Jalma	19	Sun- khali	11	Khalil- nagar	18	Magura	11
	Batia- ghata	16	Vandar- coart	12			Jalal- pur	10
	Gangar- ampur	16	Amirpur	7			Khesra	8
	Balia- danga	15						
IUDs	Jalma	11	Sun- khali	6	Khalil- nagar	10	Magura	7
	Batia- ghata	9	Vandar- coart	6			Jalal- pur	8
	Gangar- ampur	10	Amirpur	9			Khesra	7
	Balia- danga	10						

Injectables	Jalma	2	Sun-khali	1	Khalil-nagar	1	Magura	1
	Batia-ghata	2	Vandar-coart	0			Jalal-pur	2
	Gangan-ampur	2	Aminpur	1			Khesra	1
	Balia-danga	0						
Vasec-tomy	Jalma	5	Sun-khali	3	Khalil-nagar	5	Magura	3
	Batia-ghata	5	Vandar-coart	4			Jalal-pur	3
	Gangan-ampur	6	Aminpur	3			Khesra	2
	Balia-danga	6						
Tubec-tomy	Jalma	5	Sun-khali	3	Khalil-nagar	6	Magura	4
	Batia-ghata	6	Vandar-coart	2			Jalal-pur	3
	Gangan-ampur	5	Aminpur	3			Khesra	3
	Balia-danga	5						

Source: Data for project unions come from CSS service statistics. Figures for non-project unions were provided by Upazila Government offices.

access to contraception, by distributing temporary methods, significantly increases contraceptive use; the data are consistent with national trends indicating that women visited in the previous 6 months by a family planning outreach worker are more likely to be using contraceptives than those who were not visited (Table 5).

The clinical methods of IUDs and injectables also show higher, if less pronounced, use rates in project unions. The highest IUD use rate in a non-project union, Aminpur, matches the lowest rate

in a project union, Batiaghata (9%). There is little difference between use rates for injectables, which are low in both populations.

The permanent methods of vasectomy and tubal ligation have somewhat higher use rates in project unions than in non-project unions, 5%-6% and 2%-4%, respectively. No examination was made of parity or age-specific use rates to determine if the CSS project is attracting couples lower in age or family size.

3. Oral rehydration therapy

Table 10 records the number of deaths attributable to diarrhea in CSS-served and government-served unions. In the 18-month period, June 1988 through November 1990, 65 deaths due to diarrhea were recorded in the six non-project unions being studied. During this same period there were no deaths due to diarrhea in CSS-served unions. Although the under-6 population was half again as large in the non-project unions compared to the project unions (23,674 versus 16,110, respectively), these data indicate that CSS has had a significant impact on reductions in child mortality due to diarrhea.

C. Qualitative results

Much of the impact of the CSS program can be measured only qualitatively. Although AID has funded the project for only 4 years and the selective primary health care interventions have been implemented for only 3 years, CSS has been directing development projects for almost two decades. A review of the less tangible aspects of the program is appropriate to an understanding of the impact of the Child Survival Project. These aspects include community participation, sustainability, CSS commitment, and income generation.

1. Community participation

The CSS Child Survival Project appears to have a high level of community participation. This is quantified by the acceptance rates of health interventions enumerated above. In addition, the foundation of the community outreach effort is the involvement of the volunteer CHWs in three-person teams, each working with 100 families in their home communities. This is the single sharpest difference between the government's intervention programs and those of CSS. The volunteer CHWs maintain literally daily contact with their constituency; it is therefore not surprising that coverage rates are significantly higher than in government-served areas where this network of volunteer outreach workers

Table 10. Deaths due to diarrhoea in children under age 5: CSS project unions and adjacent non-project unions, June 1988-November 1990

Khuina District, Batiaghata Upazila				Satkhira District, Tala Upazila			
Project Union	No.	Non-Project Union	No.	Project Union	No.	Non-Project Union	No.
Jalma	0	Sun-khali	11	Khalil-nagar	0	Magura	13
Batia-ghata	0	Vandar-coant	15			Jalal-pur	6
Gangar-ampur	0	Amirpur	6			Khesra	14
Balia-danga	0						

1. Total number of children, aged 0 to <72 months, in project unions: 16,110.
2. Total number of children, aged 0 to <72 months, in non-project unions: 23,674.

Source: Data for project unions come from CSS service statistics. Figures for non-project unions were provided by Upazila government offices.

does not exist. The CHWs are selected by the communities, which is a form of participation in itself.

Another aspect of community involvement in the program is the training of dais, traditional birth attendants. CSS staff indicate that, as these TBAs have received training and become technically more skilled, use of dais in assisting deliveries has increased. No quantitative data is immediately available to illustrate this trend, but the participation of the dais in the training programs is another example of community participation in the Child Survival Project.

2. Sustainability

A hallmark of the CSS program is the commitment to program sustainability. This manifests itself in commitment to community participation as noted above and also in the use, and pride in such use, of Bengali staff. These are people who are committed as a career to the project, rather than expatriates on a 2- or 3-year adventure. Use of nationals also keeps operational costs down, which further ensures the continuity of the program. The CSS community outreach program was founded on the principle of "pay as you go." The revolving loans of the income generation program are the basis for program operation. The loan system was instituted to build in sustainability as well as to instill in participants a feeling of self-sufficiency and control over their own lives. When child survival interventions were appended to this program, the same operational principles were retained, with the addition that borrowers in child survival unions pay a 4% premium that defers recurrent costs.

3. CSS commitment

A genuine strength of the program is the commitment of CSS to the community and to the program. Levels of motivation of program management and outreach staff are clearly high. CSS has also demonstrated the flexibility to replace staff that do not sustain commitment to the program. An ancillary component of this commitment is strong program management. Dodge, in his unpublished report, states that a genuine success of the Bangladesh public health program has been the performance of the NGO sector, which has "provided models of both development and social sector service delivery that has been recognized world wide. These NGOs have been successful in part because of their ability to create an ethos of accountability and because of the commitment of their staff, both of which have resulted in feelings of confidence in these services." (Dodge, p. 3). CSS is a good example of this more general assessment of the performance of the NGO community in Bangladesh. In contrast, Dodge continues, "compared to the NGO performance we see that Government health services are underutilized, poorly thought of by the population, inefficient and ineffective." (Dodge, pp. 3). The quantitative differences documented above add weight to Dodge's assessment.

4. Income generation

Special note should be made of the income generation program, a component that makes the CSS Child Survival Project, if not unique, then a rare model in developing world health programs. Funds are made available to the poorest persons in the community to raise their standard of living. Selective primary health care interventions have been incorporated into this model. CSS program managers believe the income generation program is what

people respond to first and foremost. This ignores the many programs in Bangladesh and around the world where participants respond to child survival interventions in and of themselves. Clearly, in countries where standards of living are higher the status of health is higher. Furthermore, CSS is attempting to have participants in the loan program pay for the health interventions, however incompletely they may be understood by borrowers. At a minimum, the project presents interesting possibilities for an interactive process between income generation and child survival interventions.

VI. Analysis and Recommendations

Four program components give the Child Survival Project particular strength. These include areas of program management and implementation that fulfill AID's objectives in funding such programs. Three additional program areas require strengthening. Implementation of the recommendations for strengthening these areas will increase the productivity of the program and provide the means to verify its impact on the communities served.

A. Program strengths

The Child Survival Project is particularly strong in the areas of management, child survival impact, sustainability, and income generation.

1. Management

Management is an important strength of the CSS project. This includes both the leadership provided by top managers and the supervision provided by middle managers. The village outreach workers -- i.e., supervisors -- regularly travel to the villages to promote child survival activities. They also supervise a cadre of volunteer community health workers who greatly expand program coverage. The cadre of CHWs increases program impact and enhances sustainability.

An important component of the strong management demonstrated in the project is a commitment on the part of CSS to work in development in the long term; the agency has been working in village development for 15 years and will continue to do so long after AID funding has ended.

2. Child survival impact

The Child Survival Project has had a significant impact on the health behaviors of the target population. (See Appendix F.) This is accomplished through personalized education and motivation of the target population. In addition, CSS increases accessibility to services. Working cooperatively with government

health staff. CSS has achieved notably higher coverage rates for immunization and use of contraceptives in project areas than in non-project areas. Deaths from diarrhea are much lower in project areas, inferring much greater use of ORT to treat episodes of diarrhea. In addition, many of the ancillary activities of the CSS project (e.g., kitchen gardens and tube wells), although not labeled child survival interventions, likely improve the health status of community residents.

3. Sustainability

CSS has structured all of its village development activities on the principle of self-sufficiency. It does this to enhance the dignity of the persons who are trying to improve their lot in life as well as to ensure long-term financial viability. In the five unions where child survival activities are being implemented, a 4% premium is charged on loans to offset program costs. CSS has also been adept at attracting a variety of offshore donors to support the program.

The spirit of self-sufficiency also pertains to CSS staff. CSS is entirely a Bangladeshi organization; staff members see themselves on a career path. Costs are kept low by not relying on expatriate specialists. In the past 3 years the management staff has learned a great deal about child survival interventions and their impact on the health status of the community.

4. Income generation model

A cornerstone of the CSS method of village development is a series of activities designed to raise the standard of living of the population. These most typically relate to agricultural productivity and market products. Villagers borrow funds for the activity, e.g., establishing a fish pond, and repay the loan from the profits. Child survival activities are now being supported from this loan repayment plan. The CSS staff members believe that the income generation activities also have a long-term positive impact on the health status of the villagers. This income generation approach to village development is an interesting model, both for poverty alleviation and health promotion, and should be monitored for its potential applicability to other parts of Bangladesh and to other developing countries.

B. Recommendations

To further strengthen what is already an effective program, three program areas need to be addressed. Implementation of the following recommendations will sharpen the focus of the health interventions and will enable CSS to better document their impact.

Recommendation 1. Add a public health specialist.

Although CSS management and operational staff have learned a great deal about public health and child survival interventions since 1987, no one on the staff has expertise in public health. This gap precipitates shortcomings in a number of areas. For example, village outreach workers are not trained to screen women for contraindications to use of oral contraceptives; there is no awareness of the toxic effects of excessive use of vitamin A; no one can articulate the efficacy of using glucose (e.g., rice water) for ORS even though the connection was discovered at the ICCDR.B in Dhaka. The addition of a public health specialist will strengthen program implementation across the board.

This position would not have to be permanent; an expatriate mid-level MPH with some international experience could transfer sufficient expertise to the permanent CSS staff (and Upazila Government health personnel) in a single 2-year assignment. The program could then continue with entirely Bengali staff. A potential source for the identification and recruitment of a suitable candidate is the Johns Hopkins University fellows program, which has a roster of many potential specialists who could provide the needed public health expertise.

Recommendation 2. Develop a comprehensive management information system.

Service statistics are presently recorded through a series of village worker ledgers and forwarded to management staff. The system needs to be upgraded so that appropriate information is recorded, reviewed, and used as the basis for management decisions. The CSS staff has no experience and little feel for the handling of data and the use of service statistics as a management tool. It would be relatively simple to build upon the present foundation to develop such a management information system (MIS). An MIS consultant, on-site for perhaps 2 months, could initiate the development of such a system and teach CSS managers how to use it to set targets, monitor progress, detect problem areas, and provide feedback to operational staff in a timely manner. It might be possible to receive such technical assistance from the ICCDR.B in Dhaka. This would minimize travel time and costs and facilitate later short-term followup.

A management information system must also include the capability to acquire specialized information. This includes designing and conducting baseline and KAP surveys and also directing focus groups to obtain planning and evaluation data. The initial CSS baseline surveys did not distinguish between male and female infants and thus lost the opportunity to monitor differential mortality between the sexes. With their already accumulated experience the CSS staff could improve their skills in this area

rapidly. Operations research is probably beyond the ability, or need, of CSS staff. Such a specialized activity, when needed, could be done under contract.

Finally, there should be some skills enhancement in data management and analysis. This step not only will complement the management information system but also will enable CSS staff to more effectively evaluate the impact of the program. Such quantitative evaluation can, in turn, be used to solicit more funds for program support.

Recommendation 3. Strengthen health education and training.

The Child Survival Project relies heavily on informing and motivating villagers to participate in health interventions -- i.e., health education. In addition, there is constant upgrading of the skills of village outreach workers -- i.e., training. One of CSS' strengths is in community participation. Community volunteers visit mothers, villagers attend group meetings, and women and children accept services, e.g., immunizations offered in villages. The sessions are culturally sensitive, being conducted by Bengalis themselves. Nonetheless, skills in health education could be refined through appropriate training. The ability of village health workers, paid and volunteer, could be increased to motivate and educate villagers in new behaviors. Upgrading the skill levels of CSS staff, from managers to village workers, would result in a more efficient program. Technical assistance in this area could be sought from groups within Bangladesh or offshore. One organization that specializes in strengthening the health education and training skills of developing country staff is the Institute for Development Training (IDT) in Chapel Hill, North Carolina.

VII. Summary

CSS has been operating a viable poverty alleviation program in the rural areas of southern Bangladesh for 15 years. In 1987 they added a child survival component. This report evaluates the progress of the Child Survival Project and makes recommendations for strengthening it in the future.

The principle program interventions focus on:

- o Immunization
- o Family planning
- o Oral rehydration therapy
- o Nutrition and growth monitoring

In addition, the integrated rural development program includes other activities that, while not classified as child survival interventions, enhance the health status of community residents.

A comparison of the results of health interventions in the five unions served by CSS with six adjacent unions receiving only government services shows that the impact of these interventions has been significant. The median immunization coverage rates for six vaccine-preventable diseases in CSS unions are more than double those of adjacent government-served unions (Table 11). Contraceptive prevalence, by method, shows significantly higher rates in CSS-served unions, particularly for oral contraceptives and condoms, which are distributed by village outreach workers

Table 11. Median percentage coverage rates for six vaccine-preventable diseases: CSS project unions and adjacent non-project unions, November 1990

Immunization	Median percent: project unions	Median percent: non-project unions
DPT1/ OPV1	71	31.5
DPT3/ OPV3	92	36.5
Measles	90	38
BCG	90	38
TT2 (Women 15-45)	90	17

(Table 12). Comparison of child mortality resulting from diarrhea in the 18-month period June 1988 through November 1990 shows 65 deaths in non-project unions compared to zero deaths in CSS-served areas. Although the child population in the non-project unions is half again as large as in the CSS area, this nonetheless implies a significant impact by the CSS outreach program in reducing child mortality due to diarrhea.

The positive health changes demonstrated in the project unions appear to be the result of 1) the education and motivation of

clients provided by the extensive CSS village outreach network, and 2) increased access to services in these areas. CSS supports immunization camps by transporting government staff and vaccines from fixed facilities to village locations. CSS village health workers motivate couples to practice family planning, and they also carry and distribute condoms and oral contraceptives. Similarly, they instruct mothers on the preparation and use of ORS, but also provide pre-made packets of the ingredients. Mothers of very malnourished children are given packets of high-energy food and taught how to make it themselves. Vitamin A is distributed to all children twice a year.

Table 12. Median percentage contraceptive rates, by method: CSS project unions and adjacent non-project unions, November 1990

Contraceptive method	Median percentage: project unions	Median percentage: non-project unions
Oral contraceptives	22	11
Condoms	16	10.5
IUDs	10	7
Injectables	2	1
Vasectomy	5	3
Tubectomy	5	3

Four components of the CSS Child Survival Project are particularly strong: management, child survival impact, sustainability, and income generation.

o Management

CSS policy makers and senior staff have developed a strong organization. Chain of command is clear, and supervision is consistent. Staff of this all-Bengali organization view their employment as a career path; there is a high level of motivation

and some genuine commitment to community development. CSS shares these characteristics with a number of PVOs in Bangladesh, but CSS has been doing it longer than most (15 years). An important component of the management structure is the network of volunteer community health workers who significantly expand the coverage and intensity of the CSS outreach effort.

o Child survival impact

A second strength is the effect of the selective health interventions provided by project staff. Government programs are understaffed and underfunded, rendering them essentially fixed-facility-based. CSS has succeeded in extending coverage into the villages. When government supplies, e.g., of ORS packets and vitamin A, are insufficient to meet demand, CSS purchases these items with their own funds.

o Sustainability

All CSS programs are designed on the principle of self-sufficiency. This has carried over to the Child Survival Project. A 4% premium is charged on development loans to support child survival interventions. The large cadre of CHWs are paid only an honorarium of Tk. 100 per month (Tk. 50 for each of two monthly training sessions). CSS has also demonstrated proficiency in attracting offshore financial support to ensure program operations.

o Income generation

The Child Survival Project has been appended to a broader poverty alleviation program directed by CSS. Through that program loans are provided to the lowest income residents to help them raise their standard of living. These loans must be repaid, with interest. Program managers believe that the very process of raising the standard of living of these extremely poor people promotes improved health status. CSS has developed an interesting model that should be followed for its potential applicability to other parts of Bangladesh and to other developing nations.

Recommendations

To enhance what is already a strong selective primary health care program, three actions are recommended. Implementation of these steps will increase the efficiency of program implementation and maximize the impact of program interventions.

Recommendation 1. Add a public health specialist to the staff.

Management of the program is strong, and village outreach efforts are broad and quite effective. However, gaps in knowledge about

fundamental primary health care interventions inhibit the full realization of program objectives. A public health specialist could readily address these gaps and add credibility to the program. Because CSS senior management staff are very conscious of the long-term financial viability of the program and do not want to be burdened with excessive recurrent costs that cannot be realistically met through program revenues, it is recommended that the public health specialist should be an expatriate on a one-time 2-year contract. This will be sufficient time for permanent CSS staff (and Upzaila Government health personnel) to learn these refinements in program operation. At the conclusion of the 2-year period CSS will be able to continue the program with their own professional staff.

Recommendation 2. Develop a comprehensive management information system.

CSS has inaugurated a ledger and reporting system for documenting service statistics. Although the basic information for program management is being recorded, management staff have little expertise in data management and analysis. Technical assistance should be provided to develop the current recording procedures into a comprehensive management information system. This can be done through a series of short-term consultancies; CSS management staff have the capacity to learn and implement such a system and to recognize its value as a decision-making tool.

In addition to providing service statistics, a comprehensive MIS should have the capability to generate other specialized information. Skills must be enhanced in conducting baseline and KAP surveys, as well as in information gathering techniques such as focus groups. Again, this can be done by short-term technical assistance as part of a comprehensive system. Operations research is probably beyond the skill, or need, of CSS management staff. On the few occasions requiring such activities this can be done by non-project contractors.

Recommendation 3. Strengthen the health education and training skills of CSS staff.

The impact of the CSS program is due, in no small part, to the health education activities of the village outreach workers, paid and volunteer. They, in turn, are part of a chain of training, starting from senior management staff, who continually upgrade the information and skills of staff. Health education and training skills can be enhanced by appropriate training to maximize the use of personnel resources in this program. The evaluator recommends that the health education and training skills of CSS staff be upgraded. Again, this can be accomplished through the judicious use of outside technical assistance. Once these skills are enhanced, CSS will be able to continue without further need for outside technical resources.

APPENDIX A
Scope of Work

**World Relief Corporation
Child Survival Project
SCOPE OF WORK**

Purpose:

To evaluate the accomplishments and impact of WRC's Child Survival Project in accordance with the guidelines established in their Cooperative Agreement (OTR-0536-A-00-7224-00) and Detailed Implementation Plan (DIP).

Evaluation Outputs:

The evaluator will be responsible for preparing and delivering five copies of the final report to A.I.D. and WRC by January 10, 1990. Prior to this, the evaluator will present on or about December 10, 1990 a draft copy of the report concurrently to AID/FVA/PVC/CSH and WRC for their review and comments.

The report should provide the following:

- 1) An assessment of WRC's progress towards meeting the goals of the Grant Agreement and the Detailed Implementation Plan.
- 2) An assessment of problems and constraints that are influencing progress towards the established goals.
- 3) Recommendations to WRC for actions to improve and possibly expand their project.

The body of the report should be no longer than thirty pages and contain the following:

- Table of Contents
- Executive Summary
- Key Findings and Recommendations
- Purpose of evaluation
- Team composition and evaluation methodology
- Annexes (can exceed thirty page limitation)
 - Scope of Work (SOW)
 - List of Documents, Individuals and Organizations consulted

Methodology:

The evaluator will conduct his assessment based on the following:

- 1) WRC Cooperative Agreement with FVA/PVC and Detailed Implementation Plan
- 2) WRC responsiveness to recommendations of their mid-term evaluation
- 3) Other documents considered relevant by the evaluator
- 4) Interviews with WRC/Christian Service Society (CSS) staff, beneficiaries of WRC services, host country counterpart, MOH, USAID, and other individuals considered relevant.

Issues to Be Addressed:

The evaluator should base his assessment upon the following items, described in greater detail in the attached FVA/PVC Child Survival Final Evaluation Guidelines:

- 1) PVO Organizational Development (emphasis on CSS)
 - Human Resources
 - Use of Technical Resources
 - Health Information System
- 2) Project Design and Implementation
 - Actions taken at community or household level to improve health behavior
 - Appropriateness and targeting of activities
 - Assessment of objectives, technical adequacy and quality of specific targeted interventions (EPI, ORT, MCH, Nutrition, Growth Monitoring and Vitamin A)
- 3) Effectiveness/Impact of Services
 - Documented achievement of objectives
 - Effectiveness in targeting services
- 4) PVO/Host Government Cooperation
- 5) Prospects for Sustainability (i.e. - community motivation and participation. NOTE: This should focus on non-cost recovery activities)

APPENDIX B

Key Persons Contacted

Agency for International Development

AID/W FVA/PVC

McEnaney, John: Chief, Child Survival and Health Division
Morawetz, Susan: Project Officer
Coates, Ellen: Project Assistant

USAID/Dhaka

Foose, Alan: Project Officer
Keller, Sheryl: Project Officer
Sewell, Virginia: Acting Chief, OPH

Automation Research Systems

Mann, Ada Jo: Program Manager

Bangladesh, Government of: Ministry of Health

Alam, Badrul: Family Planning Officer, Batiaghata Health Complex
Asadazzuman: EPI Technician, Batiaghata Health Complex

CARE/Bangladesh

Conway, M.J.: Deputy Director, Food Aid Programs
Goodyear, Earl: Director, Food Aid Programs

Christian Service Society, Khulna

Khulna Headquarters Staff

Baten, Molla: Senior Project Officer
Hossin, Bhai: Project Manager
Munshi, Paul: CSS Executive Director

Field Staff

Akhunjee, Jafrulla: Supervisor, Gangarampur
Aki, Niamat: Supervisor, Batiaghata

Bainagee, Pran Gopal: Supervisor, CSS Brick Yard
Das, Kishore: Union Officer, Gangarampur
Das, Robin: Supervisor, Gangarampur
Das, Sanoj: Union Officer, Jalma
Ms. Ferdousi, Parveen: Supervisor, Batiaghata
Ms. Goaldar, Bhagvati: Supervisor, Jalma
Haque, Shamshul: Supervisor, Batiaghata
Howaldar, Ajoy: Supervisor, Gangarampur
Howaldar, Modhave: Union Officer, Baliadanga
Hira, Gopal Chandra: Manager, Batiaghata Loan Program
Islam, Aminul: Supervisor, Baliadanga
Islam, Nazrul: Supervisor, Baliadanga
Maleek, Ranjeet: Supervisor, Jalma
Ranjeet, James: Supervisor, Gangarampur
Sarkan, Binoy: Supervisor, Batiaghata Loan Program
Shah, Balaram: Accountant, Batiaghata Loan Program
Shome, Dulal: Union Officer, Baliadanga

Village Volunteers

Ms. Goaldar, Sandhya Rani: TBA, Gangarampur
Howaldar, Hare Krishna: CHW, Jalma
Roy, Sree Bas: CHW, Jalma

Johns Hopkins School of Hygiene and Public Health

Carter, Cynthia: Technical Specialist
Storms, Dori: Director, Child Survival Support Project

UNICEF/Bangladesh

O'Brien, Phillip O.

World Relief Corporation

Connor, Mary: Child Survival Administrative Coordinator
Elmer, Muriel: Health Education/Training Specialist

APPENDIX C

Background References

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- Mitra SN, Larson A, Foo G, and Islam S. Bangladesh Contraceptive Prevalence Survey - 1989: Final Report. Dhaka: Mitra and Associates, 1990.
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APPENDIX D

CSS Child Survival Project Management Information System

The management information system (MIS) is based on a series of ledgers, 'registers,' that are maintained by the village outreach staff. Information from the registers is summarized on monthly report forms and forwarded up the organizational chain. At each step collective monthly reports are consolidated and copied into a ledger, and the information is forwarded to the next management level. The Senior Project Officer is responsible for preparing a quarterly report in a format prescribed by WRC. The quarterly report is reviewed and analyzed by the Project Manager who provides feedback on identified needs and priorities back down through the management hierarchy. A copy of the quarterly report, over the signature of the CSS Executive Director, is forwarded to WRC for review.

STEP 1

The three-person volunteer community health worker (CHW) teams maintain a register of each of the 100 families, including every family member in their jurisdiction. The ledger is usually kept by the male member of the team, who is invariably designated team leader. Every vital event pertaining to child survival, births, immunizations, episodes of diarrhea, contraceptives dispensed, and so forth, are recorded in the ledger.

Once a month the CHW team leader collates this information for the 100 families the team is responsible for and forwards the data on the CSS Child Survival Project monthly report form. The monthly reports are sent to the supervisors, who receive between 10 and 15 of these reports depending on the size of the population and the number of CHWs in their jurisdictions.

STEP 2

The supervisors review the reports for accuracy and programmatic concerns. Then they combine the information into a consolidated monthly report. The figures are copied into a register, which remains with the supervisor; the consolidated report is forwarded to the Union Officer.

STEP 3

The Union Officer receives consolidated reports each month from the three supervisors he manages. He, in turn, reviews the information and collates the data into a single monthly report for the entire union. This information is copied into a ledger that he keeps; the union monthly report is forwarded to the Senior Project Officer.

STEP 4

The Senior Project Officer receives the combined union monthly reports from the five Union Officers in the program. He copies the data into a register that he keeps.

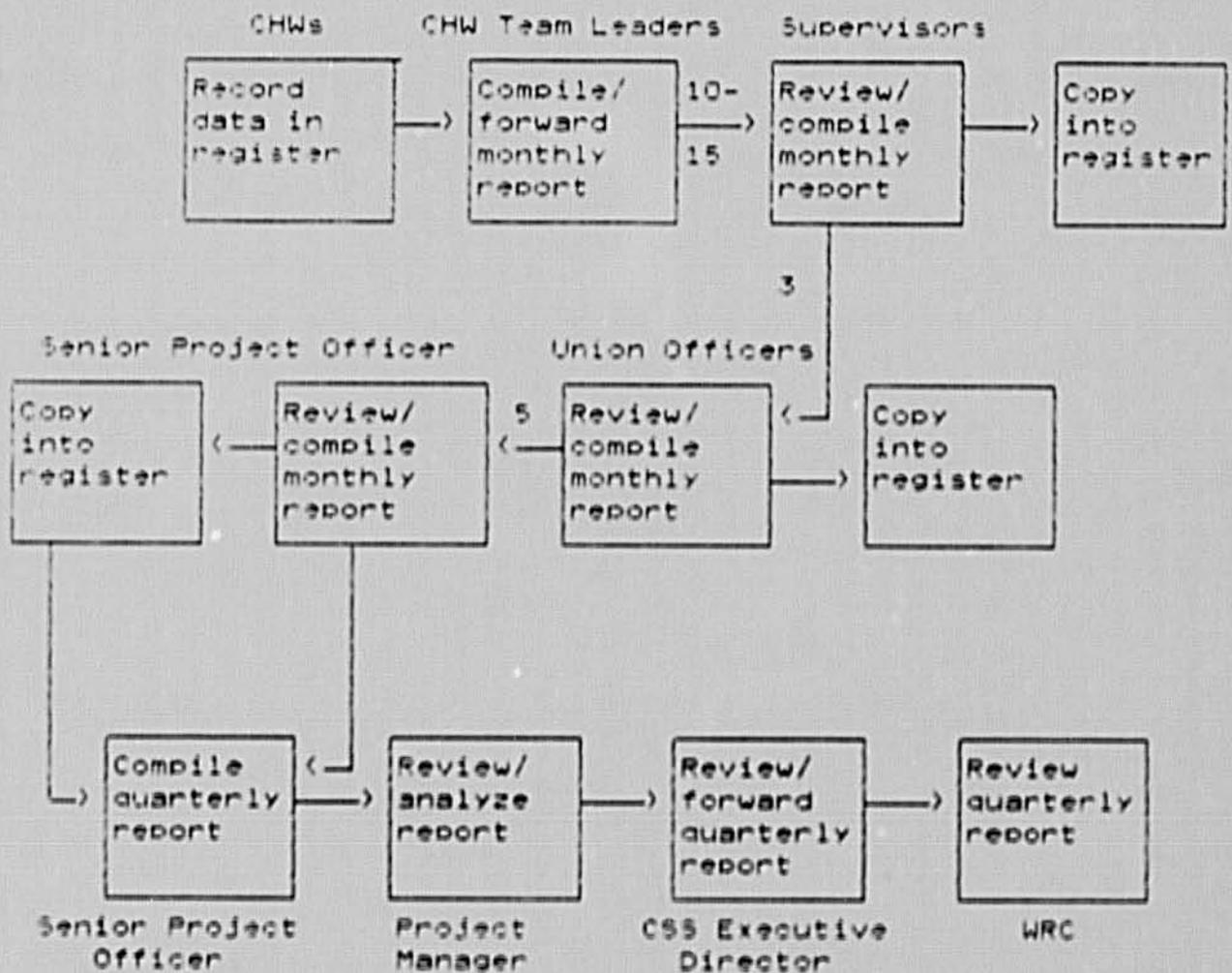
Once every 3 months the Senior Project Officer prepares from his register and the most recent monthly report a quarterly activities report. This is prepared in a format prescribed by WRC. The quarterly report is forwarded to the Project Manager, who analyses it for program issues and provides feedback to the Senior Project Officer and the five Union Officers on program success and areas where activities need to be concentrated in the next quarter.

A copy of the quarterly report is sent, over the signature of the CSS Executive Director, to WRC in the United States.

The mid-term evaluation team spent considerable effort verifying the data from this MIS system. They found that, although outputs were somewhat higher than reported, the data on program activities are reasonably accurate. (See Appendix E.)

The monthly reports record numerical progress of the CSS project, e.g., immunizations given, couples using contraceptives, and so forth. No cross-tabulations are done of, for example, malnutrition before and after a family starts a kitchen garden or incidence of diarrhea among children with and without access to tube well water; no identification is made of high-risk women, e.g., mothers of four or more children, over the age of 35, who are not contracepting. An initial system for generating service statistics is in place. Some additional refinements, including the training of staff, could readily upgrade this into an MIS system that would be a useful management tool.

Figure D1. CSS Child Survival Project Management Information System



Source: CSS records

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APPENDIX E

Mid-Term Evaluation Report

Interventions
 Review of Findings-Summary Table
 Project Reports Compared to "Mini-Survey" of MTET

Intervention	Coverage Project Reports	Coverage in MTET Mini-Survey	Comments, Conclusions
CRS Training	100%	100%	Project has reached objective in population registered; will need to continue same in new population areas.
Immunization			
Children	9-12 mo: 88% 12-24 mo: 100%	0% 91%	MTET mini-survey found 9-12 month-olds not completely immunized; project needs to continue to reach this age.
Women 15-45	TT2: 98% TT3 (preg): .03% (Khalilnagar) 90% (Jalma)	100% 15%	Women 15-45 have excellent TT2 coverage; booster dose (TT3) for pregnant women needs emphasis. New project areas will need similar help. Jalma has been more successful than Khalilnagar in TT3 coverage.
Family Planning	63% of all couples couples have accepted a method 100% knowledge of FP	Current User Rate: about 50% 95% knowledge % Distribution of Methods Used Vasectomy 7.7% Ligation 7.7% IUD 15.0% Pill 61.5% Injectable 7.7% Total 99.6% MTET unable to ask some women due to "public" views.	Remarkable success in this area due to encouragement of couples to practice FP in order to enhance their chances of getting a project loan. Project claims 1715 couples have received permanent sterilization (24%). A few requests for reversal may have to be anticipated. Project should continue its activities and expand into new territory.

Interventions
Review of Findings-Summary Table (cont'd)

Intervention	Coverage Project Reports	Coverage in MTET Mini-Survey	Comments, Conclusions
Growth Monitoring and Promotion	<p>No "coverage" is claimed as this intervention is only beginning.</p> <p>Project officers are requesting more instruments (scales, graphic wt/age cards) and nutrition training.</p> <p>A nutrition survey in Khalilnagar carried out by professionals revealed 8/107 (7%) 3rd degree (severe) malnutrition and 38/107 (36%) in 2nd degree (moderate) malnutrition. 17% were malnourished by Waterlow classification (wt/ht.).</p>	<p>-14% of babies had wt cards. (One had already been lost.)</p> <p>-Wt/age graphic cards are in short supply.</p> <p>-Workers do not yet know how to weigh babies accurately, fill out graphic wt/age card, follow-up on faltering, explain cards to mothers.</p> <p>-Only 2 sets of hanging balance scales with clock face (Salter scales) are available to entire project.</p> <p>-Nutritionist sought has not been found.</p> <p>-MTET felt nutrition survey in one village in Khalilnagar which reached 100% of children is probably typical.</p>	<p>Most urgent need in project is in training and equipping workers at all levels to carry out growth monitoring and growth promotion activities.</p>
Vitamin A	90-100%		<p>This successful intervention reflects government/PVO collaboration.</p>

Interventions
Review of Findings-Summary Table (cont'd)

Intervention	Coverage Project Reports	Coverage in MTET Mini-Survey	Comments, Conclusions
Breastfeeding			
Colostrum use (instead of discard)	90-100% knowledge	73% use 27% discard	Village teams have achieved excellent results; continued emphasis on colostrum use desirable.
Bottle feeding danger	90-100% knowledge	73% believe diarrhea results. 1/30 mothers admitted use of bottle.	Again, teams have achieved excellent results. Bottle feeding a danger to richer families.
Appropriate Weaning Practices			
Age at first supplement	90-100% have been educated	50% believe supplement should start by 5-6 months of age. 17% believe 12-24 months. 3% "don't know." Mothers in Moham-mednagar breast-feed only for prolonged period.	Although education has reached most mothers, some beliefs/practices have not yet changed. Continued emphasis on supplementation by 4-5 months of age.
Type of weaning food	90-100% have been educated about enriched weaning food.	70% of mothers believe in wheat or rice gruel. 43% mentioned use of vegetables in addition, especially vit. A containing foods. 23% would add egg. 0% mentioned oil or sugar to make foods calorie dense.	Success in teaching about age at supplementation and appropriate weaning foods has been well initiated, but needs demonstration, education, especially emphasizing calorie-rich foods and adding oil or sugar to make gruels more calorie dense.

SOURCE: This is Appendix 2 of the Mid-Term Evaluation report.

APPENDIX F

Project Activities: 1 June 1990-31 December 1990

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