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COST STUDY

LOCAL INITIATIVES PROGRAM (LIP)
FAMILY PLANNING
MANAGEMENT DEVELOPMENT
BANGLADESH

Family Planning Management Development (FPMD)
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FINAL REPORT

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MANAGEMENT DEVELOPMENT
BANGLADESH**

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**FAMILY PLANNING MANAGEMENT DEVELOPMENT
Management Sciences for Health**

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FOREWORD

I am pleased to circulate this Final Report of the LIP Cost Study. The authors of this report have made extensive editorial changes to reflect detailed comments by USAID/Dhaka, the authors of several comparable recent studies, and other interested commentators from both outside Management Sciences for Health and from within.

Since 1987, the Family Planning Management Development (FPMD) Project has collaborated with the Ministry of Health and Family Welfare of the Bangladesh Government (BDG) in implementing the Local Initiatives Program (LIP), with financial support from the United States Agency for International Development (USAID). The aim of the LIP is to improve the management of the family planning program at the local level and to support the BDG's efforts to offer decentralized, high-quality, and sustainable family planning services.

This study is designed to complement two other recent studies: one on the costs of the BDG family planning program conducted by Family Health International (FHI) under the direction of Barbara Janowitz, and the other on the study of NGO family planning programs sponsored by The Asia Foundation (TAF), and directed by Larry Day and Jack Fiedler of John Snow, Inc. (JSI). This study's methodology is based on the methodologies of these two studies as much as possible.

While each study and program has unique features, there is a common objective pursued by USAID to measure the cost per couple year of protection (CYP) in terms that are roughly consistent among the various studies. This objective of USAID and the study participants is part of a larger effort to determine the costs and cost effectiveness of different program interventions in light of the need to expand the programs while facing constrained donor and BDG resources.

In addition to this objective, the LIP/FPMD management has also used this study to accomplish two other objectives: to improve the measurement of LIP costs by programmatic area, and to strengthen the capacity of program staff to conduct cost studies. Since the LIP is a program that supports BDG family planning services, this study focuses on the LIP costs, which are incremental to the BDG service costs. BDG service and commodity costs are taken from the other studies.

Abu Sayeed
Program Director
Local Initiatives Program

LIST OF ABBREVIATIONS

BDG	Bangladesh Government
CAR	Contraceptive Acceptance Rate
CPR	Contraceptive Prevalence Rate
CYP	Couple Year of Protection
ELCO	Eligible Couple
FHI	Family Health International
FP	Family Planning
FPMD	Family Planning Management Development
FWA	Family Welfare Assistant
FWC	Family Welfare Center
HEU	Health Economics Unit, Ministry of Health
JSI	John Snow, Inc.
LIP	Local Initiatives Program
MSH	Management Sciences for Health
NGO	Non-Governmental Organization
OHP	Office of Health and Population
SC	Satellite Clinic
TAF	The Asia Foundation
TAI	Technical Assistance Incorporated
THC	Thana Health Complex
USAID	United States Agency for International Development

ACKNOWLEDGMENTS

The authors wish to acknowledge and thank the following individuals for their contributions to this study. Dr. Charles Lerman, Population Officer, and Mr. Richard Greene, Deputy Director, Office of Population and Health (OPH), USAID/Dhaka, contributed to the overall design and insisted upon common methodologies with the two most recent studies. Together with other OPH staff, they also offered detailed comments on the draft report which are addressed in this final edition. Mr. Larry Day of JSI and Barbara Janowitz of FHI both contributed drafts of their reports, suggestions for the design of this study, as well as comments on the draft report.

The LIP staff contributed generously with their ideas and time in preparing information for the study. Of particular note is Mr. Bahruddin Khan and his staff in the LIP finance department. Also a word of thanks to Mr. Abu Sayeed, LIP Program Director, and Ms. Alison Ellis, FPMD Regional Director responsible for the LIP, who both contributed substantially to the design and follow through for this study in their own ways. Special thanks to the BDG officials and LIP volunteers in the Debidwar Thana family planning program, and Mr. Shabbir Uddin Ahmed of LIP for organizing the field trip to Debidwar thana.

The authors also wish to thank the many people who spent considerable time reviewing the three drafts prior to this final report in addition to the reviewers from USAID, JSI, and FHI mentioned above. Ms. Alison Ellis, Ms. Sallie Craig Huber, and Mr. Paul Fishstein of FPMD/MSH, Mr. Abu Sayeed and Dr. Kabir Uddin Ahmed of LIP, and Mr. John Townsend of The Population Council contributed extensively during the editing process. This final report has improved considerably over the earlier drafts as a result of their review.

A final word of thanks for the MSH staff who helped develop and edit the multiple drafts: Mr. Chris Welch, Ms. Jill Clarke, Ms. Rachel Gordon, and Ms. Zaira Alonso.

EXECUTIVE SUMMARY

This study accomplishes many varied objectives. First, the LIP costs, including central MSH/FPMD costs, are allocated to unions using the same allocation methodology as in the JSI/TAF study. The results are shown in the cost tree in Annex A (Figures A-1 and A-2). Overall, 25% of the total USAID costs are used for administration and overhead expenses, while 75% are program costs which have benefits at the union level. This administrative/overhead rate is low compared to the figures in the JSI/TAF study.

Second, the costs per CYP for different methods are calculated for the LIP program. These average 37.9 taka per year overall, with an average range by method from permanent methods (33.6 taka) to new acceptors (74.6 taka). The LIP costs are an add-on to the BDG program costs calculated in the FHI/BDG study. The LIP costs represent an increase over the BDG costs of between 9.3% for injectables and 20.6% for IUDs.

Third, the costs of the LIP program are compared to the BDG and the TAF costs as calculated in the two previous studies. The comparisons are made between combined BDG/LIP and TAF costs, and between combined BDG/LIP costs and combined TAF/BDG costs, both with and without commodity costs. Not surprisingly, the combined BDG/LIP costs are somewhat greater than the TAF costs alone, and the combined BDG/LIP costs are lower than the combined BDG/TAF costs. The most important point is that the results from different studies are compared for the first time. The comparisons can be refined in future studies, and the results of the JHPIEGO study currently in progress can also be compared.

Fourth, the LIP staff have analyzed the program costs (exclusive of FPMD costs) which are within their management control. The line item expenditures have been allocated into program categories, including personnel time. These program expenditures give the LIP management a realistic assessment of the costs of different administrative and program technical assistance costs for the first time. This analysis can be replicated and refined on a periodic basis to assist LIP management to better manage their program resources.

LIP Program

Since 1987, the Local Initiatives Program has collaborated with the Ministry of Health and Family Welfare to improve the management of the family planning (FP) program at the local level and to support the BDG's efforts to offer decentralized, high-quality, and sustainable family planning services. The LIP has received USAID support through the Family Planning Management Development Project (FPMD), which is operated through a cooperative agreement with Management Sciences for Health.¹

¹ USAID Cooperative Agreement No: CCP-A-00-95-00000-02

The LIP's program initiatives focus on providing support to government FP workers through technical assistance (TA), training of government workers and volunteers, and overall program monitoring. The primary clients of the program are the government workers providing FP services. The secondary clients are community leaders. The primary beneficiaries are acceptor couples. The target market is eligible couples.

LIP activities may be categorized into five key program interventions: 1) training and retraining government FP staff, volunteers, and community leaders; 2) technical assistance in management development and strengthening of service delivery systems; 3) development of an action plan by thana and union teams; 4) continuous monitoring of program performance at the local level; and 5) the introduction of female community volunteers. The use of community volunteers is therefore one of many project activities, not the sole intervention, of the LIP program. Through this integrated program of community mobilization and supporting BDG staff and volunteers, there were 32,684 volunteers working in 582 unions to provide assistance to 2,070,115 ELCOs as of December 1995.

The intent of introducing volunteers is to expand access to FP information and services (resupply methods) at the community level. The volunteers are responsible for visiting all households in their catchment area (approximately 50-60 households) in which a married ELCO resides. The volunteers are not paid at all—they receive neither a stipend nor a salary for their services. They are reimbursed for travel expenses to attend monthly supervision meetings with their Family Welfare Assistant (FWA) supervisor. These expenses average approximately 30 taka (\$0.75 US) per month. In relation to FWAs, the net effect of the introduction of volunteers is that the role of the FWAs in LIP areas has been elevated to that of supervisor.

The use of volunteers frees the FWAs to do some new tasks rather than making routine visits to a specified large number of ELCOs, as is the case for “typical” FWAs. These new tasks include supervising and monitoring volunteers, organizing and participating in satellite clinics, and visiting targeted clients identified by volunteers as needing special services that volunteers are not trained to provide (e.g. treatment and/or referral for unusual side effects, special counseling for long term or permanent methods, or other unusual situations needing FWA attention, such as recalcitrant husbands or mothers-in-law).

On average, each LIP volunteer visits 63 ELCOs in her immediate vicinity each month. The ELCOs are often relatives and close friends of the volunteer, which facilitates the acceptance and continuity of family planning services. This active participation of the volunteers allows the FWA and Family Welfare Visitor (FWV) to closely monitor services for more client contacts and to focus on quality, side-effect management, training, and technical assistance as well as direct service delivery. The results of two micro surveys show that there is only a small discrepancy

between reported Contraceptive Acceptance Rate (CAR) and actual Contraceptive Prevalence Rate (CPR) rates in the LIP areas.^{2,3}

The LIP operates within the government infrastructure. TAF NGOs work independently from the BDG service infrastructure.

Purpose

This study is the initial phase of a cost analysis of the LIP program. This study is conducted for 68 LIP-assisted unions in 12 thanas out of a total of 582 unions assisted by the LIP as of December 1995. Two thanas from each district were chosen, one which had LIP assistance for 5+ years and one for 3-4 years. See Annex C for a list of the thanas and unions in the sample.

The study has four purposes: 1) to develop cost data at the union level for a significant number of LIP-assisted programs, using measures that might permit comparison with other programs (the primary comparative measure is cost per couple years of protection (CYP) for acceptors⁴); 2) to analyze the allocation of all costs, including those from the FPMD program, in a manner comparable to the TAF/NGO and BDG studies⁵; 3) to conduct a cost analysis as a management tool for the LIP (this analysis allocates the LIP program costs to various program categories considered most relevant to senior LIP management); and 4) to develop the in-house expertise of the LIP staff to conduct such cost and cost-effectiveness studies using methodologies and techniques both consistent with other studies and relevant to the LIP program structure and objectives.

Methodology

Since the LIP is an add-on program supporting BDG family planning services, this study focuses on the LIP costs, which are incremental. BDG service and commodity costs are taken from other studies. While the LIP costs are in addition to the BDG program costs, the LIP program improves productivity and performance in the government program by increasing community support, recruiting volunteer outreach workers, training BDG staff and community leaders, and introducing program innovations. These productivity and performance increases are not

² Huber, Sallie Craig, and Abu Sayeed. "CAR/CPR Verification Study- Local Initiatives Program- Bangladesh." Dhaka: Local Initiatives Program, FPMD, MSH. July 1994.

³ Sayeed, Abu, Md. Farid Uddin, and Sallie Craig Huber. "Service Delivery Effectiveness and CAR/CPR Verification Study." Dhaka, Local Initiatives Program, FPMD, MSH, Sept. 1995.

⁴ The use of CYP in this report does not follow the standard definition for reasons discussed in Annex A.

⁵ The comparability analysis between TAF/NGO, BDG, and LIP was suggested by the USAID/Dhaka Mission, even though operational strategies are different for TAF/NGOs, BDG, and LIP.

measured in this study. As a result, the study cannot capture the impact of the LIP innovations, such as the participation of volunteers, satellite clinics, and cluster activities. However, they should be borne in mind by the reader when looking at the data on program costs.

The methodology for the cost study is modeled on the study by consultants from John Snow Incorporated (JSI) of the NGOs⁶ funded by The Asia Foundation (TAF) and uses results of the 1993-94 study of Bangladesh Government FP costs directed by Barbara Janowitz of Family Health International (FHI)⁷. Like the JSI/TAF study, this LIP study uses a “top down” approach which allocates all the LIP program and administrative costs to the union level. These costs also include management, technical assistance, and training costs incurred by the FPMD central office. The FHI study is primarily a “bottom up” study which develops unit costs for government family planning services based upon time measures, salaries, and other elements of the program’s cost.

The LIP study is thus more similar in approach to the JSI/TAF study than to the FHI/Janowitz study. However, there are significant differences between FPMD and TAF as funding organizations - FPMD is a management development project which provides technical assistance and training along with direct contract support for the LIP program. By comparison, TAF serves almost exclusively as a funding agency for NGO programs, both at the central office in San Francisco and in the field office in Dhaka.

Use of a comparable methodology to permit comparisons between the results of the TAF/NGO, BDG, and LIP studies was an important and challenging step in this report. The two prior studies used different methods. The process of comparing and integrating results between the three studies has resulted in some disagreements during the review process.

The method used to calculate cost per CYP in this study is quite different from the standard measure of CYP developed from data on contraceptive supplies used and procedures performed. This unusual methodology, also used by the JSI and FHI studies, was used in this study because of the USAID mandate for consistency as well as the unavailability of accurate supply data. The study methodology is discussed in ANNEX A and includes a discussion of the difference between the standard CYP measure and the method used in this report.

This study utilized a combination of LIP staff and external technical assistance by Charles Stover, a health financing expert from MSH/Boston. The LIP team members, under the direction of Dr. Kabir Uddin Ahmed, are listed on the cover page. They participated in the study design and

⁶ Fiedler, John, Laurence Day, W. Chowdury, S. Datta, and J. Gonçalves. "Costs and Cost Efficiencies of NGO Family Planning Services in Bangladesh: The Asia Foundation Portfolio." a Report submitted to The Asia Foundation, Dhaka, Bangladesh by John Snow, Inc. (JSI). March 1996.

⁷ Janowitz, B. "Productivity and Costs for Family Planning Service Delivery in Bangladesh: The Government Program." Technical Report. Family Health International. June 1996.

implementation. The initial data collection and preliminary analysis were completed in May, 1996. The sample data set was analyzed by the LIP staff by August, 1996. Three drafts were completed by Mr. Stover between August 1996 and July 1997. Comments from the review of these drafts are included in this Final Report.

The study provided an opportunity to work closely with LIP senior management and program officers to refine the methodology, develop a program structure for expenditures, and take initial steps toward using the study and computer models to assist in analyzing management alternatives.

Study Phases

This report summarizes the design and completion of the initial phase of the study. This report includes the analysis of 68 unions in 12 thana test sites, with two thanas from each of the six divisions of the country. The 68 unions in the sample make up 17% of the 582 unions where LIP operated during the 1995 calendar year. The cost allocations, data refinement, and computer model have been completed.

The report incorporates initial comments from the review by the USAID/Dhaka mission on May 24, 1996, from internal FPMD and LIP technical review, from review by the USAID team in April 1997, and from selected outside reviewers.

Summary of Findings

This report summarizes the activities and findings of the study. The Analysis and Findings section later in this report includes initial data from all 68 unions in the 12 thanas as well as detailed information on how the results were calculated. The methodology for all aspects of the study is included in ANNEX A. The data are summarized here to give ranges of costs per CYP by method and initial correlations between the number of acceptors and cost per CYP.

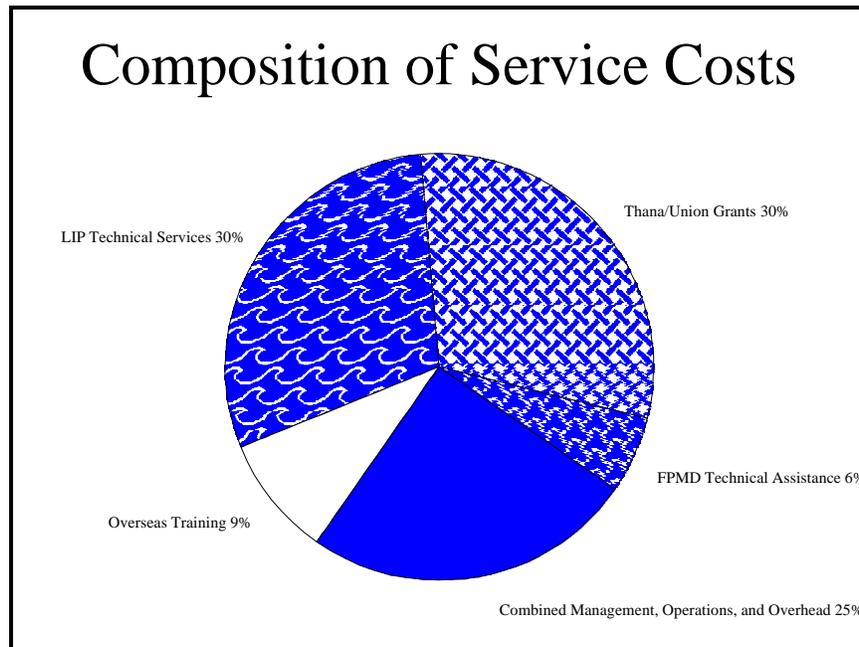
1. Overall Cost Analysis

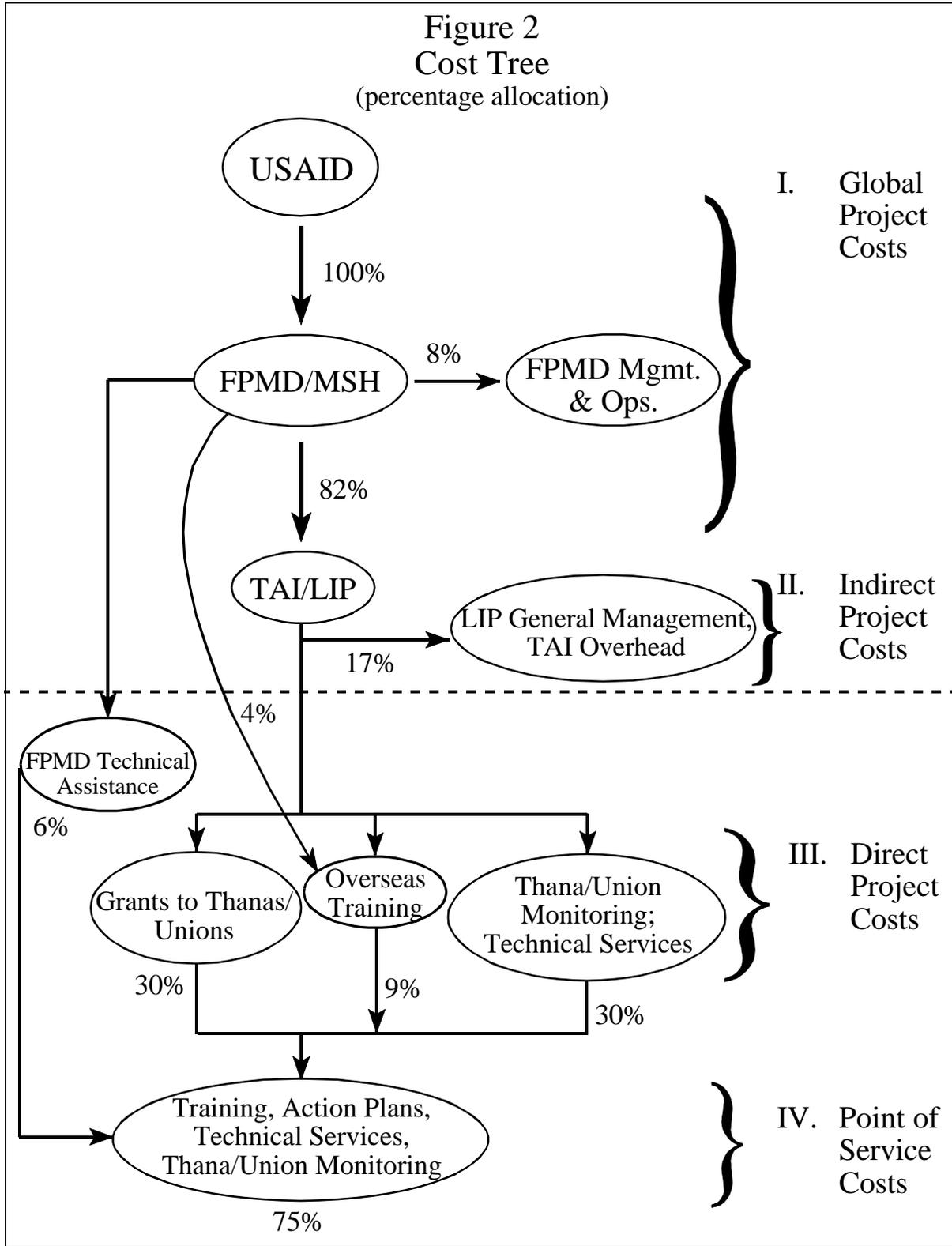
A summary chart similar to the cost analysis tree in the JSI/TAF study has been prepared for purposes of comparability and for identifying ways to improve cost efficiency. The JSI/TAF study used a cost analysis tree as a specific illustration for showing the allocation of costs, starting with \$1US funding from USAID, then allocated it to the various levels of overhead, management, program and technical assistance costs. That same style of illustration is included for the FPMD/LIP costs and shows how one dollar received from USAID flows to the beneficiary level in total terms in Figure A-1, and in percentage terms in Figure A-2, in Annex A.

The LIP cost analysis tree (Figure 2) shows that 75% of the total program costs was available for the thana and union activities. That total includes 60% as local technical assistance and grants,

6% provided as technical assistance from FPMD/Boston, plus another 9% provided as overseas training. The remaining 25% was the combined administrative and overhead costs of FPMD/Boston, TAI, and LIP. The pie chart below illustrates these percentages. These administrative and overhead figures are considerably below the comparable figures for the JSI/TAF study. In the JSI/TAF study, 56% of total program expenditures were absorbed by combined administration and overhead expenses, compared to 25% for the LIP Program.

Figure 1: Composition of Service Costs





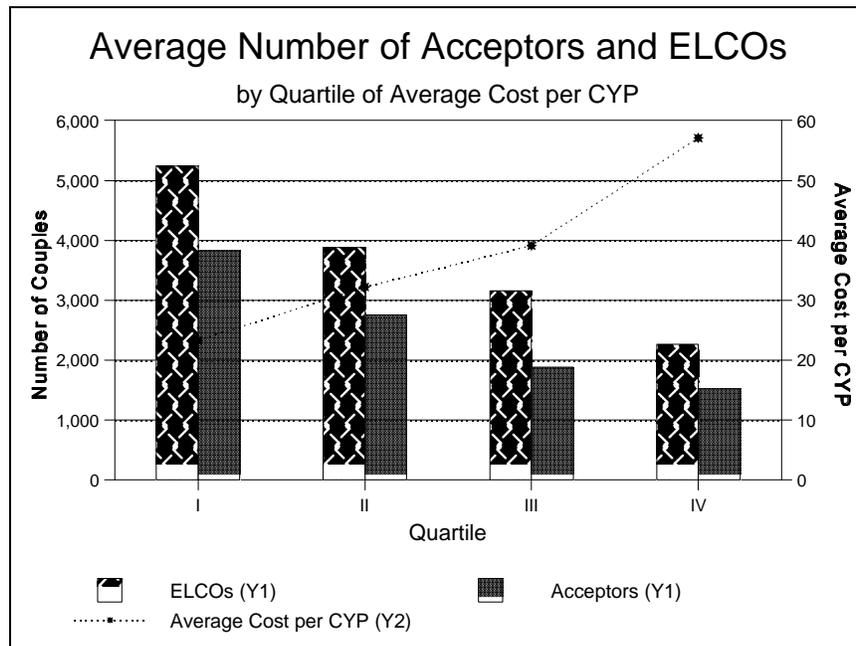
2. LIP Costs at the Union Level

Average LIP costs per CYP were 37.9 taka per year, and varied between 33.6 taka for permanent methods and 74.6 taka for new acceptors, based on estimated time spent with different types of contraceptive users. The high cost per CYP for new acceptors is due to the estimated amount of time needed for a visit to a new acceptor based on the relative value scale (RVS) from the BDG/FHI study.

3. Range in Cost per CYP

There is a wide range in cost per CYP and number of acceptors, ELCOs, and CAR percentages by groups of unions. Average cost per CYP for the lowest quartile (the quarter of unions which had the lowest costs per CYP) was 23.3, with an average of 5,235 ELCOs and 3,824 acceptors. For the highest quartile, the comparable figures are 57.1 taka per CYP, 2,261 ELCOs and 1,524 acceptors. There is a clear inverse correlation between the number of ELCOs, acceptors, and the average cost per CYP which is discussed in more detail later in the report. A higher number of ELCOs and acceptors in a union contributes to lower costs per CYP.

Figure 3: Average Number of Acceptors and ELCOs



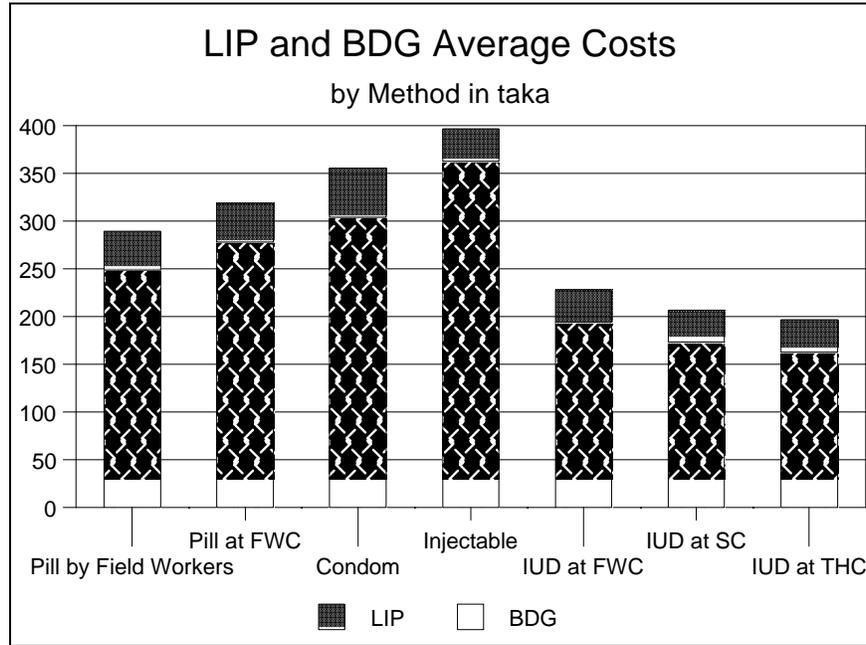
4. Comparison between “New” and “Old” Thanas

The initial hypothesis in choosing two different thanas for each of the six regions was that the “old” thanas where LIP had been operating for 5+ years would have higher performance in terms of CAR, and hence lower cost per CYP, than the “new” thanas where LIP had worked for 3 – 4 years. The data analysis did not support this hypothesis. Overall, the 23 “new” thanas had a slightly lower average cost per CYP than the 45 “old” thanas (37.3 vs. 38.1). When analyzed by division, similar anomalies occurred. The general conclusion is that other factors such as number of ELCOs and acceptors exert a stronger effect on the cost per CYP than the number of years of LIP interventions per se. Further, the method of allocating central LIP costs equally to each union may not accurately represent true resource allocation, and hence not fairly represent differences in resource use between “old” and “new” thanas.

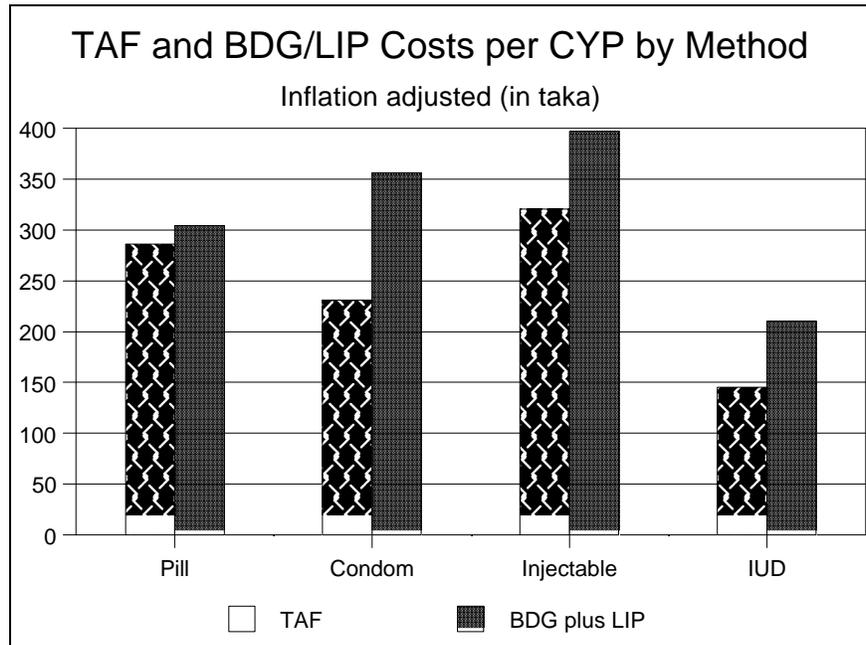
5. Comparisons to FHI/BDG and JSI/TAF Findings

LIP costs per CYP are added to data on BDG services and commodities to show the total LIP plus BDG costs. The costs of the family planning program for the Government of Bangladesh (BDG) are taken from the FHI/Janowitz study. The average LIP costs per CYP by method were matched with the most appropriate cost per CYP by method from the FHI/Janowitz study. The BDG costs were also adjusted for inflation rates supplied by USAID from official sources to make the three sets of costs consistent in 1995 terms.

The LIP costs on average represent an increment of between 8.6% and 18.5% over the BDG costs, depending on the method and the service setting. The BDG costs represent the costs of labor, commodities, supplies, and the amortization of facilities and equipment. This increment is a moderate increase given the range and scope of LIP activities focused on improving performance of the government programs. For example, LIP programs mobilize community support at all levels and recruit and train female volunteer workers who operate under the direction of the BDG staff. LIP also introduces innovative approaches in community education and delivery of FP services.

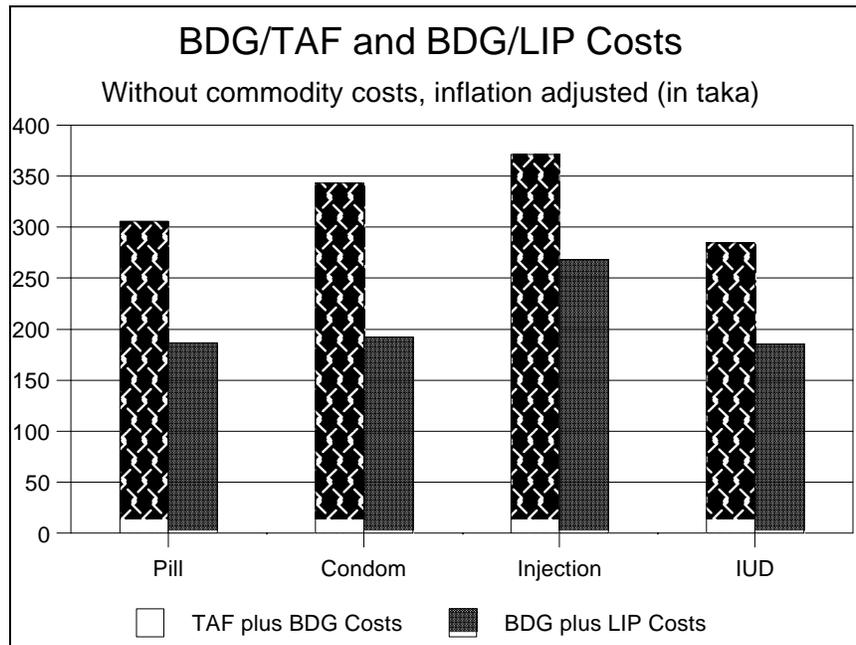


When the TAF/NGO costs are compared to combined BDG/LIP costs, the latter are higher by margins ranging from 6.4% for pills to 54.2% for condoms. When commodity costs, which vary



dramatically between the FHI and JSI studies, are excluded, the margins shift dramatically. In this case, the BDG/LIP costs range from 4.8% lower for condoms to 95.6% higher for injections.

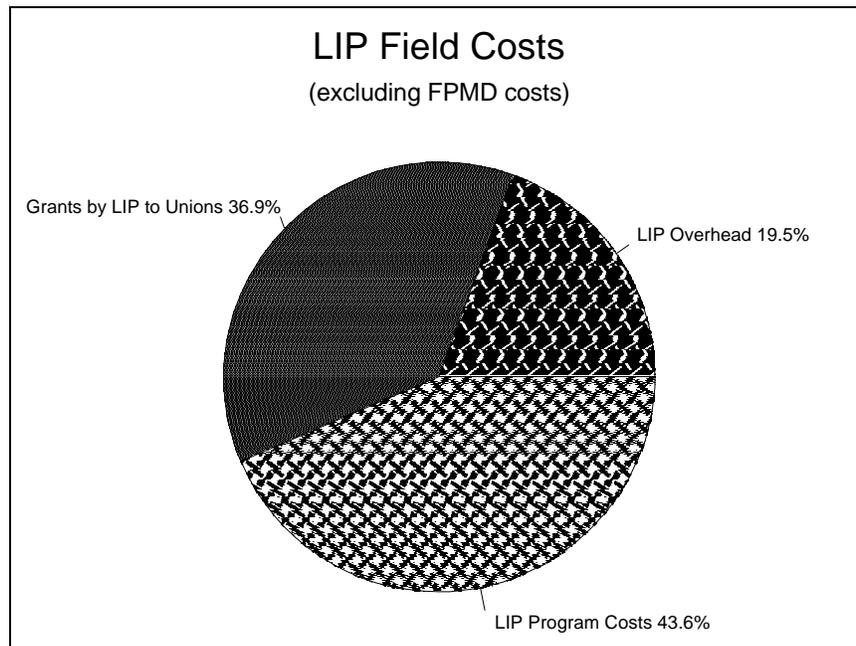
A final adjustment to the TAF costs was made to reflect the widely held view that BDG costs are incurred in unions and thanas where the TAF programs operate, and that BDG staff and facility infrastructure are not reduced in areas where TAF/NGOs operate. Therefore, TAF/NGO costs should be increased by the expenses of the BDG for comparative purposes. With this adjustment, the TAF/BDG costs are higher than BDG/LIP costs for all methods, by a range from 27.8% for injections to 43.9% for condoms.



6. LIP Management Cost Analysis (Field Costs excluding FPMD Costs)

The LIP costs (excluding FPMD costs) for calendar year 1995 were analyzed according to program categories. The exchange rate of 40 taka to \$1US was used, based on the average exchange rate for the year in the LIP/TAI accounts.

Of total LIP field expenditures (excluding FPMD costs), 19.5% was for program overhead management costs and special overseas training and travel for course participants, etc. Direct allocations to unions in the forms of grants (including roughly 10% local contribution) totaled 36.9%. The remaining LIP program costs were 43.6% of the total, and were allocated equally to all unions.



Personnel costs of the LIP staff, which made up 18.3% of total costs, were allocated to three general categories and 13 specific categories. The largest share (42.5%) of personnel costs was devoted to monitoring of programs at the thana and union level, including outreach visits and training. Technical services, which made up 30.5% of the costs, included workshops, management training seminars, other seminars and meetings, data analysis, and pilot projects. General management, including FPMD allocable costs and LIP overhead, made up 27% of the costs.

Recommendations

The recommendations for follow up from this report cover several areas, including technical refinements to the analysis and findings, steps for further interpretation of the findings, methods of reducing LIP cost per CYP, and possible future steps.

1. General Comments

This study of LIP costs, as well as the FHI/BDG and JSI/TAF studies, relates solely to the cost of services, without any measure of the quality or accessibility of services, or other programmatic inputs. Thus, in the interpretation of these reports, it is important for persons who are intimately familiar with the specific programs to identify ways that quality and access measures could be used alongside the various measures of cost. These suggestions may be incorporated into future studies.

Also, the three studies are static in time, and do not reflect the dynamics of the Bangladesh family planning, maternal and child health program. Hence, there is no measure of how program performance in specific unions has changed over time or how different program strategies have yielded different results. Some of this programmatic information can be added when interpreting the studies findings.

2. Refinement of Comparative Data

It is suggested that the three studies be reviewed in parallel, particularly since they are intended to be similar enough in design to permit comparisons of findings. Each of the studies may contribute to a better understanding of the others. The findings from the JHPIEGO study which is currently in progress can also be compared to the findings in this report. The comparisons developed in this report are intended to support such comparative analysis. These comparisons are a first try, and can be improved as a result of the review and interpretation of others. The overall objective of using these studies is for program managers to identify “Best Practices” in the various organizations. These cost analyses are only one of many tools to meet that overall objective.

All of these studies use a hybrid definition of CYP, which is not based on contraceptive supply data because of the lack of accurate supply data. While there is a measure of consistency between the studies, the use of more standard CYP measures (ANNEX A) would make this study more useful for comparisons with other countries.

There are several other areas where refinement of assumptions between the studies can make them more easily comparable. One is in the area of the cost of commodities. The wide differences in commodity costs between the FHI/BDG and the JSI/TAF studies should be analyzed to determine whether the cost differentials come from differences in costs or in costing assumptions and approaches. Another question is how inflation should be handled to facilitate comparing data from different years. Third, the question of whether and to what extent BDG costs are incurred in areas where TAF programs operate is very important for purposes of accurate comparisons. It is understood, and is documented in Annex D, that BDG costs are not

reduced in areas where NGO and LIP programs operate, although this interpretation remains controversial.⁸

3. Lessons for LIP Staff

This report draws a limited number of conclusions based on the data analysis. Further insights into the meaning of the cost analysis can be drawn from review of the study, including the supplementary spreadsheets, by the LIP staff familiar with the specific programs, union activities, and other information which could not be captured in this report.

During the cost study, the LIP program staff involved in the study were exposed to the process of identifying cost categories and cost analysis in relation to the specific program component. Similarly, LIP finance unit staff members were also acquainted with the program components in relation to the different cost centers. This cost-analysis exercise will be used periodically by the LIP staff as a management tool in the following ways:

- a. The senior program managers will be able to identify appropriate program cost centers which will help management to take appropriate decisions in terms of budget reallocation for cost-efficiency.
- b. Through this methodology, the finance unit now has been acquainted with program as well as line item cost centers, which will enable them to monitor program costs more efficiently and advise the management for taking appropriate action in a timely fashion.
- c. Since longitudinal financial data was used for one year (1995), this will help management to compare financial implications of subsequent year's program.
- d. Involved staff members now understand ways of allocating time in different technical assistance (TA) areas. This will enable them to better plan their time allocation for effective need-based TA provision.
- e. Staff members can compare outputs between LIP thanas so that appropriate TA provision and resources can be planned.

⁸ Note: In an e-mail communication dated September 16, 1997 from Chuck Lerman of USAID/Dhaka to Alison Ellis of FPMD/MSH, Mr. Lerman wrote: ". . . our Mission would like to go on record stating that we do not agree with any cost comparison that adds BDG costs on top of NGO costs. We acknowledge that the BDG does not adjust its costs according to the presence of NGOs. However . . . BDG costs would be higher if NGO clinics, satellite clinics, and fieldworkers did not exist. This would particularly hold true in urban areas where NGOs are the major service delivery providers and where few BDG community-level facilities and fieldworkers operate."

- f. This methodology will routinely be used as a management tool for periodic cost-analysis for management decision making. The methodology will be further refined based on future needs and program directions.

4. Reducing LIP Cost per CYP

This study can be a starting point for future comparisons under the LIP program. Using the methodology of the study, different costs per CYP can be achieved based on how resources are programmed. The programming of resources includes both the thana/union grants and the utilization of LIP staff time and central program costs. The key issues involved relate to the size of the unions, the scope of activities of volunteers and FWA supervisors, different program interventions, and above all, the productivity of the overall BDG program using LIP assistance where most appropriate. In general, bringing the size of the thana/union grants in line with the number of ELCOs appears to make sense.

It is important to reiterate that the objective of the LIP is to improve BDG program performance in the most cost-effective manner. This does not automatically mean that costs per CYP should be reduced. It may mean that LIP resources should be focused more intensively on specific thanas and unions. This cost study provides a methodology and a baseline set of data. It adds to the tools available to LIP managers, rather than offering prescriptions per se.

The most obvious way to reduce costs per CYP is to reduce the costs of either the union grants or the LIP costs allocated to each union. From the perspective of financial sustainability, the ability and willingness of local communities to increase the local contribution toward the thana/union grants will reduce the demand on donor funds.

Due to limitations in the methodology, which does not measure the true cost per couple year of protection as discussed in Annex A, the analysis model in its present form cannot be used to measure the changes in costs per CYP by changing method mix, or shifting from short term to long term methods. This limitation is due to the fact that the weighting factor used measures the relative amount of time spent with couples using different methods, rather than accurately reflecting the different time periods of protection using different methods. This limitation applies to the JSI/TAF study and the BDG/FHI study as well.

5. Further Study

The decision as to whether to conduct a similar study for other LIP-assisted unions will depend on the interpretation of the data in this report, and particularly on its value to LIP managers. USAID has suggested the importance of conducting studies to validate the reported figures for ELCOs and acceptors on which the calculations in the study are based. In addition, it is important to find a reasonable way to analyze the figures on contraceptive use from supply data. At the moment, it is not possible to get complete and accurate data on contraceptive supply use, which

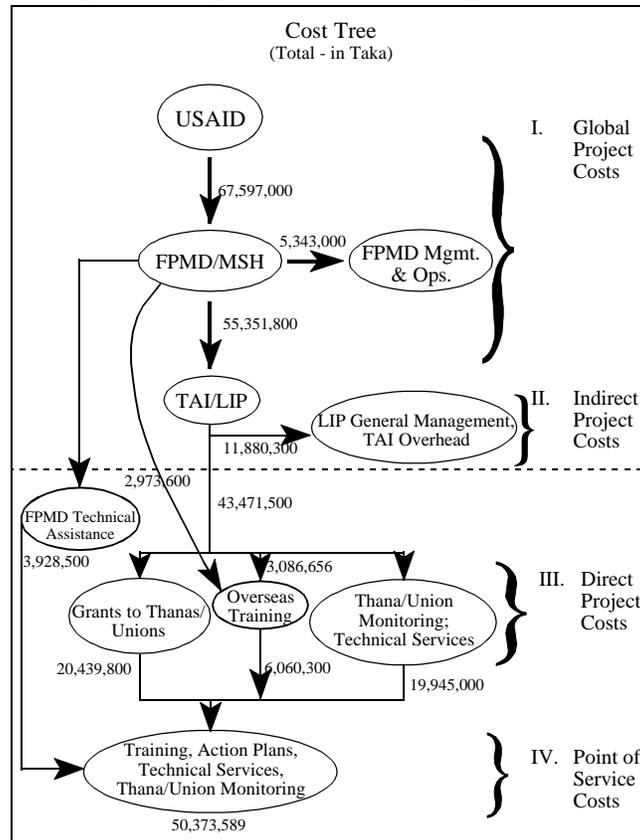
makes the use of the standard definition of CYP (based on contraceptive supplies used) impossible. The constraints on additional studies is likely to be the short period remaining for USAID funding.

ANALYSIS AND FINDINGS

1. Total Cost Analysis

A summary chart similar to the Cost Analysis Tree in the JSI/TAF study has been prepared for purposes of comparability and for identifying ways to improve program efficiency. The JSI/TAF study used a specific illustration for showing the allocation of costs, starting with \$1US funding from USAID, through the various levels of overhead, management, program, and technical assistance costs. That same style of illustration is included for the FPMD/LIP costs to show the distribution of costs in both total and percentage terms in Annex A.

In the case of the LIP program, the costs of the Family Planning Management Development Project (FPMD)⁹ which relate to the LIP program are included. FPMD is a USAID centrally funded cooperative agreement with Management Sciences for Health. The LIP program, a contract between FPMD and Technical Assistance Incorporated (TAI), is funded through the FPMD Project. TAI is a Bangladesh organization which implements the LIP program.



⁹ Family Planning Management Development Project. Funded by USAID under a cooperative agreement No. CCP-A-00-95-00000-02 with Management Sciences for Health.

Chart 1
Total Project Expenditures
FPMD/LIP Program

FPMD PROJECT TOTAL EXPENDITURES FOR LIP PROGRAM CALENDAR YEAR 1995 Amount (in Taka)						
CATEGORY	A Total Costs	B M & O	C Foreign TA	D Overseas Trg	E TA to Unions	F Thana Grants
FPMD Global Project						
A. FPMD Management and Operations						
1. Management and Operations		5,342,720				
2. Technical Assistance			3,928,520			
3. Training- Overseas				2,973,600		
Sub-total	12,244,840	5,342,720	3,928,520	2,973,600	0	0
B. Total LIP (TAI) Contract Costs						
1. TAI Overhead-Administration		7,720,303				
2. LIP General Management		4,159,989		831,126		
3. Overseas Training				2,255,530		
4. LIP Program Expenses					19,944,977	
5. LIP Grants to Thanas/Unions						20,439,836
Sub-total	55,351,761	11,880,292	0	3,086,656	19,944,977	20,439,836
TOTAL	67,596,601	17,223,012	3,928,520	6,060,256	19,944,977	20,439,836
Percentage	100%	25%	6%	9%	30%	30%

The cost analysis shows that 60% of the total program costs was available for the thana and union activities. An additional 6% was provided as technical assistance from FPMD, plus another 9% was provided as overseas training, for a total of 75% for program costs. The remaining 25% was the combined administrative and overhead costs of FPMD, TAI, and LIP. The pie chart on page 9 illustrates these percentages rounded to the nearest whole percentage. These administrative and overhead figures are considerably below the comparable figures for the JSI/TAF study. In that

study, 56% of total program expenditures were absorbed by combined administration and overhead expenses.

2. LIP Costs at the Union Level

The analysis of the data from the 68 test unions has been completed. The results are presented below arrayed by union, division, thana, number of acceptors, cost per CYP, and average cost per method. The analysis indicates that lower cost per CYP is generally closely related to larger unions in terms of ELCOs and acceptors. Apart from this general finding, there are also many important differences in cost per CYP between different groups.

a. Average LIP Costs per CYP by Type of Method

Chart 2 illustrates that average LIP costs per CYP were 37.9 taka per year, and ranged from 33.6 taka for permanent methods to 74.6 taka for new acceptors, based on estimated time spent by FWAs with different types of contraceptive users. This is the same methodology used in the JSI study, to facilitate cost comparisons for the programs.

Chart 2
Average LIP Costs per CYP by Method¹⁰

Type of Method	Average Cost per CYP (taka)
New Acceptors	74.6
Pill User	41.0
Condom User	51.4
Injection User	34.6
IUD User	33.6
Sterilization User	33.6
Non-User	33.6
AVERAGE	37.9

¹⁰ Derived from average of costs per CYP for four unions with average CYP costs very close to the overall average. See ANNEX B for details.

b. Range in Cost per CYP

There is a wide range in cost per CYP and number of acceptors, ELCOs, and CAR percentages between unions grouped by quartile, as shown in Chart 3. In the quartile with the lowest cost per CYP, the average cost per CYP is 23.3, with high average number of ELCOs (5,235) and acceptors (3,824), and high average CAR of 73.14%. In the fourth quartile, the average cost per CYP is 57.1, with low average numbers of ELCOs (2,261) and acceptors (1,524) and average CAR of 66.84%. There is a clear inverse correlation between the number of ELCOs and the number acceptors and the average cost per CYP. This correlation is due in part to the fact that the thana/union grants vary less than the number of acceptors, and that the LIP program costs are allocated equally to each union, with only minor adjustments for the number of acceptors or ELCOs.

Chart 3
Average LIP Cost per CYP by Quartile

Quartile in Cost per CYP	Number of Unions	Average Cost per CYP (taka)	Average Number of ELCOs	Average Number of Acceptors	Average CAR
First	17	23.3	5,235	3,824	73.14%
Second	17	32.2	3,880	2,753	70.74%
Third	17	39.1	3,153	1,886	59.67%
Fourth	17	57.1	2,261	1,524	66.84%
Average		37.9	3,632	2,497	68.74%

c. Comparison of “Old” versus “New” Thanas

The initial hypothesis in choosing two different thanas for each of the six regions was that the “old” thanas where LIP had been operating for 5+ years would have higher performance in terms of CAR, and hence lower cost per CYP, than the “new” thanas where LIP had worked for 3-4 years. The data analysis did not support this hypothesis. Overall, the 23 “new” thanas had a lower average cost per CYP than the 45 “old” thanas (37.3 vs. 38.1). When analyzed by division, similar anomalies occurred. The general conclusion is that other factors such as number of ELCOs and acceptors exert a much stronger effect on the cost per CYP than the number of years of LIP interventions per se. Further, the method of allocating central LIP costs equally to each union may not accurately represent true resource allocation, and hence not fairly represent differences in resource use and performance between “old” and “new” thanas.

d. Grouping by Division

Chart 4 summarizes the summary data, which is grouped by division.

Chart 4
LIP Cost Data by Division

Division	No. of Unions	Av. Cost per CYP (taka)	Range of Cost (taka)	Av. # of ELCOs	Av. # of Accepts	Average CAR
Rajshahi	11	25.6	20.0-30.7	5,080	3,767	74.06%
Khulna	11	35.6	19.5-71.5	3,979	2,946	74.49%
Dhaka	10	37.1	20.3-64.7	3,699	2,697	73.20%
Barisal	11	37.7	19.1-57.2	3,371	2,431	72.11%
Sylhet	11	40.7	30.3-57.4	2,968	1,554	51.60%
Chittagong	14	48.0	36.2-91.4	2,901	1,794	62.14%

The performance by division varies quite widely, from a low average cost per CYP of 25.6 taka in Rajshahi to a high of 48.0 taka in Chittagong. These results also correlate inversely with the number of ELCOs and acceptors. The range of cost per CYP within each division is large, indicating that the most important differences are between individual unions, and not between divisions. For example, the range in CYP costs for Khulna (19.5 – 71.5), a comparatively low cost division, is almost as great as the range for Chittagong (36.2 – 91.4), the highest cost division.

e. Grouping by Thana

Chart 5 summarizes the detailed data which is grouped by thana.

Chart 5
Detailed Data by Thana

Thana	No. of Unions	Av. Cost per CYP (taka)	Range of Cost per CYP	Average ELCOs	Average Accept	CAR
Puthia	4	21.7	20.0-22.9	5,616	4,142	73.75%
Melanda	3	26.0	20.3-32.9	4,644	3,340	71.92%
Baraigram	7	27.8	20.5-30.7	4,774	3,553	74.42%
Gournadi	5	28.4	19.1-35.7	3,925	2,965	75.54%
Paikgacha	10	32.0	19.5-60.8	4,155	3,068	73.84%
Fenchugan	3	34.3	30.3-36.8	3,693	2,126	57.57%
Karimganj	7	41.9	26.5-64.7	3,294	2,421	73.50%
Braham Para	8	43.0	28.8-51.9	3,297	1,957	59.36%
Balaganj	8	43.1	35.8-57.4	2,697	1,340	49.68%
Kathalia	6	45.5	36.6-57.2	2,910	1,987	68.28%
Parshuram	6	54.8	40.2-91.4	2,374	1,577	66.43%
Fakirhat	1	71.5	71.5	2,223	1,728	77.73%

The average cost per CYP is lowest for Puthia, Melanda, and Baraigram, all with average costs in the 20s. Puthia has the best overall performance, with an average of 21.7 taka per CYP and a range of costs per CYP between 20.0 and 22.9 for the four unions. The other low cost thanas have a wider range of costs per CYP for their individual unions. The thanas with the highest costs per CYP are Fakirhat and Parshuram with average costs of 71.5 and 54.8 respectively. Many of the unions have wide ranges in the costs per CYP.

f. Ranking by Number of ELCOs and Acceptors

Chart 6 summarizes the ranking of unions by the number of ELCOs and Acceptors into four groupings.

Chart 6
Average Number of ELCOs and Acceptors

Quartile for Acceptors	Number of Unions	Average Number of ELCOs	Average Number of Acceptors	Average Cost per CYP (taka)	Average CAR
First	17	5,358	3,966	23.6	74.17%
Second	17	3,828	2,700	32.2	71.05%
Third	17	3,062	1,964	41.5	64.75%
Fourth	17	2,282	1,357	54.3	60.44%

There is a considerable range in cost per CYP, explained primarily by the variations in the number of acceptors and ELCOs per union, as summarized in Chart 6. These costs range from a low of 23.6 taka per CYP per year (for an average of 3,966 acceptors and 5,358 ELCOs) in the first quartile to a high of 54.3 taka (for an average of 1,357 acceptors and 2,282 ELCOs). The average CAR is also lower in unions with a smaller number of acceptors and ELCOs. While improvements in the CARs in the lower-performing groups will lower the cost per CYP somewhat, grouping smaller unions for LIP-program purposes may also be advisable.

3. Comparison to FHI/BDG and JSI/TAF Findings

One explicit purpose in developing the methodology for the LIP cost study was to permit comparison of costs per method to costs from the FHI/BDG and JSI/TAF studies. However, because of different program structures, different methodologies, and different time frames for the studies, the task is neither simple nor unequivocal. Comparisons using data from the two studies and the findings from the LIP cost study are summarized in the charts below.

This summary data on BDG service costs is taken from the FHI/BDG study, which used cost figures from 1993.

Chart 7
BDG Comparative Costs per CYP by Method¹¹
(Without inflation adjustment)
(FHI Study of BDG Programs- Tables III-D.7,8,9)

Method	Clinic Cost (taka)	Labor Cost (taka)	Commodity Cost (taka)	Total Cost (taka)
PILL- by Field workers		121.9	110.0	231.9
- at FWC	31.7	117.4	110.0	259.1
AVERAGE	31.7	119.7	110.0	245.5
CONDOM- by Field workers		131.4	152.5	283.9
INJECTABLE- at FWC	107.3	111.3	120.0	338.6
IUD- at FWC	77.2	80.8	23.3	181.3
- at SC	57.6	80.8	23.3	161.7
- at THC	47.9	80.8	23.3	152.0

The costs for the three studies come from three different years: FHI/BDG – 1993, JSI/TAF– 1994, and LIP – 1995. In the charts which are labeled “Inflation adjusted,” the comparisons have been adjusted for inflation using annual inflation rates of 1.9% for 1993/94 and 5.2% for 1994/95¹². The FHI/BDG data were adjusted for two years of inflation – the JSI/TAF data for only one year – to reach comparability with the 1995 LIP data. While it is important to use the most accurate figures for inflation in Bangladesh, particularly for the FHI/BDG study, many of the costs of the TAF program are incurred outside Bangladesh – for example, in the TAF San Francisco. It is not possible to construct another price index for such costs. The same index for Bangladesh price increases was used for both local and overseas costs.

¹¹ Janowitz, B. and K. Jamil. “Productivity and Costs for Family Planning Service Delivery in Bangladesh: The Government Program.” Technical Report. Family Health International. June 1996. pp. 78-80.

¹² Letter of April 27, 1997 from David L. Piet, Director, OPH, USAID/Dhaka to Mr. Charles Stover.

Chart 8
Comparative Costs per CYP by Method¹³
(Inflation adjusted to 1995 costs)
(FHI Study of BDG Programs- Tables III-D.7,8,9)

Method	Clinic Cost (taka)	Labor Cost (taka)	Commodity Cost (taka)	Total Cost (taka)	Total Cost less Commodity Cost (taka)
PILL- by Field workers		130.7	118.0	248.7	130.7
- at FWC	34.0	125.9	118.0	277.9	159.9
AVERAGE	34.0	128.3	118.0	263.3	145.3
CONDOM- by Field workers		140.9	163.5	304.5	140.9
INJECTABLE- at FWC	115.1	119.4	128.7	363.1	234.4
IUD- at FWC	82.8	86.6	25.0	194.4	169.4
- at SC	61.8	86.6	25.0	173.4	148.4
- at THC	51.4	86.6	25.0	163.0	138.0

Since the LIP is an “add-on” or support to the BDG family planning program, the LIP costs are added to the BDG costs as calculated in the FHI/BDG study. The average LIP costs per method are then added to the BDG costs per CYP by method.

¹³ Janowitz, B. And K. Jamil. “Productivity and Costs for Family Planning Service Delivery in Bangladesh: The Government Program.” Technical Report. Family Health International. June 1996. pp. 78-80.

Chart 9
BDG plus LIP Costs per CYP by Method
(Inflation adjusted to 1995 costs)
(Average LIP Costs Added to Costs of BDG Programs)¹⁴

Method	Total BDG Cost (taka)	Average LIP Cost (taka)	Combined Total Cost (taka)	% LIP Increment
PILL- by Field workers	248.7	41.0	289.7	16.5%
- at FWC	277.9	41.0	318.9	14.8%
AVERAGE	263.3	41.0	304.3	15.7%
CONDOM- by Field workers	304.5	51.4	355.9	16.9%
INJECTABLE- at FWC	363.1	33.6	396.7	9.3%
IUD- at FWC	194.4	33.6	228.0	17.3%
- at SC	173.4	33.6	207.0	19.4%
- at THC	163.0	33.6	196.6	20.6%

Adding the average LIP costs to the BDG costs results in a percentage increase in the total costs by method ranging from a low of 9.3% for injectables at FWCs to a high of 20.6% for IUDs provided at thana health centres (THCs).

One important issue is the cost of the commodities, which are considerably different between the FHI/BDG and the JSI/TAF studies in terms of market vs. donor prices, time period (1993 vs. 1994), and actual results. For two methods in particular, the differences in contraceptive costs per CYP are substantial: condoms (FHI/BDG- 152.5 taka; JSI/TAF- 27.4 taka) and injectables (FHI/BDG- 120 taka; JSI/TAF- 174.2 taka).

Chart 10 gives the TAF costs per CYP by method from the JSI/TAF study, which used 1994 data.

¹⁴ BDG Program Costs from FHI Study- Tables III-D.#7, #8, #9

Chart 10
TAF Comparative Costs per CYP by Method
(Without inflation adjustment)
 (JSI Study of TAF Programs- p. 48)

Method	Direct Costs (taka)	Indirect Costs (taka)	Commodity Costs (taka)	Total Costs (taka)
Pill	58.8	93.6	119.4	271.8
Condom	73.8	118.2	27.4	219.4
Injection (Average)	50.4	79.8	174.2	304.4
IUD	48.6	77.4	12.1	138.1
AVERAGE	59.4	94.8	62.0	216.2

These 1994 figures were adjusted for inflation, and the adjusted figures are shown in Chart 11.

Chart 11
TAF Comparative Costs per CYP by Method¹⁵
(Inflation adjusted to 1995 costs)¹⁶
 (JSI Study of TAF Programs- p. 48)

Method	Direct Costs (taka)	Indirect Costs (taka)	Commodity Costs (taka)	Total Costs (taka)	Total Costs less Commodities (taka)
Pill	61.9	98.5	125.6	285.9	160.3
Condom	77.6	124.3	28.8	230.8	202.0
Injection (Average)	53.0	83.9	183.3	320.2	137.0
IUD	51.1	81.4	12.7	145.3	132.6
AVERAGE	62.5	99.7	65.2	227.4	162.2

At this point, the adjusted TAF costs are compared to the BDG costs to which the LIP average costs have been added. The resulting comparison is in 1995 costs, using the 5.2% inflation factor for the year 1994/95 for the TAF costs.

¹⁵ JSI Study of TAF NGOs, p. 48.

¹⁶ All costs from JSI/TAF study adjusted by 5.2% from 1994/95 for one year to make comparable to adjusted FHI/BDG costs and actual 1995 LIP costs per letter of April 27, 1997 from David L. Piet.

Chart 12
TAF Costs per CYP by Method
Compared to Combined BDG and LIP Costs
(Inflation adjusted to 1995 costs)

Method	Total TAF Costs (taka)	BDG Plus Average LIP Costs (taka)	Difference (taka)	Percent Difference
Pill	285.9	304.3	18.3	6.4%
Condom	230.8	355.9	125.0	54.2%
Injection (Average)	320.2	396.7	76.5	23.9%
IUD	145.3	210.5	65.3	44.9%

In all cases the BDG/LIP costs are higher than the TAF costs, by a margin ranging from 6.4% for pills to 54.2% for condoms. However, in the case of condoms, the higher commodity costs calculated in the FHI/BDG study account for most of the difference. In the case of injectables, the difference is smaller because the BDG commodity costs are lower than those for TAF. Using the same calculations but excluding the costs of commodities for both the JSI/TAF and the BDG plus LIP costs, the comparative costs are much closer for pills and condoms, but not for injectables and IUDs.

Chart 13
TAF Costs Compared to Combined BDG and LIP Costs
per CYP by Method without Commodity Costs
(Inflation adjusted to 1995 costs)

Method	TAF Costs (taka)	BDG plus LIP Costs (taka)	Difference (taka)	Percent Difference
Pill	160.3	186.3	26.0	16.2%
Condom	202.0	192.3	-9.7	-4.8%
Injection	137.0	268.0	131.0	95.6%
IUD	132.6	185.6	53.0	40.0%

In almost all cases, the combined BDG/LIP costs are still higher than the comparable TAF costs, excluding commodities costs. The margins vary significantly, from -4.8% for condoms to 95.6% for injectables.

A final adjustment involves adding the average BDG costs to the TAF figures, to reflect the fact that the government infrastructure still operates in areas where NGOs operate. Recently, a statement from the Directorate of Family Planning, BDG, stated that “the Government of Bangladesh does not reduce the budget provision of FP-MCH program for any thana where NGOs or LIP are working.”¹⁷ The non-commodity BDG costs shown in Chart 14 are added to the TAF costs to reflect the fact that the BDG costs are incurred in unions where TAF programs operate due to the presence of the BDG infrastructure. This adjustment uses data calculated from the last column of Chart 7. However, because of the contentiousness of the issue, the comparisons between BDG/LIP costs and TAF/NGO costs are made both with and without BDG costs added to the TAF/NGO costs.¹⁸

Chart 14
Comparative Costs without Commodity Costs
with BDG Costs added to TAF Costs¹⁹
(Inflation adjusted to 1995 costs)

Method	TAF Plus BDG Costs (taka)	BDG Plus LIP Costs (taka)	Difference (taka)	Percent Difference
Pill	305.6	186.3	-119.3	-39.0%
Condom	342.9	192.3	-150.6	-43.9%
Injection	371.4	268.0	-103.4	-27.8%
IUD	284.5	185.6	-98.9	-34.8%

With this adjustment, the BDG/LIP costs are lower for all methods, ranging from 27.8% less for injectables to 43.9% less for condoms. However, this is not a true comparison between the two programs because LIP and TAF strategies are completely different.

4. LIP Management Cost Analysis

¹⁷ Letter dated May 8, 1997 from Dr. A. S. M. Kamal, Director, Planning, Directorate of Family Planning, Government of the People’s Republic of Bangladesh, to Mr. Abu Sayeed. Letter is included as ANNEX D.

¹⁸ Note: In an e-mail communication dated September 16, 1997 from Chuck Lerman of USAID/Dhaka to Alison Ellis of FPMD/MSH, Mr. Lerman wrote: “. . . our Mission would like to go on record stating that we do not agree with any cost comparison that adds BDG costs on top of NGO costs. We acknowledge that the BDG does not adjust its costs according to the presence of NGOs. However . . . BDG costs would be higher if NGO clinics, satellite clinics, and fieldworkers did not exist. This would particularly hold true in urban areas where NGOs are the major service delivery providers and where few BDG community-level facilities and fieldworkers operate.”

¹⁹ Half of the non-commodity BDG costs from Chart 13 are added to the TAF costs.

The analysis of TAI/LIP in-country costs is a separate exercise from the overall cost allocation described in the cost tree. This management analysis uses the costs incurred through the TAI/LIP local operating budget during 1995. The purpose of this analysis was to give LIP managers a program budget for the first time, and to conduct an initial analysis of the costs in each program category. It is important to remember that these costs do not include the MSH/FPMD costs, which were not within the local TAI/LIP budget and therefore not under the control of LIP management. This cost analysis is of most use to LIP management as a tool for measuring the cost impact of different program strategies and determining ways to better utilize local resources.

The LIP costs (excluding FPMD costs) for calendar year 1995 were analyzed according to program categories to better understand how resources were used to support the program. The allocations are summarized in Chart 15 below. Of total LIP expenditures, 19.5% was for program overhead management costs and special overseas training and travel. Direct allocations to unions in the forms of grants (including the 10% local contribution) totaled 36.9%. The remaining LIP program costs were 43.6% of the total, and were allocated equally to all unions.

Additional work is recommended to identify the costs of intermediate activities, such as specific workshops, and realistic yet easy ways to allocate these costs to the union level. With the addition of these tools, analysis of the costs of different program strategies can be performed more easily.

Chart 15
Allocation of Line Item Expenditures
LIP Field Expenditures (Excluding FPMD Costs)
 (Calendar Year 1995)

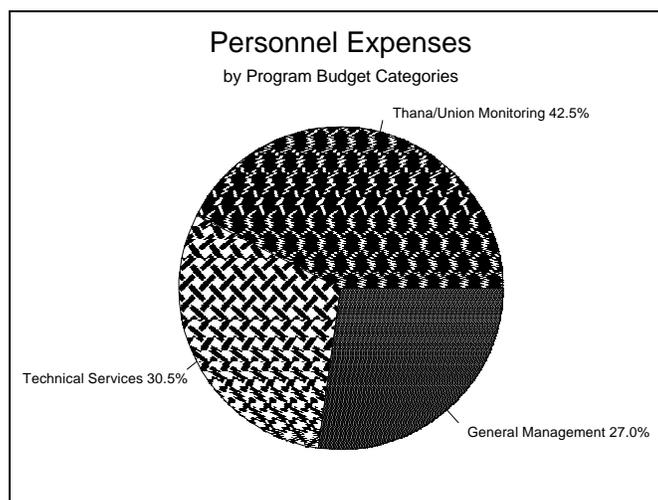
Budget Line Item	Total Expenses (taka)	% of Total	Overhead/ Other Expenses (taka)	Allocated Directly to Unions (taka)	Allocated to LIP Program (taka)
TAI Overhead	7,720,303	13.9%	7,720,303		
Personnel	10,148,289	18.3%			10,148,289
Travel & Per Diem	3,783,619	6.8%	831,126		2,952,491
Training & Workshops	8,029,136	14.5%	2,255,530		5,773,606
Equipment & Supplies	91,150	.2%			91,150
Other Direct Costs	5,139,428	9.4%			5,139,426
Thana Grants	20,439,836	36.9%		20,439,836	
TOTAL	55,351,761	100.0%	10,806,959	20,439,836	24,104,964
% OF TOTAL	100.%		19.5%	36.9%	43.6%

Personnel costs of the LIP staff, which made up 18.3% of total costs, were allocated to three general categories of Thana/Union Monitoring, Technical Services, and General Management. These general categories comprised a total of 13 specific categories. The staff expenses were allocated as follows among these categories.

Chart 16
Personnel Expenses by Program Budget Categories
 (Calendar Year 1995)

General Category	Specific Category	Amount (taka)	% of Total	% of Total
Thana/Union Monitoring	Develop Annual Plan	1,297,232	12.8%	42.5%
	Outreach Visits & Follow-up Activities	1,861,092	18.3	
	Training	562,726	5.5	
	Financial Monitoring	597,723	5.9	
Technical Services	Management Training	970,253	9.6%	30.5%
	Workshops	615,106	6.1	
	Seminars, Special Meetings	218,766	2.2	
	MIS Development and Operations	296,766	2.9	
	Data Analysis and Evaluation	251,334	2.5	
	Pilot Project Activities	729,756	7.2	
	Publications (Manuals, Guidelines)			
General Management	Administration	1,549,652	15.3%	27.0%
	Finance	409,934	4.0	
	Support Services	785,551	7.7	
TOTAL		10,146,289	100%	100%

The largest share (42.5%) of personnel costs are devoted to monitoring of programs at the thana



and union levels, including monitoring visits and training. Technical services, which make up 30.5% of costs, include management training seminars, other seminars and meetings, data analysis, thana report analysis, and pilot projects. General management makes up 27% of the costs.

These cost estimates were developed within each LIP management unit. Each employee filled in a time allocation form, which was reviewed by the unit head. The results were multiplied by the salary plus benefits to allocate personnel costs. Since this was the first time that such a cost allocation had been done, there is no baseline data for comparison. The results will be most useful to LIP managers in setting priorities and activity budgets.

ANNEX A: STUDY METHODOLOGY

Focus of Study

This study is Phase I of a cost analysis of the LIP program. This initial phase was conducted for 68 LIP-assisted unions in twelve thanas out of a total of 582 unions assisted by the LIP as of December 1995. For the test phase, two thanas from each division were chosen, one of which has had LIP-assistance for 5+ years and one 3-4 years. The hypothesis for using two sets of thana in each division is that thanas with a longer period of assistance from LIP would have lower costs per CYP since their performance would be better. The testing of that hypothesis is discussed in the findings from the study. The list of thanas selected is below:

Chart A-1
Sample Site Selection
(6 Divisions, 12 Thanas, 68 Unions)

DIVISION	THANA (5+ Years)	THANA (3-4 Years)
Dhaka	Karimganj - 7	Melandah - 3
Chittagong	Brahmanpara - 8	Parshuram - 6
Sylhet	Balaganj - 8	Fenchuganj - 3
Rajshahi	Baraigram - 7	Puthia - 4
Khulna	Paikgacha - 10	Fakirhat - 1
Barisal	Kathalia - 6	Gournadi - 5
Total Number of Unions	46	22

The proposed study has three purposes.

1. **Develop cost data at the union level** for a significant number of LIP-assisted programs, using measures that might permit comparison with other programs. The primary measure for comparative purposes is cost per CYP for acceptors. In theory, the LIP costs, when combined with the government costs from the FHI/Janowitz study, will permit comparison with NGO costs as calculated in the JSI study.²⁰ That is the purpose of the study design, even though direct comparisons between the findings of the three studies require careful

²⁰ This comparison will require adding the government costs to the NGO costs, since the government program costs are still incurred in the thanas and unions where NGO programs operate.

interpretation. For example, the FHI study of the BDG program is a “bottom up” study using standard costs based on observation of staff time. On the other hand, both the JSI study of TAF programs and this study of the LIP program are “top down”—allocation of actual costs spent.

2. **Conduct a cost analysis as a management tool for the LIP.** This analysis allocates LIP program costs to various program categories considered most relevant to senior LIP management. This study can also be conducted in greater detail, such as the cost analysis conducted on the feasibility of establishing an LIP zonal office in Sylhet.²¹
3. **Develop the LIP staff’s expertise to conduct such cost and cost-effectiveness studies** using methodologies and techniques consistent with other studies and relevant to the LIP program structure and objectives. For this reason, the study was structured as an LIP activity with technical assistance by Mr. Stover, rather than the reverse.

The key questions examined in the study are:

- 1) What is the cost of the LIP program per CYP and by method? How do these costs compare to NGO costs?
- 2) What are the LIP costs per major program component?

The time period for the study is calendar year 1995.

The focus of the study is to relate the costs of the LIP program to the beneficiaries (acceptor couples). The primary use of the study will be to determine the CYP by contraceptive method in LIP-assisted areas. The study results should be considered along with other program information and not in isolation.

Since the LIP is an add-on program supporting BDG family planning, and maternal and child health services, this study focuses on the incremental LIP costs. BDG service and commodity costs are taken from the other studies. Data from the FHI study has been used to estimate the BDG service costs (including staff) in terms comparable to the LIP service costs.

²¹ "Decentralization of FPMD/LIP Dhaka Office." Local Initiatives Program. Dhaka. December 1995.

The general methodological steps in this study process are adapted from “Estimating Costs for Cost-Effectiveness Analysis”²² and “Methods for Costing Family Planning Services.”²³ The specific allocation techniques are adapted from the study of the TAF NGO portfolio by JSI.²⁴ However, as discussed in item 4 in this Annex, the lack of accurate contraceptive supply data has made it necessary to adopt a modified methodology.

The study is a “top down” study which allocates the LIP program costs to the union level. It uses a modified step-down analysis similar to the approach in the JSI/TAF study. For example, the starting point for the study is the aggregate program costs. In the case of the LIP program, the costs of the Family Planning Management Development Project (FPMD)²⁵ which relate to the LIP program are included. FPMD is a USAID-funded cooperative agreement with Management Sciences for Health. The LIP program, which is implemented under a contract between MSH and Technical Assistance Incorporated (TAI), is funded through the FPMD Project. TAI is a Bangladesh organization which implements the LIP program.

The FPMD costs for 1995 were a combination of costs from the FPMD 1 contract during the period January 1 through September 28, 1995, and from the FPMD 2 cooperative agreement during the period September 29 through December 31, 1995. The costs are summarized as total expenditures in taka in Chart A-2, and in percentage terms in Chart A-3. The allocated management costs of the LIP program are derived in the steps which are described further in this analysis. The expenditure data for the FPMD/LIP activities are based upon the MSH accounting records with were billed to USAID and audited by USAID.

²² Phillips, Margaret, Donald Shepard, Stephen Lerman, and Richard Cash. "Estimating Costs for Cost-Effectiveness Analysis." Geneva: WHO Program for Control of Diarrhoeal Diseases, 1988.

²³ Janowitz, Barbara and John Bratt. "Methods for Costing Family Planning Services." New York: United Nations Population Fund, and Research Triangle Park: Family Health International, 1994.

²⁴ Fiedler, John, Laurence Day, W. Chowdury, S. Datta, and J. Gonçaves. "Costs and Cost Efficiencies of NGO Family Planning Services in Bangladesh: The Asia Foundation Portfolio." Report submitted to the Asia Foundation, Dhaka, Bangladesh by John Snow, Inc. (JSI). March 1996.

²⁵ Family Planning Management Development Project. Funded by USAID under a cooperative agreement No. CCP-A-00-95-00000-02 with Management Sciences for Health.

Chart A-2

FPMD Project Total Expenditures for LIP Program Calendar Year 1995 Amount (in Taka)						
CATEGORY	A Total Costs	B M & O	C Foreign TA	D Overseas Trg	E TA to Unions	F Thana Grants
FPMD Global Project						
A. FPMD Management and Operations						
1. Management and Operations		5,342,720				
2. Technical Assistance			3,928,520			
3. Training- Overseas				2,973,600		
Sub-total	12,244,840	5,342,720	3,928,520	2,973,600	0	0
B. Total LIP (TAI) Contract Costs						
1. TAI Overhead-Administration		7,720,303				
2. LIP General Management		4,159,989		831,126		
3. Overseas Training				2,255,530		
4. LIP Program Expenses					19,944,977	
5. LIP Grants to Thanas/Unions						20,439,836
Sub-total	55,351,761	11,880,292	0	3,086,656	19,944,977	20,439,836
TOTAL	67,596,601	17,223,012	3,928,520	6,060,256	19,944,977	20,439,836
Percentage	100%	25%	6%	9%	30%	30%

Chart A-3

FPMD Project Total Expenditures for LIP Program Calendar Year 1995						
CATEGORY	A Total Costs	B M & O	C Foreign TA	D Overseas Trg	E TA to Unions	F Thana Grants
FPMD Global Project						
A. FPMD Management and Operations						
1. Management and Operations		8%				
2. Technical Assistance			6%			
3. Training- Overseas				4%		
Sub-total	18%	8%	6%	4%		
B. Total LIP (TAI) Contract Costs						
1. TAI Overhead-Administration		11%				
2. LIP General Management		6%		1%		
3. Overseas Training				3%		
4. LIP Program Expenses					30%	
5. LIP Grants to Thanas/Unions						30%
Sub-total	82%	18%		5%	30%	30%
TOTAL	100%	25%	6%	9%	30%	30%

These costs are allocated into service and administrative categories at different levels of the organization and service delivery points. Thus, the term “top down” means that the aggregate costs collected at the “top” are divided up among units lower “down” in the organization. The major weakness in this approach is that differences in productivity between comparable units cannot be measured.

In contrast, the FHI/Janowitz study is primarily a “bottom up” study which develops unit costs for services based upon time and productivity measures, salaries, and other elements of program cost. Using this methodology, unit costs of personnel in different service-delivery points are measured by time spent by staff multiplied by salary rates. Commodity costs are also calculated at the same

delivery level. The weaknesses of this approach are that it a) relies on sample data, which while relevant for specific settings, cannot be generalized for all program units, and b) may not capture all the overhead costs of the government service programs.

Since the LIP program provides many kinds of technical support to the BDG family planning programs, the LIP costs are a supplement to the costs of the BDG program. Thus, the cost analysis was also designed to permit comparison with the BDG programs analyzed in the FHI/BDG study. Costs of contraceptives from both the JSI/TAF and FHI/BDG studies were also analyzed.

Cost Allocation Tree

The JSI/TAF study used a specific illustration for showing the allocation of costs, starting with funds provided by USAID, through the various levels of overhead, management, program and technical assistance costs. That same style of illustration is included for the FPMD/LIP costs to show the distribution of costs (converted to taka at the exchange rate of \$1US = 40 taka) in total terms in Figure A-1, and in percentage terms in Figure A-2.

Lipcost1

Lipcost2

Summary of Allocation of Costs to Unions

The total costs calculated from FPMD and LIP records are summarized in Chart A-4. The Chart shows how the allocation of the total costs, less the specific grants to thanas/unions, were averaged for allocation to each union. The individual grants to unions were also allocated based on the actual amounts spent in 1995. This summary is further discussed in the methodology below.

Chart A-4
Allocation of TAI (LIP) Costs to Unions
Calendar Year 1995

CATEGORY	TAKA
I. Total Expenditures	67,596,601
II. Less Thana Grants	20,439,836
III. Net to be Allocated	47,156,765
IV. Amount per Union ²⁶	81,025

The analysis of cost per CYP for each union was conducted using the figure of 81,025 per union as the standard allocation of costs, plus the specific grant for that union.

Modified Step-Down Analysis

The overall methodology is summarized in the attached Figures A-3 and A-4. The first chart shows the modified step-down methodology in the same format as the JSI/TAF study. The second chart describes the six steps in the collection, allocation, and analysis of cost and performance data.

1. LIP Management Cost Analysis

The analysis of TAI/LIP in-country costs is a separate exercise from the overall cost allocation described in the cost tree. This management analysis uses the costs which were incurred through the TAI/LIP local operative budget during 1995. The purpose of this analysis was to give LIP

²⁶ Allocated equally to the 582 unions served by LIP in 1995.

managers a program budget for the first time, and to conduct an initial analysis of the costs in each program category. It is important to remember that these costs do not include the MSH/FPMD costs, which were not within the local TAI/LIP budget and therefore not under the control of LIP management. This cost analysis is of most use to LIP management as a tool for measuring the cost impact of different program strategies, and determining ways to better utilize local resources.

a. Line Item Expenditure Analysis

The LIP financial statements include all TAI/LIP contract expenses (excluding MSH/FPMD costs). The following diagram describes the different steps that are followed in allocating the central LIP expenditures. First, the program and overhead expenses of TAI is allocated to the program expenses using the same methodology as the JSI/TAF study. Second, the expenditures for the thana/union grants and contributions are allocated directly to the appropriate union. Third, the other line item expenditures are allocated to the program budget categories determined by LIP management to most closely represent their major areas of activity. These allocations are described in Charts A-5, A-6, and A-7.

Expenditure data for the calendar year 1995 on recurrent costs was used. Capital costs for 1995 were included, although these costs were minor in 1995 compared to 1994.²⁷ The costs of capital assets were neither valued nor included in the study, which is similar to the methodology of the JSI/TAF study. FPMD/MSH corporate costs are added to the LIP figures, as are the costs of training and external technical assistance. This approach is consistent with the approach in the JSI/TAF study.

²⁷ Capital costs in 1995 totaled 91,150 taka, compared to the 1994 total of 3,628,067 taka which included the purchase of vehicles. The 1993 total was 6,200 taka.

Figure A-3

Figure A-4

**Chart A-5
Program Budget Categories**

General Category	Specific Category	Comments
Thana/Union Monitoring	Develop Annual Plan Outreach and Follow-up Visits Training Financial Monitoring	Activities related directly to planning, monitoring, and following up thana/union activities
Technical Services	Management Training Workshops Seminars, Special Meetings MIS Development and Operations Data Analysis and Evaluation Pilot Project Activities Publications (Manuals, Guidelines)	Technical activities related to support of LIP field programs, apart from thana/union specific activities; Includes Support for BDG Staff
General Management	Administration Finance Support Services	Administrative and financial activities in support of overall LIP activities

Chart A-6
Allocation Methodology for Line Item Expenditures
 (Calendar Year 1995)

Budget Line Item	Definition	Allocation Method
Corporate Overhead	TAI Corporate Overhead plus Fee	
Personnel	Staff salaries plus HSV	Time allocation study for each staff member for 1995 multiplied by salary plus HSV
Travel and Per Diem	In country program travel costs including LIP and BDG staff including lodging, per diem, and fuel	Actual costs allocated to program categories using specific formulas. RM- outreach visits; AP- Action Plan; IW: 50%-trg., 50% MTP/WS; FR- Financial Monitoring; SV (special visit)- 1/3 each MTP/WS, Fin Mon, Pilot Project); MTP 10 and 11- charged to MTP/WS
Training/Workshops	Management Training Programs (MTPs), Topical Workshops, International Training	Local training allocated to MTP/workshops
Equipment and Supplies	Office equipment and furniture	Proportional to salary costs
Other Direct Costs	Office rent, telephone, fax, water, sewerage, mailing, printing, etc.	Proportional to salary costs
Action Plans	FPMD Grants to Unions Local Union Contributions	Allocated directly to union

Chart A-7
Allocation of LIP Line Item Expenditures
 (Calendar Year 1995)

Budget Line Item	Total Expenses (taka)	% of Total	Overhead/ Other Expenses (taka)	Allocated Directly to Unions (taka)	Allocated to LIP Programs (taka)	% of Total Allocated to LIP Programs
Corporate Overhead	7,720,303	13.9%	7,720,303			
Personnel	10,148,289	18.3%			10,148,289	42.1%
Travel & Per Diem	3,783,619	6.8%	831,126		2,952,491	12.3%
Training & Workshops	8,029,136	14.5%	2,255,530		5,773,606	23.9%
Equipment & Supplies	91,150	.2%			91,150	0.4%
Other Direct Costs	5,139,428	9.4%			5,139,426	21.3%
Action Plans	20,439,836	36.9%		20,439,836		
TOTAL	55,351,761	100.0%	10,806,959	20,439,836	24,104,964	100.0%
% OF TOTAL	100.0%		19.5%	36.9%	43.6%	

b. Personnel Time Allocation

The second step in allocation of costs is the distribution of personnel costs according to the program categories. Each LIP/FPMD employee filled in a time allocation sheet for calendar year 1995 using their time sheets and travel logs for guidance. A copy of the time allocation form is included in Chart A-8. The supervisor of each unit directed the process and reviewed the time allocation sheets for completeness and consistency. These sheets were then submitted to the finance office, which multiplied each employee's salary plus Holiday, Sick, and Vacation (HSV) days by the time allocation. These calculations were summed by program category for each unit, and were then totaled for the staff as a whole. The results of this allocation of personnel expenditures is in Chart A-9. This allocation of total personnel costs by program category was then entered into the program budget expenditures explained in item 3 below.

c. Program Budget Expenditures

- Allocation of Other Line Item Expenditures

The cost allocations into the program budget categories are summarized on Chart A-10. The other line item expenditures were allocated based on the judgments of the LIP senior management. The travel and training activities were allocated to the related program areas, and equipment and supplies and other direct costs were allocated according to the distribution of salaries.

- Unit Expenditures for Further Analysis

LIP management will undertake further analysis of management costs according to types of activities, such as management training programs. This analysis, coupled with the number of participants, will make it easy to allocate certain costs directly to unions based on certain measures, such as attendance at workshops. Examples of such units include:

- Cost per training program (perhaps different types based on length and intensity)
- Cost per technical assistance intervention
- Cost per monitoring intervention
- Amount for TA in preparation of action plan

**Chart A-8
LIP Cost Study
Time Allocation Time Sheet
Calendar Year 1995**

Name of LIP Employee

Unit

GENERAL CATEGORY	SPECIFIC CATEGORY	PERCENT OF TIME
Thana/Union Monitoring	Develop Annual Plan	
	Outreach and Follow-up Activities	
	Training	
	Financial Monitoring	
Technical Services	Management Training Workshops	
	Seminars, Special Meetings	
	MIS Development and Operations	
	Data Analysis and Evaluation	
	Pilot Project Activities	
General Management	Publications (Manuals, Guidelines)	
	Administration	
	Finance	
	Support Services	
TOTAL		100%

Chart A-9
Personnel Expenses by Program Budget Categories
 Calendar Year 1995

General Category	Specific Category	Amount (taka)	% of Total	% of Total
Thana/Union Monitoring	Develop Annual Plan	1,297,232	12.8%	42.5%
	Outreach Visits and Follow-up Activities	1,861,092	18.3	
	Training	562,726	5.5	
	Financial Monitoring	597,723	5.9	
Technical Services	Management Training Workshops	970,253	9.6%	30.5%
	Seminars, Special Meetings	615,106	6.1	
	MIS Development and Operations	218,766	2.2	
	Data Analysis and Evaluation	296,766	2.9	
	Pilot Project Activities	251,334	2.5	
	Publications (Manuals, Guidelines)	729,756	7.2	
General Management	Administration	1,549,652	15.3%	27.0%
	Finance	409,934	4.0	
	Support Services	785,551	7.7	
TOTAL		10,146,289	100%	100%

Chart A-10
Expenditures by Program Budget Categories
 Calendar Year 1995
 (in Taka)

General Category	Specific Category	Personnel	Travel per Diem	Training Workshop	Equipment & Supply	Other Direct Costs	Total	% of Total
Thana/Union Monitoring	Develop Annual Plan	1,297,232	652,646		11,649	656,619	2,618,146	10.7%
	Outreach/ Follow-up Activities	1,861,092	1,018,952		16,717	942,571	3,839,332	15.9
	Training	562,726	183,825		5,059	285,238	1,036,848	4.3
	Financial Monitoring	597,723	299,830		5,369	302,712	1,205,634	5.0
Technical Services	Management Training Workshops	970,253	622,420	4,966,793	8,714	491,329	7,059,509	29.3%
	Seminars, Special Meetings	615,108		59,850	5,523	311,449	991,930	4.1
	MIS Development and Operations	216,760			1,969	111,012	329,741	1.4
	Data Analysis and Evaluation	296,766			2,660	151,099	450,545	1.9
	Pilot Project Activities	251,334	174,818	744,963	2,260	127,456	1,300,831	0.4
	Publications (Manuals, Guidelines)	729,958			6,554	369,525	1,106,037	4.6
General Management	Administration	1,549,652			13,919	784,791	2,348,362	9.7%
	Finance	409,934			3,662	207,633	621,229	2.6
	Support Services	785,551			7,055	397,792	1,190,398	4.9
TOTAL		10,144,089	2,952,491	5,771,606	91,110	5,139,246	24,098,522	100%

2. Allocation of Total Costs to Union Level

LIP costs are allocated to the union in two ways.

a. Union Grants

First, the union grants and the related union contributions are allocated directly to the union where the expenditures occurred. These are “pass through” expenditures from the central accounts directly to the individual unions. These grants average 40,000 taka per union, and the local contribution averages 10%, but the individual grants vary between 30,000 -50,000 taka depending on the number of ELCOs. The local contribution is sometimes more than 10%.

b. Allocation of Central Costs

The total LIP costs are allocated proportionally between the unions. This simple methodology is used for several reasons. First, every union receives a certain amount of attention through the development of the annual action plan and routine monitoring. Second, since this is a cross-section study, and not time series, the specific startup training programs for new unions could unfairly show the pattern of resource allocation which would be provided over several years. Third, the detailed analysis required to allocate spending to individual unions could not be done during the time frame of Phase I.

However, to test this assumption, the actual travel, per diem, and FWA training costs incurred by the 93 unions (from 18 thanas) in Sylhet Division were compared to the pro-rated amounts for each union. The amounts were almost exactly the same. This result gives a certain measure of confidence to the proportional allocation of LIP costs to the unions.

3. Collection of Union Level Data

The union level data was collected for each union and summarized in spreadsheets using the format shown in the Sample Calculation in Chart A-13.

a. ELCOs, Acceptors, and Method Mix

The key output measure for the study is CYP by method. The calculation of CYP requires data on the method mix of acceptors, which is available at the LIP offices from the MIS-4 government reporting form. Data on population, ELCOs, total acceptors, and the CAR, (which is acceptors divided by ELCOs as per FWA Register) were also used.

The study relied on the number of reported acceptors by method (according to the FWA Register) as the primary source of method mix data because of the unreliability and inconsistency of the

supply data. The micro survey²⁸ conducted in three LIP-assisted unions in 1994 showed a 5 – 8 percent difference between CAR and CPR in two unions, and a one percent difference in the third. This finding gives some further support to the use of the CAR data.

b. Contraceptive Supply Data

Union reports on contraceptive supplies delivered from government warehouses during 1995 were also collected for 7 of the 12 thanas in the test group. This data can be used to calculate CYP. However, there was a wide variation between the number of reported acceptors and the number calculated using supply data adjusted using standard CYP conversion rates from the JSI study. Data was obtained from the Family Planning Logistics Management (FPLM) system with supply figures for the 12 test thanas by type of contraceptive. However, this data did not resolve the different figures. Further in depth analysis is required. The standard conversion factors used to compare the CYP from contraceptive supply with reported number of acceptors assuming full coverage were the following:

Chart A-11
CYP Supply Conversion Factors
(For one CYP)

Method	Factors Used by JSI/TAF Study	Factors Used by FHI/BDG Study	Factors Used in LIP Study
Pill	15 Cycles	13.6 Cycles	15 Cycles
Condoms	150 Condoms	121 Condoms	150 Condoms
Injectables	AV. 5- doses (two methods)	4 Doses	5 Doses
IUD	0.29 (3.5 years' protection)	0.5 (2 years' protection)	0.5 ²⁹

The figure of 18 years of CYP per sterilization in the FHI/BDG study was not used since it would make the cost per CYP figures extremely low, and the costs of the sterilization were not included in the LIP costs.

²⁸ Huber, S.C. and A. Sayeed, "CAR/CPR Verification Study- Local Initiatives Program- Bangladesh." Dhaka: Local Initiatives Program, Family Planning Management Development Project, Management Sciences for Health, July 1994.

²⁹ The lower factor in the FHI/BDG study was use for consistency with the BDG costs, although it does tend to make the costs per CYP for IUDs higher compared to the JSI/TAF study.

4. Calculation of Cost per CYP by Method

Because of the unreliability and incompleteness of the contraceptive supply data, the generally accepted method of developing CYP by adjusting supply data by standard use factors was not possible. The researchers in the JSI/TAF study reached the same conclusion. The methodology used in the BDG/FHI study also did not use contraceptive supply data. Given the USAID mandate to utilize a methodology consistent with the two previous studies, contraceptive supply data was not used in this study either.

The standard definition of CYP is included in a recent unpublished study by the Carolina Population Center.³⁰

“Couple-years of protection (CYP) is a widely used indicator of performance in USAID-funded family planning programs. CYP is usually defined as the total protection from pregnancy provided by family planning services during a one-year period, based on the volume of contraceptive commodities or services sold or provided free of charge to clients. CYP is calculated by multiplying the quantity of commodities or services provided by a conversion factor that yields an estimate of protection. A major advantage of this indicator is that it allows services provided for all methods to be compared on a common basis.”

It is important to note that since none of the three studies used the volume of contraceptive commodities or services, the CYP definition in these three studies is considerably different from the standard.

The allocation of costs to each method was accomplished using a method similar to that of the JSI/TAF study. The number of acceptors was multiplied by a relative value scale (RVS) of mean worker to client contact times from the 1995 Janowitz study, p. 7. In the JSI study, the RVS was multiplied by the ELCO type to get CBD costs by ELCO type. In the LIP study, the RVS was similarly multiplied by the number of ELCOs in each group to create time-adjusted figures. This study thereby allocates all of the LIP costs to the ELCOs, including sterilized couples, as well as non-users. The percentage distribution was then calculated, and multiplied by the total union costs to allocate the LIP union costs to each method. The RVS used is the following:

³⁰ “Empirically Based Conversion Factors for Calculating Couple Years of Protection” by J. Stover, J. Bertrand, S. Smith, N. Rutenberg, and K. Meyer-Ramirez. Carolina Population Center. 1997. p. vii.

**Chart A-12
Relative Value Scale**

Type of Acceptor	Mean Contact Time (minutes)	Relative Value Scale (RVS)
New Acceptor	8.0	2.22
Orals User	4.4	1.22
Condom User	5.5	1.53
Injectable User	3.7	1.03
Clinical Method User*	3.6	1.00
Non-User/Traditional Method User	4.4	1.22

*Category from JSI/TAF study, which was based on the FHI/BDG study. Presumably it means IUD users and sterilized women.

Since the RVS is the major determinant of variations in cost allocations between methods, it is suggested that a small-scale survey to measure LIP volunteer visit activities and relative allocations between different method users be conducted. These results would be compared to the RVS, and if significantly different, used instead of the RVS above which is based on time studies of paid government workers only (i.e., work of LIP volunteers was not included).

**Chart A-13
Sample Calculation**

The following example of data from Haridhali union in Paikgacha thana illustrates the methods of calculation described below.

LIP COST

UNION PROGRAM DATA

THANA: PAIKGACHA # OF VOLS. 504

Union Name	Method Type	PROGRAM DATA					COST ANALYSIS							
		LIP Cost	Population	ELCOs	Acceptors	CAR %	Method Mix #	Method Mix %	RVS	Adjusted Mix #	Adjusted Mix %	LIP Cost per Method Mix Tk.	Average Cost per CYP	
	1	2	3	4	5	6	7	8	9	10	11	12	13	
Haridhali	1	119,369	20,359	3,832	3,017	78.73%								
	New acceptors						61	1.59%	2.22	135	3.08%	3,681	60.3	
	Pill						1,362	35.54%	1.22	1,662	37.84%	45,165	33.2	
	Condom						321	8.38%	1.53	491	11.18%	13,349	41.6	
	Injection						516	13.47%	1.03	531	12.10%	14,446	28.0	
	IUD						246	6.42%	1	246	5.60%	6,686	27.2	
	Sterilization						511	13.34%	1	511	11.64%	13,889	27.2	
	Non-Users						815	21.27%	1	815	18.56%	22,152	27.2	
	TOTAL						3,832	100.00%		4,392	100.00%	119,369	31.2	

Chart A-13 shows the specific calculations for Haridali union in Paikgacha thana. The LIP cost in column 2 includes both the allocated central FPMD and LIP costs and the thana/union grants (including 10% local contribution). This amount is allocated to the ELCOs by method mix as follows. First, the RVS from the JSI/TAF study (column 9) was multiplied by the reported users by method in column 7. The adjusted method mix in column 10 is converted to adjusted percent method mix in column 11. That percent method mix is then multiplied by the LIP Costs in column 2 to provide an allocation of LIP Costs by method of family planning type in column 12. In the final step, the cost figures in each row of column 12 are divided by the corresponding number of users in column 7. The average LIP costs per ELCO in column 13 is considered as cost per CYP consistent with the methodology used in the JSI study. It is assumed that each acceptor couple has contraceptive protection for one year by use of the various methods, and that the costs for non-users represents the costs of outreach and education to them during the year. The cost of new acceptors is higher as a result of the time weightings from the JSI and FHI studies, which reflects the additional time usually spent with new acceptors.

In summary, for Haridali union, the average LIP cost per acceptor couple, or in this case CYP, is 31.2 taka per year. That average incorporates a high of 60.3 taka for new acceptors and a low of 27.2 for IUD or sterilized acceptors.

ANNEX B: CALCULATING AVERAGE METHOD MIX

To determine the average cost per method, the average cost per CYP of 37.9 taka per year was used. However, since there is no calculation for average method mix, an average of the method mixes for the five unions with costs per CYP closest to the average was calculated as shown below.

In order to calculate average CYP cost by method, four unions with average costs per CYP close to the overall average of 37.9 and with similar size characteristics for the averages calculated from the 68 unions were selected. The average of their costs per CYP by method were averaged, and then adjusted slightly to so that their average was also 37.9.

The resulting average CYP by method is used for the comparative analysis with the BDG and TAF/NGO costs in the earlier sections of the report.

Chart B-1
Average Cost per CYP (Selected Unions)

Thana	Union	Average Cost per CYP
Braham Para	Madhabpur	34.9
Fenchugan	Mazgaon	35.2
Balaganj	Doamir	36.1
Balaganj	Balagamj	37.2
Average	Average	37.9
Kathalia	Saulajalia	38.4

The average cost of method mix is calculated using an adjusted average of the data from five unions whose profiles in terms of overall costs per CYP, number of ELCOs and acceptors, as well as CAR are close to the averages for all unions. The average method mix is first determined for these five unions. Then the number of ELCOs and acceptors is set to be equal to the average for all unions. As the final step, the total costs are adjusted to the point that the average cost per CYP for the average method mix is equal to the average for all 68 unions. This adjusted average provides the best approximation of the average method mix for the 68 unions.

{Insert AVCYP.WB2 as two pages.}

ANNEX C: LIST OF SAMPLE SITES

	Division	District	Thana	Union
	Barishal	Barishal	Gournadi	Bartee
	Barishal	Barishal	Gournadi	Batazore
	Barishal	Barishal	Gournadi	Chandshi
	Barishal	Barishal	Gournadi	Nalchira
	Barishal	Barishal	Gournadi	Mahilara
	Barishal	Jhalokathi	Kathalia	Amua
	Barishal	Barishal	Kathalia	Aurabunia
	Barishal	Jhalokathi	Kathalia	Chechriramp
	Barishal	Jhalokathi	Kathalia	Kathalia
	Barishal	Jhalokathi	Kathalia	Paticalghata
	Barishal	Jhalokathi	Kathalia	Saulajhalia
	Chittagong	Comilla	B. Para	B. Para
	Chittagong	Comilla	B. Para	Chandla
	Chittagong	Comilla	B. Para	Dulalput
	Chittagong	Comilla	B. Para	Madhabpur
	Chittagong	Comilla	B. Para	Malapara
	Chittagong	Comilla	B. Para	Shahebabad
	Chittagong	Comilla	B. Para	Shashidal
	Chittagong	Comilla	B. Para	Shidlai
	Chittagong	Feni	Parshuram	Amjadhat
	Chittagong	Feni	Parshuram	Anandapur
	Chittagong	Feni	Parshuram	Darabarpur
	Chittagong	Feni	Parshuram	G. M. Hat
	Chittagong	Feni	Parshuram	Parshuram
	Chittagong	Feni	Parshuram	Munshighat
	Dhaka	Jamalpur	Melanda	Adra
	Dhaka	Jamalpur	Melanda	Durmut
	Dhaka	Jamalpur	Melanda	Mahmudpur
	Dhaka	Kishoreganj	Karimganj	Dehundia

	Division	District	Thana	Union
	Dhaka	Kishoreganj	Karimganj	Gonodhar
	Dhaka	Kishoreganj	Karimganj	Gozadia
	Dhaka	Kishoreganj	Karimganj	Kadirjangle
	Dhaka	Kishoreganj	Karimganj	Baraghuria
	Dhaka	Kishoreganj	Karimganj	Niamatpur
	Dhaka	Kishoreganj	Karimganj	Sutarpara
	Khulna	Khulna	Fakirhat	Bahirdia
	Khulna	Khulna	Paikgacha	Chandkhali
	Khulna	Khulna	Paikgacha	Deluti
	Khulna	Khulna	Paikgacha	Godaipur
	Khulna	Khulna	Paikgacha	Goraikhali
	Khulna	Khulna	Paikgacha	Haridali
	Khulna	Khulna	Paikgacha	Kapilmoni
	Khulna	Khulna	Paikgacha	Lasker
	Khulna	Khulna	Paikgacha	Lata
	Khulna	Khulna	Paikgacha	Raruli
	Khulna	Khulna	Paikgacha	Soladana
	Rajshahi	Natore	Baraigram	Baraigram
	Rajshahi	Natore	Baraigram	Chandai
	Rajshahi	Natore	Baraigram	Gopalpur
	Rajshahi	Natore	Baraigram	Joari
	Rajshahi	Natore	Baraigram	Jonail
	Rajshahi	Natore	Baraigram	Majgaon
	Rajshahi	Natore	Baraigram	Nagar
	Rajshahi	Rajshahi	Puthia	Belpukuria
	Rajshahi	Rajshahi	Puthia	Bhalukgachi
	Rajshahi	Rajshahi	Puthia	Jeopara
	Rajshahi	Rajshahi	Puthia	Shilmaria
	Sylhet	Sylhet	Fenchuganj	Fenchuganj
	Sylhet	Sylhet	Fenchuganj	Gilachara
	Sylhet	Sylhet	Fenchuganj	Maijgaon

	Division	District	Thana	Union
	Sylhet	Sylhet	Balaganj	Boajzhore
	Sylhet	Sylhet	Balaganj	Goalabazar
	Sylhet	Sylhet	Balaganj	Balaganj
	Sylhet	Sylhet	Balaganj	Doamir
	Sylhet	Sylhet	Balaganj	Osmanpur
	Sylhet	Sylhet	Balaganj	Sadipur
	Sylhet	Sylhet	Balaganj	Tazpur
	Sylhet	Sylhet	Balaganj	W. Pailanpur
Total Number	6	11	12	68

ANNEX D: LETTER FROM BDG OFFICIAL

ANNEX E: BIBLIOGRAPHY

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