

RED Study Report:
**FINANCING THE BRAC HEALTH CENTRES:
THEIR FINANCIAL SUSTAINABILITY AND COST-EFFECTIVENESS**

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ABSTRACT

The Health and Population Division (HPD) of BRAC aims to provide supportive secondary level health care services for the community through the BRAC Health Centres (BHCs) or *Shushasthyos*. The BHCs began operating in HPD areas in 1995. As of January 1998 there were 27 BHCs. All BHCs function through user fees in order to make the BHCs financially sustainable in the long run. HPD is endeavoring strategic planning in order to reduce donor dependence and meet the projected resource gaps through the implementation of certain systems such as, cost recovery and cost sharing through the BHCs, to ensure financial sustainability in the long run. The Research and Evaluation Division (RED) of BRAC aimed to evaluate how much cost recovery was occurring at the BHCs which contributed to BHCs' financial sustainability, and what modifications need consideration to support and enhance this sustainability. This was a health facility based study done in 9 BHCs in three regions. Mymensingh, Bogra and Dinajpur. The variables considered for this study were related to cost, revenue, cost sharing and effects.

The average or unit cost of operating a BHC was Tk. 422,092. The recurrent cost was Tk. 403,547 and capital cost was Tk. 18,545. Average income per BHC was Tk. 89,631. The cost recovery was 22% of recurrent costs and 21% of total costs. And if we considered the variables similar to HPD then cost recovery was 35% of recurrent costs and 33% of total costs. 23% of the indicators mentioned in the monthly disease profile cover gynaecologicals conditions. These constitute about 11% of the total general diseases being identified and/or treated at the BHCs. This is only possible due to having a facility such as a BHC. The unit cost per patient visit was Tk. 93. Some interventions, such as ANC and GM done at BHCs seemed to be cheaper compared to previous findings of WHDP and RDP-PHC.

Currently the BHCs are 22% financially sustainable. It was projected that if the current number of patient visits are increased 4.5 times then BHCs can achieve 100% recovery of its recurrent costs. The role of the POP-female and FWV indicated that both personnel were not 'absolutely' necessary for the functioning of the BHCs. If only a POP-female or FWV is kept then there will be an 18% reduction in personnel cost, leading to a 9% reduction in recurrent costs, and increased cost recovery to 23%. HPD has been able to develop a partially sustainable and replicable model for health care provision from minimal service charges.

INTRODUCTION

Background of BRAC Health Centres

The Health and Population Division (HPD) of BRAC aims to provide supportive secondary level health care services for the community through the BRAC Health Centres (BHCs) or *Shushasthyos*. The BHCs also provide primary care to patients coming directly to BHCs. One objective of establishing BHCs was to increase the effectiveness of the Reproductive Health and Disease Control's (RHDC's) primary care services through the BHCs. These secondary services were expected to be provided at government *Thana* Health Complexes which in reality were not available due to various reasons, one being the public sector's inefficiency. Thus, the BHCs aim to make services available at the union level and increase access and utilization of both primary and secondary level health care services of the poor, particularly the BRAC participants and their families.¹

The BHCs began operating in HPD areas in 1995. As of January 1998, there were 27 BHCs (21 in RHDC, 2 in FPPF, 1 in BINP, and 3 in EHC areas). In the HPD area BHCs, both the clinic and field (administrative) management falls under the jurisdiction of HPD. In the Rural Development Programme-Essential Health Care (RDP-EHC) area BHCs, the clinic management is taken care of by HPD and the field (administrative) management falls under the jurisdiction of RDP-EHC. The BHCs are open from 8am - 6 pm, Saturday to Thursday. Male clinics are held on Thursdays from 2-7 pm. 1 Medical Officer (MO), that is physician, is available at the BHC. The MO is assisted by 2 paramedics (one male and one female), called Programme Organizer-Paramedic (PO-P). There is also a Family Welfare Visitor (FWV) working at the BHC. There is 1 Aya, who may be a trained traditional birth attendant (TBA) or *Shasthyo Shebika* (SS), who welcomes patients, sits them, and so forth. The PO and SS mobilize the community to use the BHC facilities. According to the HPD guidelines follow up is done on all antibiotic cases and all clinical contraception cases by the PO and SS. The BHCs also perform routine pathological tests, such as, routine and microscopic examination (R/M/E) of blood, stool, urine, and also Acid Fast Bacilli (AFB) tests. All BHCs function through user fees in order to make the BHCs financially sustainable in the long run.²

Rationale for the study

Currently the operation of the BHCs is largely funded by donor assistance. As with the other programmes of BRAC, HPD is also endeavoring strategic planning in order to reduce donor dependence and meet the projected resource gaps through the implementation of certain systems such as, cost recovery and cost sharing through the BHCs, to ensure financial sustainability in the long run. According to the RHDC proposal, ODA (Overseas Development Administration, now called the Department for International Development) funding to BHC is projected to fall by 25% each successive year, so that a first year BHC will not be receiving any recurrent support by the final year of the project.¹ The Research and Evaluation Division (RED) of BRAC aimed to evaluate how much cost recovery was occurring at the BHCs which contributed to BHCs' financial sustainability, and what modifications need consideration to support and enhance this sustainability.

STUDY OBJECTIVES

The general objectives of this study were: 1) to determine the financial sustainability of BHCs; and 2) to determine the cost-effectiveness of various BHC interventions. **The specific objectives** of this study were: 1) to determine the costs (financial and economic) of operating the BHCs, 2) to determine how much cost recovery occurred at the BHCs, 3) to determine how much cost sharing occurred between HPD and community/other sources for operating the BHCs, and 4) to determine the effects of various BHC interventions.

METHODOLOGY

Study design: This was a health facility based (current model) case series study.

Study area: The study was done in BHCs located in three regions of Bangladesh, that is, Mymensingh, Bogra and Dinajpur. Comparison amongst the BHCs in different areas or programmes (RHDC, BINP, FPPF and EHC programme area BHCs) were not attempted for this study. Only one EHC BHC information was collected to get a preliminary idea how they differ from HPD area BHCs and their similarities.

Study unit: BRAC Health Centres, BHC service providers and consumers, and the community (recipient and non-recipient of BHC services, local health care providers, local elite, community health workers of BRAC) were the study units for this study.

Sampling and sample size: In total 9 BHCs were selected by multistage (judgement) sampling (see annexure 2). In RHDC areas 8 BHCs were purposively selected based on their period of initiation (duration of operation ≥ 2 year or ≤ 1 year) and level of performance (patient attendance: > 300 patients/month or < 300 patients/month; cost recovery: $\geq 40\%$ or $\leq 30\%$). These information were provided by HPD from their monthly progress reports of January to June 1997. 1 EHC-BHC was purposively selected for its high performance.

Table 1: Grading of the selected BHCs according to HPD indicators of January - June 1997.

High performance	<i>Cost recovery</i>	<i>Patient attendance</i>	<i>Age of BHC</i>
Boilor (45%, 470)	$\geq 40\%$	> 300 patients / month	> 2 yrs
Dublagari (39%, 314)	"	"	"
Fashitola (44%, 516)	"	"	≤ 1 yr
Bhaitkandi (44%, 308)	"	"	"
Low performance			
Kajipara (24%, 277)	$\leq 30\%$	< 300 patients / month	> 2 yrs
Kashiganj (26%, 194)	"	"	"
Parbatipur (17, 224)	"	"	≤ 1 yr
Chechua (24%, 252)	"	"	"

Variables: The variables considered for this study were related to cost, revenue, cost sharing and effects. The variable **cost** included capital and recurrent costs. The sub-variables for *capital cost* were: values of setting up (furniture, equipment and supplies), and training (non-recurrent). The sub-variables for *recurrent cost* were: personnel (salaries and benefits), training (recurrent), rent, equipment and supplies (recurrent), building (operation and maintenance), vehicle (operation and maintenance), head office (HO) logistic and management support and supervision (HO and regional

office/RM. The variable **revenue** included the various service charges such as, doctor's fee, medicine fee, and pathology fee. The variable **cost sharing** will be done during Phase II of data collection and will include: community's contribution (SS, SK, TBA, GC members, VO members, Mohila Shova members, mother in feeding centre) and opportunity cost of patients (travel time, waiting time, consultation time, travel cost). **Effects** covered in Phase I of data collection were: number of patient visits, BRAC Village Organization (VO) member visits, general diseases treated, Antenatal Cares (ANCs), Growth Monitorings (GMs), Post Natal Cares (PNCs), pathologies, deliveries, and Menstrual Regulations (MRs) attended; and number of family planning (FP) method users. Effects related to the burden of disease such as, number of diseases cured, number of deaths averted, bed occupancy rate, and so forth, will be collected during Phase II of data collection.

Study implementation plan: Data collection and data collection tools: Quantitative data collection was done by using programme records (e.g. registers, monthly progress reports, bill vouchers, vehicle logbooks, income expenditure statements and ledgers, payment receipts, local purchase approval and process documentation, etc.) with structured checklists. Data was also collected using a structured checklist through interview of the BHC staff, and observation of the BHCs. Client observation and survey will be done with exit point interviews with checklists, and informal discussions will be held with local health care providers, local elites, and so forth. Data collection tools vary according to the requirements of the data. Secondary source of data from BRAC Accounts and HPD head office were also collected regarding cost recovery. Data collection procedure: Data of one year, from September 1996 to August 1997, were collected. Data collectors/interviewers were trained in the field with hands on training on the methods of data collection. Simultaneously data collection tools were field tested and piloted. At night, the researcher-supervisors checked all the collected data for consistency and completeness. The researchers and interviewers stayed 1-2 days in each BHC to gather data. Quality of data: This was controlled by pretesting the methods and tools to identify the problems in them, and changes were made accordingly. All tools were piloted before data collection. To ensure quality 5% check by spot check was done during the piloting of tools and data collection. Biases were lessened since multiple types of tools were used for data collection, and different sources of information were explored for triangulation purposes. The data validity was measured by face validity using consensus of the researchers before and during pretesting of the tools. Data processing and analysis: The collected data from programme records on costs was typed, put in tables, edited, coded, computerized, cleaned and analyzed using the statistical package of FoxPro and SPSS. Work plan

for data collection:- Interviewers were recruited and trained. The data collection was done in two phases: Phase I (10 weeks) and Phase II (12 weeks). Phase I collected data on the supply side by reviewing records. HPD data of budget and expenditure were collected from HPD and BRAC Accounts. All community surveys will be done during Phase II. Bench mark of quality standard:- This was according to RED's point of view, and the cut off points for BHC were the BHC manager's guideline March 1997 and all HPD review meeting minutes upto August 1997.

Time frame: Data was collected during October 1997 for Phase I and Phase II data will be collected during January 1997.

Ethical considerations: Consent was taken verbally from the respondents along with the assurance that confidentiality of their responses will be maintained. This will be repeated during Phase II data collection.

Limitations of the study: Variation in skill of interviewers, non response of respondents, record keeping system, and so forth may have been barriers to getting authentic information. There may have been a selection bias since the BHCs were selected based on the performance of only six months, that is. January to June 1997. There may have been recall bias of the respondents, but different types of respondents were asked about and yielded the same information. Interviewer bias was minimized due to their being trained prior to data collection. Furthermore, when the researcher-supervisor's checked their collected data was found to be consistent. We were careful in avoiding counting the same cost element (input) twice, and thus avoided double counting of the inputs. There may have been researcher bias because in studies like this result depends on which assumptions are being used: an accountant's, economist's or public health professional's. Sample size was kept small deliberately due to the constraint in resources (money, manpower and time) for completing the study, but the findings are applicable to the other BHCs since the sample size represents 33% of the existing BHCs.

FINDINGS

BHC Expenses

This study determined the costs, both financial and economic, of operating the BHCs. The average or unit cost of operating a BHC was *Taka* (Tk.) 422,092 per year. The recurrent cost was Tk. 403,547 per year, and the capital cost was Tk. 18,545 per year. The recurrent cost was higher than the capital cost because RHDC did not construct any of the BHCs but used rented houses. Costs in this study were classified by inputs. The set up cost included expenses incurred for purchasing equipment and furniture. Travel and transport allowances, and vehicle maintenance were considered under the heading transport. Vehicle (non-recurrent), social mobilization (recurrent and non-recurrent), pharmaceutical, freight, and monitoring and evaluation costs were not included in the costs. Cost data of BHC from BHCs and RHDC area offices were collected and verified against that of accounts and HPD head office data. Cost of dumping places were not considered in the set up costs. Cost and effectiveness data of the same period were collected.

The less important categories such as supplies and building operation was handled by rough calculations based on rules of thumb, such as assuming that the average cost for this category would be the same for one BHC for one year's duration. The first step we took in estimating the financial cost of BHCs was to review the existing records of expenditure or accounts that document actual spending. These records had potential limitations as they were located at area offices and were interpreted by area office staff. Time allocation was collected by observation, and then corroborated by asking that specific staff (e.g. MO) how much time s/he gives; we also asked the other BHC and RHDC staff how much time the MO was spending for BHC work.

RED identified the resource inputs for which little or no money was paid, such as, SS or TBA working without payment, health messages broadcast without charge as in social mobilization, health forums and so forth. Shadow pricing was done to include FWV salary which is not reflected either in the HPD budget-expenditure sheets nor in the Accounts income-expenditure sheet; but it was reflected in the RED study because FWVs' primary role is in the BHCs. Electricity, lantern fuel, postage, printing, and photocopying were included under utilities. Procurement was done thrice from HPD to acquire the equipment and supplies in 1995, 1996 and 1997. All current costs were used for this study, that is 1997 prices. The prices of the same equipments varied when they were purchased with the price gradually going up and also determined by the size of the equipment which also varied time to time.

Detailed annual costs for the sample BHCs are given in Table 2. Distribution of the expenses are shown in figure 1.

Table 2: Economic cost of operating the BHCs (all amounts in Taka).											
Item	BHC 1	BHC 2	BHC 3	BHC 4	BHC 5	BHC 6	BHC 7	BHC 8	BHC 9	Total	Unit cost
Recurrent costs											
Salary	274,315	199,843	306,324	286,492	317,798	235,054	271,355	283,647	239,629	2,414,458	268,273
Rent-utility	83,184	25,376	23,420	47,160	48,696	13,704	32,208	24,780	40,872	355,404	39,489
Equipment, furniture, maint	5,857	6,300	3,600	3,600	6,672	2,952	3,300	30,360	10,200	72,841	4,680
Transport	55,020	33,276	31,212	25,668	56,580	26,880	55,524	51,288	12,408	347,856	38,651
Supervision /Regional quality control	12,390	12,390	8,032	5,575	14,669	14,669	14,257	31,805	28,124	141,911	15,768
HO logistic	43,077	27,719	37,259	36,850	44,442	29,326	37,664	42,188	33,123	333,247	36,686
subtotal	473,843	304,904	409,847	405,345	488,857	322,585	414,308	464,068	364,356	3,665,717	403,547
Capital costs											
Set up	42,437	8,891	8,147	9,971	20,625	14,362	18,183	18,751	13,875	155,242	17,250
Training	0	2,587	0	0	2,927	1,442	1,407	2,438	856	11,657	1,295
subtotal	42,437	11,478	8,147	9,971	23,552	15,804	19,590	21,189	14,731	166,899	18,545
Grand total	516,280	316,382	417,994	415,316	512,409	338,389	433,898	485,257	379,087	3,832,616	422,092

There was a difference between the budget and the expenditure, but there was no overspending from the allocated budget. HPD did not overspend in any of the input categories but it did underspend in some such as in training, supervision, and set up (see table 3).

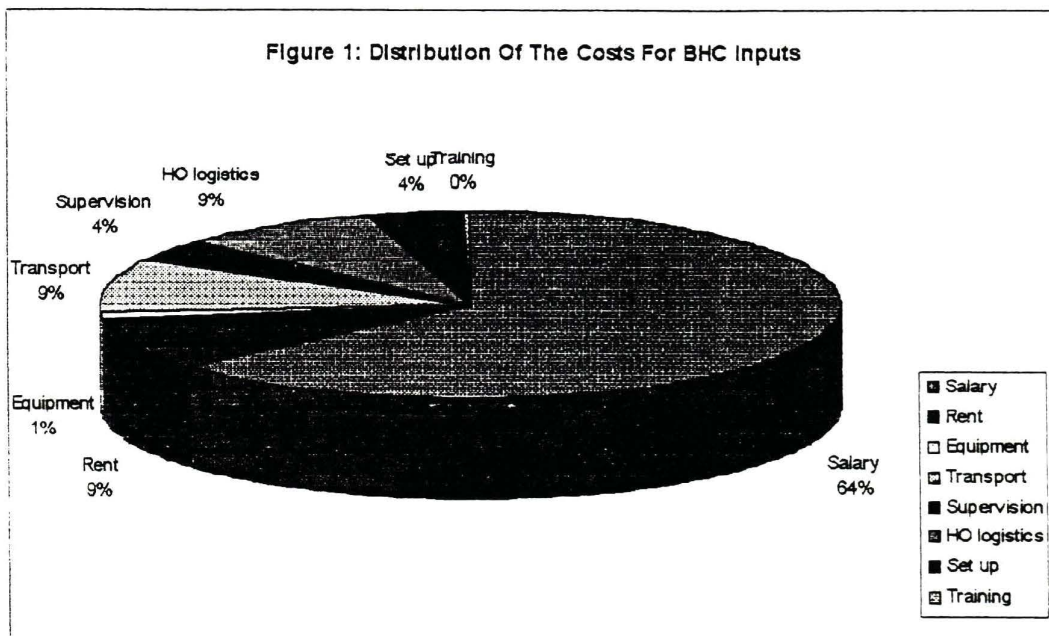
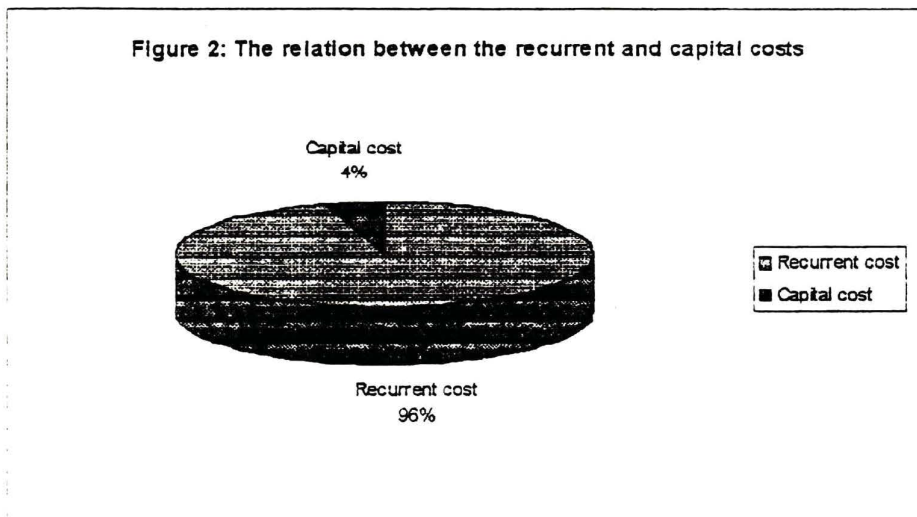


Table 3 shows the various costs and budget for operating a BHC per year.

Item	Financial cost	Economic cost	When indicators same as HPD's	Budget
Recurrent cost				
Personnel	268,289	268,273	181,208	300,000
Rent-utility-stationary	39,489	39,489	39,489	69,600
Equipment, furniture	4,680	4,680	--	6,000
Transport	37,045	38,651	--	55,800
Supervision/Regional quality control	15,768	15,768	--	33,943
HO logistics	36,527	36,686	36,686	33,600
subtotal	401,798	403,547	257,383	498,943
Capital cost				
Set up	14,683	17,250	17,250	150,000
Training	1,105	1,295	--	27,600
subtotal	15,788	18,545	17,250	177,600
Total	417,586	422,092	274,633	676,543



Cost Recovery

This study determined how much cost recovery was taking place at the BHCs, in terms of the various service charges realized. Average income per BHC was Tk. 89,631 per year (see table 4).

Table 4: Income of BHC in terms of service charges. (all amounts in Taka)

Income	BHC 1	BHC 2	BHC 3	BHC 4	BHC 5	BHC 6	BHC 7	BHC 8	BHC 9	Total	Average
Service charge	60,840	31,770	60,526	40,940	58,699	38,256	64,259	25,473	27,500	408,263	45,363
Pathology fee	27,645	7,331	9,173	0	7,990	1,216	5,012	2,294	0	60,661	8,666
Medicine sale	56,096	45,369	51,933	28,825	35,014	33,306	41,046	12,686	16,145	320,420	35,602
Total	144,581	84,470	121,632	69,765	101,703	72,778	110,317	40,453	43,645	789,344	89,631

Net profit from pathology fee and medicine sale should be calculated very carefully since both these categories have associated expenses along with income. Further study should explore in-depth into the income and expenses associated with the revenues.

The recurrent cost recovery was 22% and total cost recovery was 21%. Expenditure was greatest for salary (66% of recurrent cost), followed by rent and utilities, and transport (10% each of recurrent cost). If we considered HPD-Account's inputs for costs then recurrent cost recovery stands at 35% and total cost recovery stands at 33% (see tables 3 and 5). The greatest expense input should be further studied to see efficiency. Marginal differences were observed amongst the three regions (see table 4; BHC 1-4 = Mymensingh, BHC 5-8 = Bogra/Dinajpur, BHC 9 = EHC), and hence were not mentioned separately. While cost recovery was not 25% as predicted in the RHDC proposal, but it was close at 22%.

Item	E. cost as % of recurrent cost	E. cost as % of total cost	E. cost as % of budget	Expenditure as % of income	Income as % of recurrent cost	Income as % of HPDs indicator cost
Recurrent cost						
Personnel	66%	64%	89%	299%	33%	49%
Rent-utility-stationary	10%	9%	57%	44%	227%	227%
Equip-furn maint	1%	1%	78%	5%	1915%	--
Transport	10%	9%	69%	43%	232%	--
Supervision/Regional quality control	4%	4%	46%	18%	568%	--
HO logistics	9%	9%	109%	41%	244%	244%
subtotal	100%	96%	81%	450%	22%	35%
Capital cost						
Set up	4%	4%	12%	19%	520%	520%
Training	0%	0%	5%	1%	6921%	--
subtotal	5%	4%	10%	21%	483%	520%
Total	105%	100%	62%	471%	21%	33%

E. = economic

Figure 4: Relation total income to total recurrent expenditure

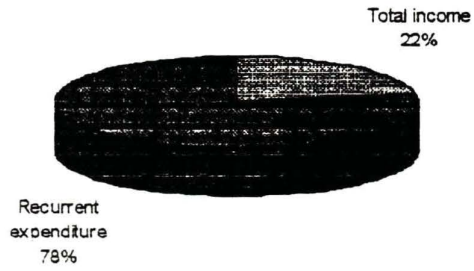
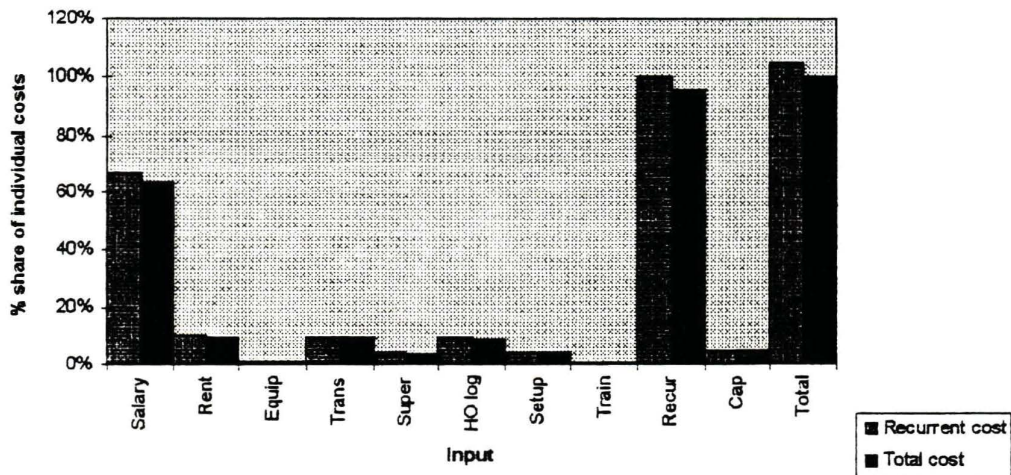


Figure 8: % share of individual costs to recurrent and total costs



Cost Sharing

The third specific objective of this study was to determine how much cost sharing occurred between HPD and the community/other sources for operating the BHCs. The data for this section will be collected during Phase II starting January 1998.

Effects

The fourth specific objective of this study was to determine the effects of various BHC interventions. The effects cited here are secondary effects taken from the monthly progress reports and disease profiles available at the BHCs (see table 6). This study used selected indicators of BHC effectiveness. Most of the effect indicators used in this study are output indicators since BHC collects service indicators. Some information through community based surveys will be collected depending on available resources (money, manpower, time). Also BHCs have been established for 1-2 years only, a very short time to have major impacts on health status or health behaviour.

	BHC 1	BHC 2	BHC 3	BHC 4	BHC 5	BHC 6	BHC 7	BHC 8	BHC 9	Total	Average
Total patient visit	6,519	3,479	4,169	3,691	4,619	3,822	7,025	3,175	2,659	39,158	4,351
VO	5,352	2,505	2,063	2,829	2,673	3,094	5,275	2,825	2,351	28,967	3,219
General disease	5,689	3,243	3,671	3,294	4,046	3,439	6,116	2,392	4,714	36,604	4,067
MCH	390	114	17	9	452	3	272	149	176	1584	176
ANC	192	56	12	6	399	3	58	118	142	986	110
PNC	37	0	1	0	5	0	0	2	3	48	5
GM	19	0	4	0	0	0	1	1	1	26	3
FP	64	58	0	3	22	0	214	28	30	419	47
MR	39	0	0	0	0	0	0	0	0	39	4
Delivery	39	0	0	0	26	0	0	0	0	65	7
Surgery	8	10	0	1	3	0	0	0	4	26	3
Pathology	1,451	597	472	0	621	122	308	270	301	4,142	460
Referral	0	0	44	0	2	0	0	0	0	46	5

Gynaecological conditions	
UTI	1,399
Leucorrhoea	2,013
Menopausal syndrome	155
Uterus prolapse	154
Dysmenorrhoea	174
Infertility	148
Total	4,043
Average	449
General disease	4,067
Ratio of the gynaecological conditions to general disease	11%

On exploring the monthly disease profile for BHC it was seen that 17 indicators (23%) out of the total 74 indicators covered women's gynaecological health problems. Out of these 17 indicators (UTI, lower abdominal pain/PID, vaginal discharge, urethral discharge, genital ulcer, inguinal bubo, uterine prolapse, leukorrhoea, dysmenorrhoea, menopausal syndrome, vaginal tear, vaginal fistula, cervical erosion, infertility, fibroadenoma of breast/lipoma, fibroid uterus, dysfunctional uterine bleeding/menorrhagia) data was collected on 6 indicators from the selected BHCs. On average they constituted 11% of the total general diseases identified and/or treated at the BHCs (see table 7). These conditions related to women's health would not have been possible to be addressed without a health facility, and only with RHDC's community oriented health programme or activities.

Table 8: Profile of individual BHCs .

Input	BHC 1	BHC 2	BHC 3	BHC 4	BHC 5	BHC 6	BHC 7	BHC 8	BHC 9	Total	Average
Total expense	516,280	316,382	417,994	415,316	512,409	338,389	433,898	485,257	379,087	3,832,616	422,092
Recurrent expense	473,843	304,904	409,847	405,345	488,857	322,585	414,308	464,068	364,356	3,665,717	403,547
Total income	144,581	84,470	121,632	69,765	101,703	72,778	110,317	40,453	43,645	789,344	89,631
Recurrent cost recovery	31%	28%	30%	17%	21%	23%	27%	9%	12%	22%	22%
Total cost recovery	28%	27%	29%	17%	20%	22%	25%	8%	12%	21%	21%
Total # patient	6,519	3,479	4,169	3,691	4,619	3,822	7,025	3,175	2,659	39,158	4,351
Total # VO	5,352	2,505	2,063	2,829	2,673	3,094	5,275	2,825	2,351	28,967	3,219
Total # non-VO	1,167	974	1,863	862	1,946	728	1,641	340	724	10,245	1,132

Cost Effectiveness

The fifth specific objective of this study was to determine the cost-effectiveness of various BHC interventions. This cost-effectiveness exercise is based on the secondary effects mentioned earlier. Data for burden of disease will be attempted to be collected during Phase II data collection. The unit cost per patient visit to the BHCs was Tk. 93, and it was higher for non-VO members (Tk. 356) than VO members (Tk. 125) (see table 9).

Table 9: Cost -effectiveness of the BHC interventions

Effects of BHC interventions	Average	% of specific effects to total interventions	Unit cost of effects = Recurrent cost/effects	Unit cost of effects = total cost/effects	Unit income of effects = Total income/effects
Patient visit	4,351		Tk. 93	Tk. 97	Tk. 21
VO	3,219		Tk. 94	Tk. 98	Tk. 21
Non VO	1,132		Tk. 89	Tk. 93	Tk. 20
Interventions					
<i>General disease</i>	4,067	86%	Tk. 85	Tk. 89	Tk. 19
<i>MCH</i>	176	4%	Tk. 92	Tk. 96	Tk. 20
ANC	110	2%	Tk. 73	Tk. 77	Tk. 16
PNC	5	0%	Tk. 97	Tk. 101	Tk. 22
GM	3	0%	Tk. 81	Tk. 84	Tk. 18
FP	47	1%	Tk. 78	Tk. 81	Tk. 17
MR	4	0%	Tk. 81	Tk. 84	Tk. 18
Delivery	7	0%	Tk. 81	Tk. 84	Tk. 18
<i>Surgery</i>	3	0%	Tk. 81	Tk. 84	Tk. 18
<i>Pathology</i>	460	10%	Tk. 88	Tk. 92	Tk. 19
<i>Referral</i>	5	0%	Tk. 97	Tk. 101	Tk. 22
Total	4,706	100%	Tk. 86	Tk. 90	Tk. 19

Table 10 shows how some interventions are cheaper to provide through BHCs compared to community oriented approaches of HPD.

Type of effect	RHDC		WHDP ⁵	RDP-PHC ⁶
	BHC	RHDC		
General disease	Tk. 89	--	--	Tk. 5 (cost per treatment by VHW)
ANC	Tk. 77	--	Tk. 216	--
GM	Tk. 84	--	Tk. 383	--
FP	Tk. 81	--	Tk. 72*	Tk. 36*
Delivery	Tk. 84	--	--	Tk. 127

* In addition to government spending

Financial Sustainability

The final objective of this study was to determine the financial sustainability of BHCs. At this point in time the BHCs are 22% sustainable, and we need to consider where changes are required that can make the BHCs more sustainable financially. To get an increased net profit from pathology tests and medicine sale more investments have to be made by RHDC. So we emphasized on projecting patient visits and associated service charges only, as service charge is a net profit and there need not be any extra investments of personnel or other inputs.

	22% (current recovery)	50% (2.2 times)	75% (3.4 times)	100% (4.5 times)
Recurrent cost	Tk. 403,547			
Total income	Tk. 89,631	Tk. 197,188	Tk. 304,745	Tk. 403,340
Patient per year (VO:nVO=3:1)	4,351	9,572	14,793	19,580
Patient per month	363	798	1,233	1,632
Patient per day	15	33	51	68

It is projected in Table 11 that if the current number of patients visiting the BHCs is increased 4.5 times then BHCs can achieve 100% cost recovery of its recurrent costs, assuming every other input remained constant and without considering for 5% inflation rate per year. The number 68 may seem high but we have to remember that there are three BHC staff (MO, POP, FWV) available to diagnose and treat these incoming patients. Varying levels of service charge was not projected because it seems likely that if patient numbers can be increased than that alone will ensure more cost recovery and financial sustainability of the BHCs. The effects of more cost sharing can only be projected once the second phase data from the community is collected and analyzed. We should also reconsider what strategies would be best for BHC, whether a centre based, subcentre based, or centre and community based with mobilization and education.

DISCUSSION

The role of the POP-female and FWV indicates that both personnel were not 'absolutely' necessary for the functioning of the BHCs. Even if there were 30 deliveries taking place at the BHCs per month that would still be 1 delivery per day. If FWVs are trained on the work of POP-female then they can do both deliveries and assist the MO in patient treatment, diagnosis and counselling. Vice versa, if POP-female is given FWV-delivery training then they can deliver and assist in patient examination, treatment, counselling and delivery. BHCs may use either 1 POP-female or 1 FWV. If there is one then this reduces the personnel cost and increases cost recovery. An 18% reduction in personnel costs would reduce recurrent costs by 9%, and increase cost recovery to 23%. Also the current strategy of having FWVs doing only deliveries indicate that there is a large portion of their time which is not being utilized properly, yet this non-use of FWV time is costing HPD. Thus, by altering staff arrangement staff utilization can be ensured. But we should also remember that the inputs that seem to have the most potential for cost reduction may not necessarily be those that should be cut, for example transport which is an essential tool for mobilization forming an integral part to the success of the BHCs.

The factors affecting the BHC total and average costs were prices paid for inputs, staffing ratios, staff productivity, intensity of use of a facility (volume of care in relation to capacity), economies of scale (cost savings from a larger capacity of the facility), and economies of scope (cost savings from a greater diversity of services). These will become clear once the second phase data collection and analysis is completed. If input prices can be controlled without reduction in quality, the efficiency of service delivery will be greater, and this is another option that HPD should be aware of. User fee is a source of financing, and if aim is to recover more than minor recurrent costs then user fees may need to be reset, but then consideration of change in demand for services or increase the number of users of the BHCs have to be taken under serious consideration. But from the cost recovery that is currently taking place it seems likely that if the number of patients can be increased then that alone can ensure a significant cost recovery.

BRAC recognizes that its poverty focus reduces prospects for cost-recovery from services provided, and reduces prospects for its long term sustainability. Prospects for financial sustainability are driven by the poverty of the communities in which they are working, as in the case of VO members and non-

VO members. The RHDC project strategy is to progress towards partial sustainability through a) community based approach using volunteers, b) introducing user fees from poor and non-poor users of BHC services, c) supplying technical assistance to RDP and GoB at cost, d) streamlining overhead costs with RDP in the RDP areas.¹ This study explored two strategies (a and b).

Considering the current state of cost recovery HPD has several options. They can modify the current programme, or find additional sources of funds, or reject the programme and turn to other strategies. The second would seem the choice of strategy and would involve recovering programme costs in the form of increasing the various service charges by simply increasing the number of patient visits. Collecting and spending fees were minimal for the BHCs, which is quite different from the usual government one. To achieve greater efficiency, it is necessary to investigate how total and unit costs differ among facilities at a given time, and how they vary for the same facility over time. To find this a larger cross sectional study over a period of years will need to be undertaken.

The data on BHC programme costs provided useful information on the cost of services and inputs provided at the BHCs. The data indicated the amount of funds likely to be required to continue the BHCs. The data helped assess the use of personnel in delivering health care at the union level from a static health centre, i.e. the BHCs. These results apply to the selected 9 BHCs, and to all the other 27 BHCs, since all BHCs function with more or less similar inputs. But direct comparisons can be made only amongst the 9 BHCs selected for this study. Some additional information was also revealed regarding personnel wastage of time in delivering specific services for example, the case of keeping either the FWV or the POPF.

According to a previous study the then WHDP programme's recurrent costs were 88%-99% of total costs, but there was no or minimal cost recovery from the services provided. This study also showed that recurrent costs accounted for 96% of total costs but there was associated cost recovery of 22%. In the previous assessment personnel accounted for the greatest share of total costs ranging from 64%-91%.⁵ This study found personnel taking up 64% of total BHC costs.

It is well known that the present economic climate has produced a scarcity in resources for health sectors in many countries and Bangladesh is no exception; and cost analysis can help to make the best use of limited resources available. As employees of BRAC, we are accountable to our employer,

and in turn BRAC is accountable to the public (that is the BRAC beneficiaries and the community) for BHC's expenditure of the resources by the BHC employees. *"To meet the obligations of accountability, we need to know how we have spent the available finances and ensure that the money we control has been spent as intended. None should just assume that budgeted funds have been spent exactly and properly."*⁸ It is desirable that budget and expenditure be closely linked. If we have found that expenditure of a particular item is too slow, or that the budget allowance is being consumed too rapidly, we may be able to suggest ways to take appropriate action early to avoid a major mismatch between budget and expenditure. But this study revealed that there was no major mismatch between budget and expenditure.

While doing a sustainability study it is quite easy to sideline a very important issue, that is the issue of the paying capacity of the patients, and the issue of equity. Equity should be considered in terms of patients' ability to pay for care, and not willingness. This costing exercise tried to reflect the difference of the cost recovery from VO (75% of all patient visits) and non-VOs (25% of all patient visits). Equity was tried to be shown by the difference in the numbers of the VOs and NonVOs attending the BHCs. We can make preliminary judgements as to who was benefitting from the BHC services which in turn gave a picture regarding equity of the health centre scheme, in terms of the number of VO and non-VO members attending the BHCs.

It was also helpful to calculate average (unit) costs for example, cost per patient visit to a BHC was Tk. 93. Knowing what we are spending on our existing programme is very important for judging future costs. Expenditure is not a self contained item; what we spend this year will affect what we will need to spend next year. By studying past relationships between the cost of capital items and their associated recurrent costs in terms of operating and maintenance expenses, HPD will be in a better position to estimate the future financial requirements of its BHC programme. That is why we costed the current programme and tried to predict what needed to be done to have a 100% recovery in monetary terms.

CONCLUSION

In addition to looking at cost recovery this cost study was also done to better predict what the future budgetary demands are likely to be. What would happen if the current sources of donated goods or voluntary labour dried up? Another reason for measuring the cost of donated resources is that this can

provide a useful indicator of the capacity of NGO-community resources to generate contributions from the community or other sources, which will become clearer once the second phase data is analyzed. According to Creese *"The most important reason for calculating costs, is to measure the relative efficiency of different ways of implementing a programme. This involves assessing what has to be sacrificed in order to achieve a specified goal. Economic costs can be used in the same way as financial costs. Calculating annualized economic costs encourages us to think about: cost per unit of service as an indicator of efficiency; cost per beneficiary, per head as a measure of equity; and cost per head as a measure of priority."*³ The data and applications discussed here are of interest to high level officials but, planning below at area office level is also important so that BHC personnel is more aware which in turn might make them careful in their spending of BHC resources.

The findings of this study will help in internal quality improvement; quality measuring tools for monitoring of the programme in keeping with the current budget. The immediate need of BHCs would be recovering their recurrent costs. As hoped in the RHDC proposal, HPD has been able to develop a somewhat financially sustainable and replicable model for secondary health care provision. Literature review revealed that public health care facilities usually recover 3-11% of recurrent costs, but HPD is recovering 22%, and this has good potential for further improvement. We should also remember that this 22% cost recovery is taking place from minimal service charges (service charges range from Tk. 10-200). This is of great value not only to BRAC but also to other Non Government Organizations (NGOs) and the health system as a whole for Bangladesh.

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BANGLA SUMMARY

indicators বিবেচনা করা হয় তবে চলমান/নির্বাহী খরচের ৩৫% উসূল হয় এবং মোট খরচের ৩৩% উসূল হয়) । প্রতি রোগীর পিছনে ব্যয় হয়েছে ৯৩ টাকা ।

গত **ব্যাক হেলথ সেন্টার (সংস্থান) : এর আর্থিক সংস্থান** শতকরা ১১ ভাগ জীরোগের চিকিৎসা হয়েছে । কিছু কিছু সেবা যেমন, প্রসব পূর্ব পরিচর্যা, শ্রোথ মনিটরিং বজায় রাখার ব্যাপার খরচের প্রভাব সমূহ স্বাস্থ্যকেন্দ্র করতে খরচ কম পড়েছে WHDP ও RDP-PHC এর তুলনায় ।

সুহেলা **বর্তমান খরচের উসূলের প্রতিশত স্বাস্থ্যকেন্দ্রের আর্থিক সংস্থান** বজায় রাখতে পারছে । স্বাস্থ্য কেন্দ্র বর্তমানে যত রোগী আসে সেটা যদি ৪.৫ গুণ বাড়ানো যায় তাহলে স্বাস্থ্য কেন্দ্রের নির্বাহী খরচ উসূল হবে ১০০% । এই গবেষণার ব্যাকের পরিস্থিতিতে স্থানীয় যিনি, **উর্গমূল-অর্থায়নের কর্মসূচির প্রাথমিক পর্যায়ে** (পৌছানোর ক্ষেত্রে উর্গমূল-অর্থায়নের সুশাসিত কর্মসূচি) **প্রাথমিকভাবে আর্থিক সংস্থান বজায় রাখতে পারছে (২৪%)** এবং দীর্ঘমেয়াদি স্বাস্থ্য সেবার **স্ক্রিপ্ট একসিট পুনরাবৃত্তি মূলক (recurring) মডেল** দেখে পক্ষে প্রয়োগ করা মাধ্যমে **স্বাস্থ্য সেবার আর্থিক সংস্থান বজায় রাখার ব্যাপারের উপর বেশ গুরুত্ব দেয়া** হয়েছে । এই দিকটি যাচাই করার জন্য এ গবেষণাটি করা হয় ।

গবেষণাটি করা হয় উদ্দেশ্যমূলকভাবে নির্বাচিত HPD র তিন রিজিওনের (ময়মনসিংহ, বগুড়া ও দিনাজপুর) নয়টি স্বাস্থ্য কেন্দ্রে । স্বাস্থ্য কেন্দ্রের আর্থিক সংস্থান যাচাই করার জন্য কয়েকটি বিষয় বিবেচনা করা হয় এবং সেগুলো হচ্ছে খরচ, আয় ও প্রভাব । ১৯৯৭ সালের অক্টোবর মাসে এ গবেষণার তথ্য কর্মসূচীর রেকর্ড/রেজিস্টার, সাক্ষাৎকার এবং পর্যবেক্ষণের মাধ্যমে সংগ্রহ করা হয় ।

গবেষণার ফলাফলে দেখা গেছে একটি স্বাস্থ্য কেন্দ্র চালাতে বছরে খরচ হয়েছে ৪,২২,০৯২ টাকা, এবং এর মধ্যে নির্বাহী (recurrent cost) খরচ ৪,০৩,৫৪৭ টাকা এবং মূলধন খরচ (capital cost) ১৮,৫৪৫ টাকা । প্রতিটি স্বাস্থ্য কেন্দ্রের বাৎসরিক আয় ৮৯,৬৩১ টাকা । এই আয় থেকে নির্বাহী (recurrent cost) খরচের ২২% উসূল হয় (recovery) এবং মোট খরচের (total cost) ২১% উসূল হয় (শুধু যদি HPD ব্যবহার

* Summary of the RED research report titled "financing the BRAC Health Centres: their financial sustainability and cost-effectiveness" by Suhaila H Khan et al. 1997 December. 31p. (Summarized in Bangla by Suhaila H Khan)