



The End of Magical Thinking: Sustainability Evaluation Three Years after the End of the Saidpur and Parbatipur Urban Health Project.



Final Report

June 2008

Eric Sarriot⁺, Shamim Jahan⁺⁺, Michelle Kouletio⁺⁺⁺, Matin Sardar⁺⁺, Kazi Liaquat Ali⁺⁺, Subir Saha⁺⁺, Izaz Rasul⁺⁺

+ *Macro International*
++ *Concern Worldwide Bangladesh*
+++ *Concern Worldwide U.S.*

ACKNOWLEDGEMENTS

The authors would like to acknowledge and thank the Municipal Health Departments of Saidpur and Parbatipur and their Chairmen, as well as the residents who serve on the Ward Health Committees and the Community Health Volunteers and Birth Attendants who have generously contributed not only to this study but to improving the health of vulnerable populations of Bangladesh.

Concern CSP and MHPP team members dedicate themselves with intelligence and energy to achieving great and sustainable results in a true spirit of partnership; their support to this evaluation has been crucial.

The Child Survival and Health Grants Program of the US Agency for International Development has through the years been a place of learning and pursuit of excellence, allowing such programs to be given birth and to make their mark.

Moire O’Sullivan, Programme Advisor, PDED, Concern Dublin, provided very valuable assistance to this evaluation, as well as a complementary report (“The Child Survival Sustainability Assessment. Assessing its relevance for Concern.”), which provides very valuable insights into the methodology in and out of the health sector in its own right.

Finally, Macro’s Child Survival Technical Support project actively supported the 2003 exercised and the authors are grateful for its indirect support for the completion of the post-project study.

This project has been funded in part by the US Agency for International Development cooperative agreement FAO-A-00-00-00039-00.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	2
TABLE OF CONTENTS.....	3
ABSTRACT.....	4
INTRODUCTION	5
BACKGROUND	5
Urban Health in Bangladesh.....	5
Concern’s Progressive Involvement in, and Approach to Urban Health in Northern Bangladesh	6
METHODOLOGY	7
Defining the system and the evaluation model.....	7
Measurement and Data Collection.....	7
Evolution of Concern Inputs in Saidpur and Parbatipur municipalities.....	9
Post-project sustainability assessment.....	10
Process.....	10
Organizing complex information.....	11
FINDINGS.....	11
Evolution of Concern Inputs in Saidpur and Parbatipur municipalities.....	11
How did the system perform overall?.....	12
Evolution of Health Outcomes in the two municipalities.....	14
Municipal Capacity.....	18
Viability of the municipalities in their health sector functions.....	19
Capacity of WHCs (Community Capacity Component).....	20
Evolution of Activities and Services Delivered.....	21
Assessing the Environment.....	22
DISCUSSION.....	22
Demonstrated strengths of the Saidpur and Parbatipur urban health model.....	22
Remaining weaknesses of the urban health model.....	24
Understanding signals from the sustainability assessment; then (2004) and now (2007).....	25
Improving the assessment model (Sustainability Framework).....	26
CONCLUSION.....	27
REFERENCES	28

ABSTRACT

Objectives: The objectives of this study were to (1) evaluate the sustainability of an urban maternal and child health model three years after the end of a Child Survival Project implementation in two Municipalities of Northwestern Bangladesh; and (2) to assess the value of the original sustainability assessment method.

Methods: The Sustainability Assessment Framework was first used in 2003 by Concern Worldwide (Concern) and partners to evaluate progress of its urban community-based maternal and child health project. Three years post-project, we used the same evaluation model, combining quantitative and qualitative measures, to evaluate the sustainability of health outcomes and review changes in the two municipalities.

Results: From 2004 to 2007, in spite of a 98% reduction of external inputs, the municipalities were able to maintain basic operations, and observed a 3% only average decline in an index value of maternal and child health outcomes, based on 16 practice and coverage indicators. The study confirmed the potential value of an urban health model resting on the Municipality Health Departments and Ward Health Committees, and identified areas requiring attention for successful scaling up.

Conclusion: The study of sustainability in health and development suffers from neglect by traditional evaluation models and a dearth of post-project assessments. We offer that tools such as the Sustainability Framework can serve a useful purpose in providing signals for decision-making, moving sustainability planning away from guess work and toward an evidence-based exercise.

INTRODUCTION

Interest in sustainability in international health periodically rises and drops. Studies conducted are more often in the field of research, for example seeking to identify factors favoring sustainability of Health and Family Planning programs,(1-5) than in that of practical program evaluation, providing guidance at the implementation level.(6;7)

Post-project studies examining what has been sustained after external assistance projects end are often discussed in the corridors of development conferences, but almost never implemented.

A common constraint of the rare post-project studies implemented (8-10), and of the many more wished for but not implemented, is the absence of longitudinal data on which to inform the retrospective analysis.

Our own research led to an evaluation approach based on the consideration of determinants of sustainability arranged according to contextually defined dimensions.(11) This Sustainability Framework focuses on sustaining health outcomes and addresses determinants that are relevant to the full local system of actors rather than simply ‘the project.’ Implicit in this is the realization that projects are inherently not designed to have direct influence on all determinants of long-term benefits. Operationalization of the model has varied depending on context, purpose and experience.(12-14) It had not been used for a post-project evaluation until now.

We first reported in 2004 (15) how Concern Worldwide (Concern) adapted the Sustainability Framework to evaluate progress of its urban health project in Northwestern Bangladesh and to plan its phasing out strategy with two municipality-partners. We returned to the two municipalities in November 2007, measured the sustainability of health outcomes, assessed how municipal health systems had maintained their capacity and performance in order to maintain those outcomes, and examined how our initial sustainability assessment model had performed. As Concern is working with neighboring municipalities to scale up the model, lessons learned also have a chance for immediate and practical applicability for Bangladeshi partners.

This study is possibly the first application of an evaluation model designed during implementation to provide prospective data as the basis of evidence for a three years post-project sustainability assessment.

BACKGROUND

Urban Health in Bangladesh

Bangladesh is a low income country with poor health indicators. Its under-five mortality has decreased initially rapidly in the 1990’s, then more slowly since 2001, and is reported by the UN 2007 Development Report at 73/1,000 live births in 2005.(16)

The fastest growing sector of its population lives in urban areas and for a third of those in urban slums. Urban population is expected to grow from 23% in 2001 to 33% of the total population of Bangladesh by 2010. This population is largely vulnerable, faced by poverty, malnutrition, and poor health care services.(17)

Municipalities are legally tasked with ensuring the delivery of Primary Health Care (PHC) services to the population, but have developed little capacity to do so. In 1995 the Ministry of Local Government, Rural Development and Cooperatives (MOLGRDC) issued a circular¹ for the effective implementation of EPI along with primary health care services and family Planning services within municipalities through a coordinated mechanism by involving Ministry of Health & Family Welfare, NGOs, and Private services providers. The circular formed committees at three different levels to ensure effective health service delivery:

1. Inter ministerial committee;
2. Central committee at City Corporation/Municipal level; and
3. Ward Health Committees at community level.

Due to limited resources and manpower, public-sector health services have however not been able to meet the existing needs. Private health care providers are the main source of curative care, including tertiary and specialized services to the urban populations, but have limited or no interest in providing preventative and health promotion services.²

Concern's Progressive Involvement in, and Approach to Urban Health in Northern Bangladesh

Concern has been involved in Bangladesh since 1972 and active in urban health issues since 1998. Starting in 1998, it implemented a USAID-funded Child Survival Project (CSP) in the municipalities of Saidpur (Nilphamari District) and Parbatipur (Dinajpur District), with a direct beneficiary population of 74,000 women of reproductive health and children under age five³. Concern selected a capacity building approach based on partnership with the two Municipal Health Departments (MHD), emphasizing ongoing evaluation and ultimately adopting a sustainability assessment framework to guide its programming.(18) The CSP ended in 2004.(19)

In 2005, Concern obtained funding for a Municipal Health Partnership Program (MHPP), scaling its intervention in seven neighboring municipalities. The original municipalities became Learning Centers (LCs) and only received very limited inputs from Concern during that phase (an analysis of the level of inputs in the post-project period is presented in the findings). This

¹ Memo- MOLGRDC - Municipal-2/General-7/90/1392(350) Date: 28/11/95.

² See: Health, Nutrition, Population Sector Programme (HNPSP)-Revised Programme Implementation Plan (R-PIP) May 2005, MOH&FW, Government of Bangladesh.

³ Source: <http://www.childsurvival.com/projects/statistics.cfm>

study was conducted following the mid-term assessment of MHPP (20) to inform the scaling of Concern urban health plans, based on the sustainability of the initial phase.

METHODOLOGY

Our methodology involved three specific stages:

- (1) Definition of the evaluation model, its major components, and of its tools. This essentially took place during an early design phase in 2003.
- (2) Measurement and data collection, which took place through ongoing project monitoring and evaluation (M&E) until 2004, and then explicitly in Saidpur and Parbatipur in parallel to M&E efforts in the seven MHPP municipalities.
- (3) The three year post intervention assessment itself in November 2007.

Defining the system and the evaluation model

In February 2003, Concern and its partners used the approach suggested by the Sustainability Assessment Framework and defined the system of local actors expected to carry out the task of health promotion at the municipality level.(11) The process rested on partners visioning together a workable future and a rational distribution of roles for all parties, in order to ensure population health benefits in a sustainable manner.(15) The central constituents of this system were identified as Municipal Health Departments (MHDs) in the leadership role, Ward Health Committees (WHCs) as a expression of the communities, working through Community Health Volunteers (CHVs), and local care providers such as a local hospital and NGO clinics. (18;21) The essential components of evaluation are presented in the next section with their respective method of assessment.

Because sustainability is ultimately owned by the “local system” (rather than by a project), the evaluation approach differed from traditional project evaluation. For example, participants chose to include an anthropometric indicator in the health outcome measures, in spite of the CSP’s limited involvement in child nutrition. Our findings also discuss briefly quality of care delivered in facilities, because it affects long-term prospects, even though its improvement was not an objective of the initial project.

Measurement and Data Collection

The following measurement and data collection methods were used:

- (1) Health Outcomes were assessed through repeated small sample population based Knowledge, Practice and Coverage (KPC) health surveys.(22)

Household health surveys were carried out in July 2004 and January 2007. Sample sizes were 342 and 570 mothers of children 0-23 months in Parbatipur and Saidpur respectively in 2004 and 346 and 600 mothers for 2007. For each Municipality, a Chi-Square test (risk alpha of 0.05) was used to test the difference between the coverage estimates of the two samples.

These coverage indicators provided the hard benchmarks to assess success or failure, as they directly reflect benefits to the population. The final set of indicators used in the assessment is presented with the findings (Table 2).

- (2) Capacity of both municipalities was assessed by the Health Institution Capacity Assessment Process (HICAP).

The participatory, self-assessment HICAP was completed by the Cabinet members, Ward Commissioners and the Health Department of both municipalities in February 2004 and repeated in September 2006 in Saidpur and April 2007 in Parbatipur. Assessment workshops were led in Bangla by non-project staff of Concern in 2004 and by Municipal Cabinet members in 2007, and took three days per municipality.

The HICAP describes progress towards an “ideal capacity” as defined by the municipality leaders themselves through “possibility statements.” These statements provide norms of institutional behavior, and lead to scoring on a five-point scale, based on dialogue and consensus of participants⁴ The HICAP thus provided both quantitative scores on capacity areas and qualitative comments about municipality management and operations.

Standardized measures, such as coverage indicators, are fully comparable over time, but the measurement of soft processes (i.e., capacity) had to evolve through time as some evaluation tools simply did not exist at the onset. The evolution in the tool created challenges to the evaluation, but is however consistent with the dynamic nature of capacity assessment (23) (see Box 1).

- (3) The overlap and differences between institutional capacity and viability are addressed differently by different practitioners.(23-26) Concern chose to distinguish between areas of management (defined as *capacity* areas), which establish whether the institution is capable of performing its functions; and defined as *viability* areas, the characteristics which determine whether the organization will have the resources needed (financial or other), whether or not it has the management capacity to perform .(15) Over time, elements defining the viability of the municipalities in their role of delivery of PHC services became better codified and were included in the 2006-2007 HICAP.
- (4) While cognizant that various household, social and societal factors can affect the sustainability of health benefits, the project and partners identified the capacity of WHCs as the main measure for community capacity.

Concern developed a tool, similar in structure to the HICAP and used by the 24 Saidpur and Parbatipur WHCs in June 2004 and April-June 2007 to assess their own capacity. Reviews were conducted in Bangla and Urdu by trained facilitators from the Project staff (in 2004) and then by

⁴ Concern Worldwide. Facilitator’s Guide for Ward Health Committee Assessments. Dhaka, Bangladesh 2007 and Facilitator’s Guide for Municipality’s Health Institutional Capacity Assessments. Dhaka, Bangladesh 2007

Municipal constituents themselves (in 2007). The one day sessions included guided discussions, followed by scoring of capacity areas on a five point scale. Areas of assessment included not only the WHC internal operations, but also about efforts extended toward vulnerable community members and coordination of CHVs.

Box 1: Ownership in Capacity Assessment

The development of the municipality capacity assessment tool started at the inception of the CSP in 1999. Concern firstly introduced the assessment through an Appreciative Inquiry process, which included individual storytelling and experience sharing. Cabinet members and municipality health staff, representatives governmental and NGO health providers joined in this process. Participants sat together in a three-day long workshop (respectively 1999 and 2000 in Saidpur and Parbatipur), which uncovered nine capacity areas in Parbatipur and eleven capacity areas in Saidpur. Definition, possibility statement and baseline status of capacity areas were identified. The municipalities took this capacity baseline in consideration for the development of their annual health plans. In May 2002, the project rationalized the review of capacity areas through a two-day long workshop with the same participants. The workshop resulted in the addition of new capacity areas--Networking in Parbatipur and Monitoring & Evaluation in Saidpur, in both cases scored at the seed sowing stage (first stage of a five stage scale), while other areas generally showed one-step progress of former capacity areas in both municipalities. The midterm evaluation and development of the Sustainability Framework in August 2002, led to further review of the capacity areas, which were narrowed down to seven areas to maintain consistency and make it manageable in both municipalities. While viability of the municipality in the conduct of its PHC role was debated from the start, its assessment narrowed down on four areas after 2006. (See Table 1).

Results from each WHC assessments, HICAP, and KPC were captured in an Excel 6.0 spreadsheet providing measures on all available measures by component, dimension and municipality, along with qualitative summary findings. Capacity and viability areas assessed at both municipality and WHC levels are summarized in Table 1 and presented in greater detail as annexes of the final evaluation report.(19)

Two components of the Sustainability Assessment were left without explicit measurement method:

(5) Delivery of essential services was discussed but no specific measure was

included in the framework, perhaps due to the strong focus on health preventive and promotional activities.

(6) Concern and partners also identified environment variables, which would affect the sustainability of health gains. Although ongoing assessment did not take place, a post-hoc assessment and scoring was carried out based on the discussions and evidence reviewed during the post-project study itself (Table 3).

Evolution of Concern Inputs in Saidpur and Parbatipur municipalities

To consider how health benefits were or were not sustained within the proper context, the evaluation first examined the evolution of financial and human inputs from Concern into the two municipalities. We used a ratio of expenditures per direct beneficiary (women of reproductive

age and children under five in each municipality) as a measure of Concern’s level of effort through its different phases.

Table 1: Areas of capacity of viability examined through the HICAP and WHC Capacity Assessment Tools (2007 versions)

Capacity Areas		Viability Areas	
Municipality (HICAP)	<ul style="list-style-type: none"> - Leadership - M&E - HR Dev - Participation - Resource mobilization - Coordination - Planning & Implementation 		<ul style="list-style-type: none"> - Favorable Municipal Health Policy - Trust Among Partners - Continuation of Service - Commissioner’s Accountability
WHC	<ul style="list-style-type: none"> - Planning - Leadership (Governance) - Financial Management - Coordination - Participation - Local Resource Mobilization - Human resource development - Monitoring and Evaluation 		

Post-project sustainability assessment

Process

An evaluation team led by an external evaluator carried out the post-project sustainability assessment over a two week period in November 2007. The team included past CSP and current MHPP Concern staff; it included members of the Learning Centers Coordinating Committees, and the Municipality administrative and technical leadership. The approach emphasized participation, dialogue, and ownership by stakeholders. It was also painstaking in building its findings on the substantial evidence base constructed over time.

Using the Sustainability Framework as an organizing model to analyze the different components of the assessment, the team first established the basic facts about the situation observed three year post-project through a desk review of the studies and reports produced to date, compilation and review of project and municipalities’ monitoring data.

The second step sought to explain the observed situation and analyze it through the review of the changes, which had taken place since the end of the CSP. This involved individual and group interviews with Concern staff, municipal cabinet members, secretaries and chairmen, the Municipal Essential Service Package Coordinating Committee (MESPPCC), Health Inspectors and MHD staff, local NGO and district partners. Additional meetings took place with two WHCs in each municipality and a small purposeful sample of volunteers (CHVs) involved in National Immunization Day activities. At central level, interviews included decision-makers in the

Ministry of Health and Family Welfare (MOH&FW) and in the Ministry of Local Government and Rural Development (MOLGRD).

Organizing complex information

The multiple dimensions of analysis of the sustainability assessment generate a wide range of variables and create complexity, as each dimension is itself composed of different areas. A summary presentation can usefully take place through creation of a “sustainability dashboard.”⁵

A dashboard presentation is based on indices produced for each component by transformation of each indicator values into a score, and then aggregation of individual scores into area scores and finally a component index based on a 100-point scale⁶.(13)

It is crucial to properly understand the purpose, strengths and limitations of this tool, since creating aggregate or summary measures are reductive exercises by nature.(13;30) The purpose of the sustainability dashboard is to inform programmatic or policy decisions by: (1) summarizing complex information; (2) allowing comparisons, either between entities (i.e. two municipalities) or between time periods for the same entities; and (3) raising (rather than answering) the salient questions. Answers themselves tend to lie with more qualitative analyses.

The rationale of the model is that, given a coherently conceived system of actors working together toward defined essential good — pre-defined health outcomes for mothers and children—the local system can reach conditions, whereby a positive spiral is created, and synergistic interactions allow to overcome old and new constraints, and to achieve enduring progress. While there is no empirically defined threshold for this, we expect that at some point close to the highest band of performance (optimal conditions) on all components, such a positive spiral would be found—this is symbolized by the dashed line in Figure 2.

FINDINGS

Evolution of Concern Inputs in Saidpur and Parbatipur municipalities

Figure 1 maps out the evolution of financial inputs over time⁷. In spite of phasing-out plans for the last year of the CSP, it shows an abrupt halt of inputs at the end of the project, followed by the re-allocation of one staff to support the LC activities after 2005. This dramatic (98%)

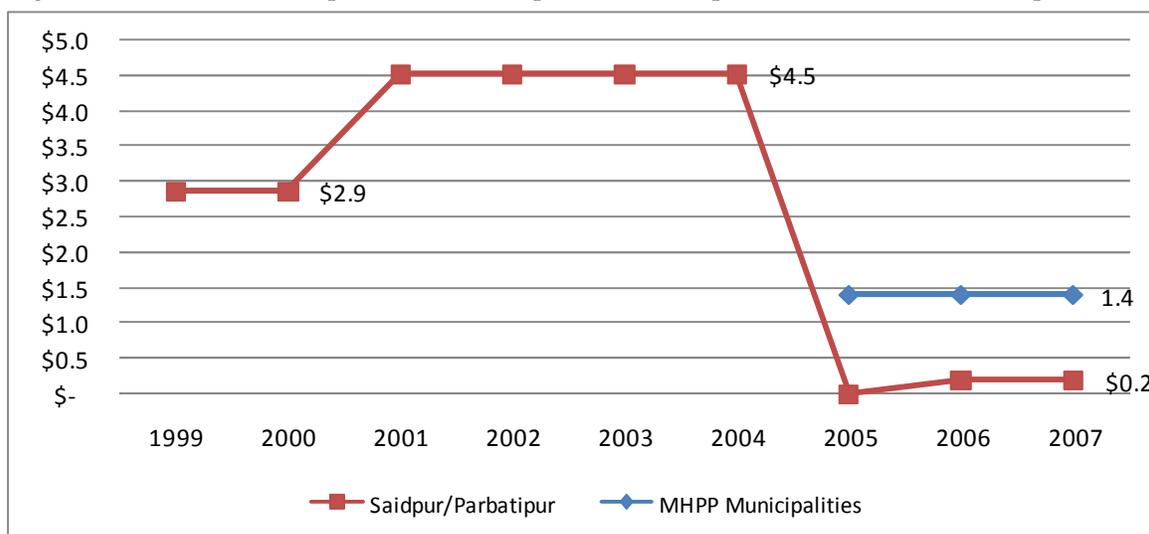
⁵ The concepts of a “dashboard” and “scorecard” are in use in the fields of education, business management, sustainable development, sustainability evaluation, and health system management. For a recent application, see our recent work in Nepal (publication pending) among others.(14;27-29)

⁶ Scores are created by transforming indicator values based on a standard transformation scale progressing from Poor (0-20 points) to Strong (80-100 points). This is described in detail elsewhere; it requires an explicit definition of how researchers assess progress (for example full immunization coverage is considered “Strong” when over 90%; whereas a “Strong” situation corresponds to less than 5% of children being underweight; for Family Planning—not used in this component index—a strong situation would be for the use of modern contraceptives from 48 to 60%.)

⁷ The MHPP data are provided as a benchmark. It is noteworthy that MHPP has realized considerable achievements by its mid-term (20).

reduction in financial inputs from the CSP to the LC phase is paralleled by a reduction in staffing efforts from 15 FTE (Full-Time Equivalents) during the CSP, down to 1.4 FTE including management support during the LC phase.

Figure 1: Financial inputs per Beneficiary per Year during the Entry Grant phase, the CSP and through LC activities in Saidpur and Parbatipur (with comparison to MHPP municipalities).⁸



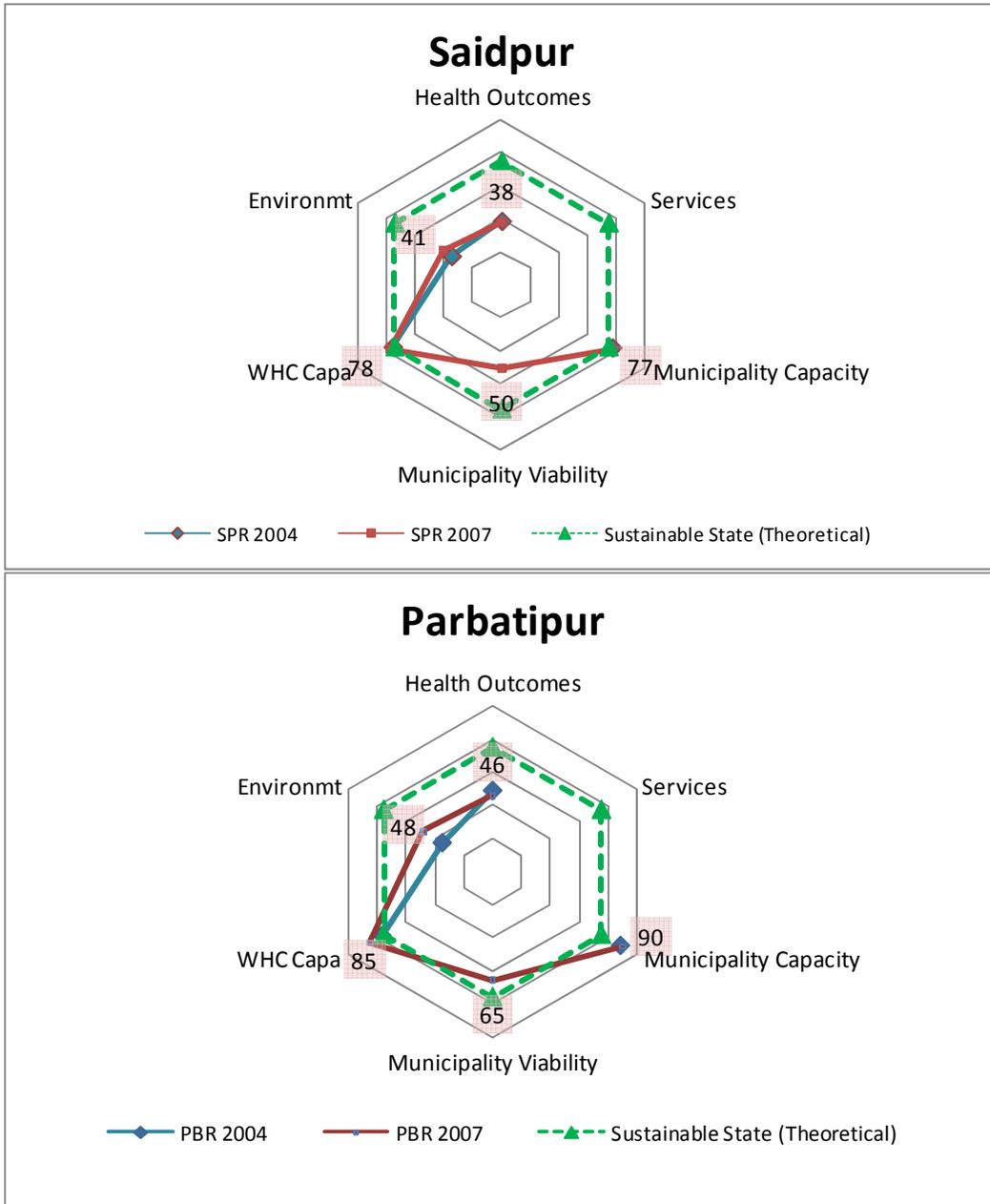
How did the system perform overall?

Figure 2 presents the 2004 and 2007 sustainability dashboards for Saidpur and Parbatipur. Three first observations can be made before examining findings component by component:

1. The first observation is how the health and capacity component indices for 2007 have largely remained comparable to their 2004 level.
2. There is a marginal reduction of the population health outcome indices from 2004 to 2007. This loss of momentum was also commented on by the MHPP mid-term evaluation (20) and is of concern for the future given the distance to be covered between the current state of the indices and our theoretical ‘sustainable state.’
3. There is finally a disconnect between the self-assessed capacity of the organizations (municipalities and WHCs) on the one hand, and, on the other hand, this lack of progress on health benefits to the population.

⁸ Source: Grant information http://www.childsurvival.com/projects/statistics_submit.cfm and LC expenditure analysis.

Figure 2: Saipur and Parbatipur Sustainability Dashboards



Evolution of Health Outcomes in the two municipalities

Figure 3 presents the evolution of outcomes in parallel to a summary of Concern’s financial inputs into the municipalities. From 1999 to 2004 significant health gains had been achieved through the life of the project in both municipalities. The project ended when, overall, health indicators were however still below the mid-point (respectively 39 and 48 points for Saidpur and Parbatipur) of a progression toward the optimal level (somewhere in the last band, between 80 and 100 points).⁹ In such a situation, basic health standards for children and women are not yet the community norm.

From 2004 to 2007, both municipalities have overall seen their gains erode—but not drop—with a loss of a couple points in the health outcome index (a 3% average reduction).

While our health outcome metric failed to continue its progress post-CSP (which would have been an incontestable demonstration of sustainability), it did not decrease as fast as the withdrawal of inputs (which would represent absolute non-sustainability).

Figure 3: Sustainability assessed as evolution of outcomes against decreased inputs: Relative levels of inputs and outcomes at CSP start, CSP end and three-year post project.¹⁰

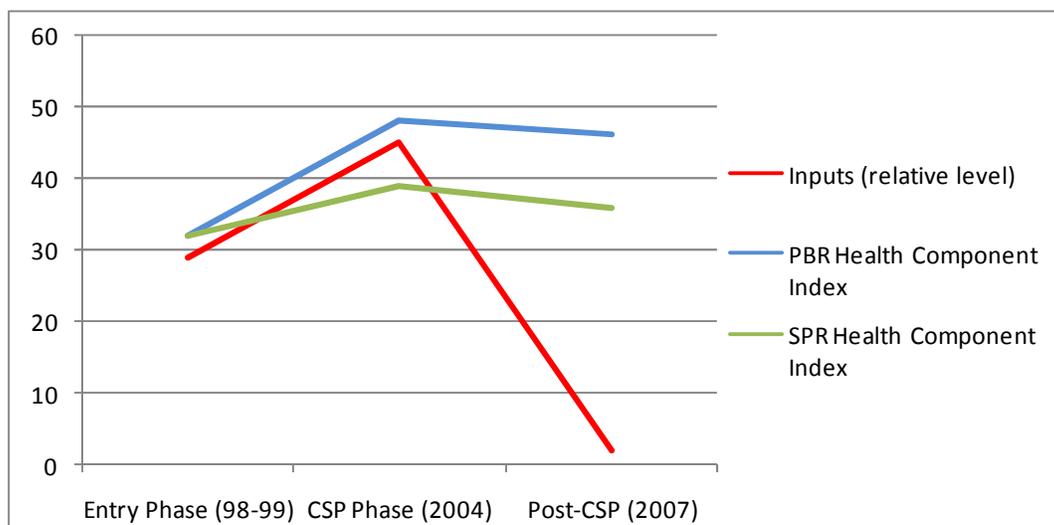


Table 2 provides in detail the evolution of 16 indicators of health outcomes (or proxies) for women and children in the two municipalities. It allows detailing the differences observed between the two municipalities and the different areas of health under assessment.

⁹ As these indices are actually based on actual coverage indicators for essential child survival interventions, the tool developed by the Child Health Epidemiology Reference Group (CHERG) for the 2003/2005 Lancet child/neonatal survival series(31) can be used to estimate the number of lives saved of children under five during the project period. Discussion of this methodology does not belong in this paper, but Concern established—based on this method—that 365 deaths of children under five were averted between 1999 and 2004.(19)

¹⁰ Input levels from Figure 1 were aggregated per period and rescaled to allow comparisons.

Table 2. Evolution of Health Outcome Component Indicators (with summary scores¹¹ for sustainability dashboard, and component index)

Component: Health Outcomes		SAIDPUR				PARBATIPUR			
Sub-component / Area	Indicator	1999	2003	2004	2007	1999	2003	2004	2007
Child Health / Child Care	ARI identification & referral to qualified provider (children under 2)		49%	33%	63%*		33%	36%	81%*
Child Health / Child Care	Complementary Feeding from 6-11 months			77%	61% ^{NS}			90%	63% ^{NS}
Child Health / Child Care	Complete Immunization 12-23 months	45%	64%	87%	87% ^{NS}	49%	79%	96%	96% ^{NS}
Child Health / Child Care	Continued Feeding +increased Fluids for Diarrhea		20%	63%	47% ^{NS}		47%	64%	14% ^{NS}
Child Health / Child Care	Exclusive Breastfeeding Until 6 months		75%	65%	69% ^{NS}		69%	86%	73% ^{NS}
Child Health / Child Care	Vitamin A Supplementation for 12-23 months	63%		76%	76% ^{NS}	50%		81%	64% ^{NS}
<i>Child Care Area Score (0-100 points)</i>				<u>53</u>	<u>53</u>			<u>64</u>	<u>54</u>
Child Health / Child Growth	Children 12-23 underweight (-2SD)			46%	51%*			45%	34%*
<i>Child Growth Area Score (0-100 points)</i>				<u>20</u>	<u>18</u>			<u>20</u>	<u>35</u>
Child Health Sub-Component Score (0-100 points)				36	35			42	44

¹¹ See Methodology section for discussion of the scores and indices.

Table 2. (Continued)

Component: Health Outcomes		SAIDPUR				PARBATIPUR			
Sub-component / Area	Indicator	1999	2003	2004	2007	1999	2003	2004	2007
MNC / ANC	ANC at least 3 visit during pregnancy		71%	63%	56.8% NS		57%	69.6%	68.4%
MNC / ANC	At least one dose TT during last pregnancy		66%	98%	89%*		67%	98%	88%*
MNC / ANC	Increased food intake during pregnancy			30%	39%*			37%	34% ^{NS}
MNC / ANC	Iron Folate Supplementation			50%	46% ^{NS}			78%	67% ^{NS}
<i>ANC Area Score (0-100 points)</i>				<u>49</u>	<u>44</u>			<u>59</u>	<u>50</u>
MNC / Perinatal Care	Bathing of Newborn after 24 hours			69%	76% ^{NS}		74%	83%	82% ^{NS}
MNC / Perinatal Care	Birth Preparedness			19%	30%*			16%	22% ^{NS}
MNC / Perinatal Care	Delivered by Skilled birth attendant ¹²			54%	59% ^{NS}			45%	51% ^{NS}
MNC / Perinatal Care	Immediate Breastfeeding		61%	47%	48% ^{NS}		71%	75%	63%*
MNC / Perinatal Care	Post-Partum Vitamin A		49%	40%	46% ^{NS}		62%	75%	39%*
<i>Perinatal Care Area Score (0-100 points)</i>				<u>35</u>	<u>40</u>			<u>50</u>	<u>43</u>
<i>Maternal and Newborn Health Sub-Component Score (0-100 points)</i>				<u>42</u>	<u>42</u>			<u>55</u>	<u>47</u>
<i>Health Component Index (0-100 points)</i>		(32) ⁺		<u>39</u>	<u>38</u>	(32) ⁺		<u>48</u>	<u>46</u>
Legend:									
*: 2004-2007 difference statistically significant (p<.05)									
NS: Difference not statistically significant. In the case of diarrhea and ARI, a reduction in the number of cases led to small samples for the 2007 survey									
+: the same indicators were not estimated in 1999. An estimate of a baseline index value is created here for the purpose of illustration (Figures 2 and 4), based on the general gains observed between the baseline and final status of health indicators of the CSP project.									
Additional – Family Planning. Not included in analysis									
FP	Use of Modern Contraceptive Methods	38%	78%	55%	53% ^{NS}		77%	65%	65% ^{NS}
FP	Birth Spacing (36 mo)		69%	61%	69%*		71%	70%	77% ^{NS}

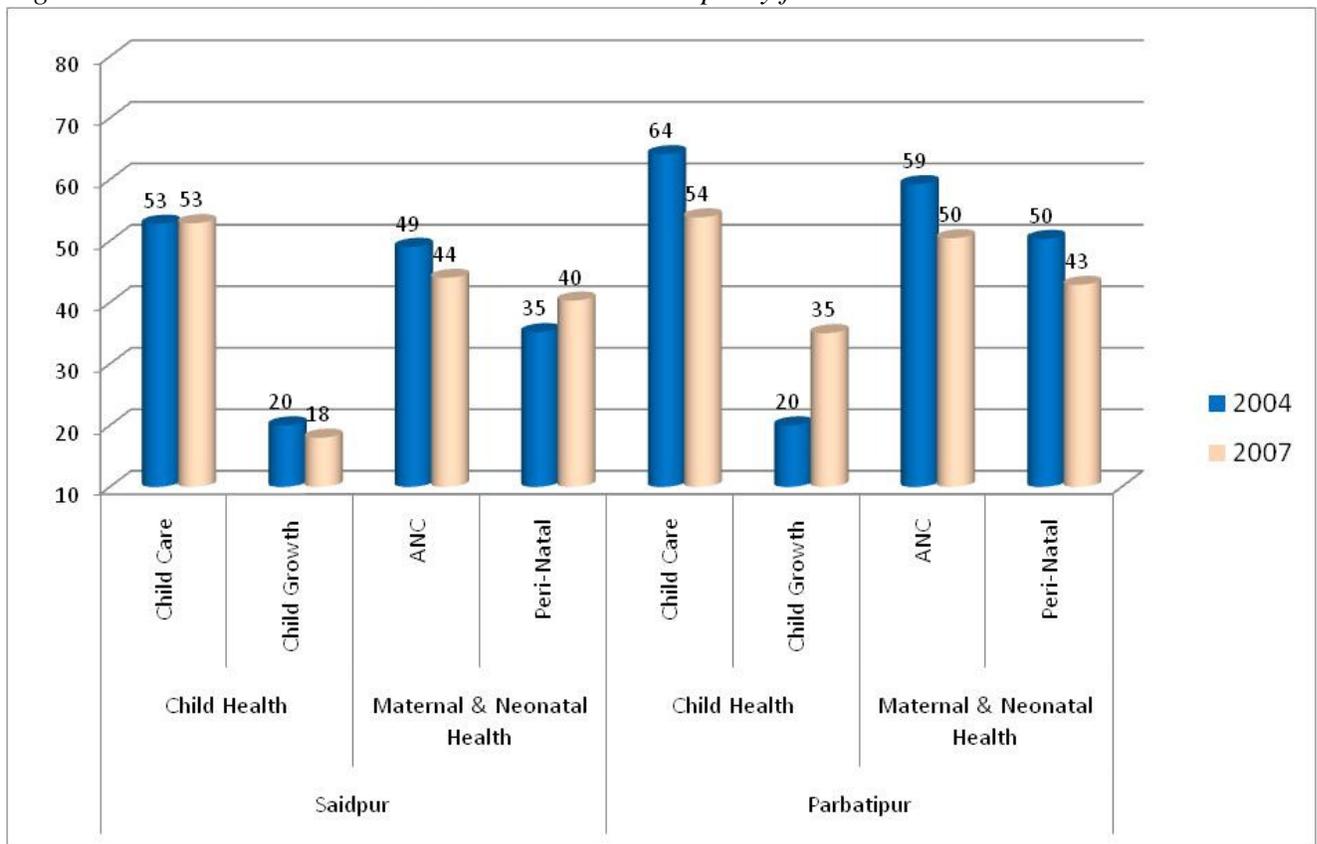
¹² In facility deliveries respectively for 1999, 2004 and 2007 were for Saidpur: 25%, 48% and 54%; and Parbatipur: 24% 45% and 51%.

The more disadvantaged municipality, Saidpur, has traditionally had poorer health indices than Parbatipur. This trend continues, but Saidpur performed marginally better in terms of *maintenance* of the results:

- It improved three indicators (only two for Parbatipur) and it saw a significant worsening for only one indicator (three for Parbatipur).
- Saidpur observed no statistically significant difference in the 12 remaining indicators (11 for Parbatipur), but since most of these indicators decreased (albeit non-significantly) this leads to a slightly lower index score in 2007.

When the component index is broken down into sub-component and area scores (Figure 4), Parbatipur sees a reduction all its 2004 “baseline” scores except childhood malnutrition, while Saidpur maintains the child care score, sees a modest reduction (about 10%) in the ANC score, and actually improves (by about 15%) its peri-natal score. The health outcome index is brought down for both municipalities by the high level of malnutrition, particularly in Saidpur where the situation worsened between 2004 and 2007.

Figure 4: Health Outcome Area Scores in each municipality for 2004 and 2007



Having established the basic facts about the evolution of inputs and the sustainability of outcomes, the review of each component of the sustainability assessment will try to explain these findings.

Municipal Capacity

In spite of the HICAP self-assessment scores' ceiling effect already observed in 2004 and limiting the variation in scores, the self-assessments allowed municipalities to focus attention on their own organizational development and to take action to improve weaknesses. High scores generally correspond to actual achievements:

- Strong showing in terms of leadership, planning and coordination are demonstrated by MHDs helping to develop WHC neighborhood health plans (affixed on the walls of the municipalities), monitoring implementation, supervising CHVs, providing financial support for the poor and responding to acute crises (i.e., diarrhea outbreak). Municipal health staff commented that:

“Since 2004 [the municipality] has had good and smart annual health plans. Some of [the] planned activities they [WHCs] did well like (like CHV meetings, WHC meetings, National Immunization Days observation and others health activities) but some planned they did not [go] well due to resources and logistic limitation. But they are trying to do [the planned activities] like CHV basic health training; CHV, TBA and imam refresher training.”

- Information is shared between the MHD and WHC levels and MHD staff frequently serve as secretaries of the WHCs for example.
- The Municipality health coordinating committees (MESPCC) have operated with some regularity as a forum for general coordination of health activities and better governance, attracting important partners such as the Upazila Health and Family Planning Officer (UHFPO), and local NGO partners.
- On the health district side (UHFPO), there is recognition that the model works, that practical coordination between the MHD and the UHFPO has made National Immunization Days more effective and translated into high vaccination coverage. Parbatipur was reported as having the highest EPI coverage for Dinajpur District in 2006 with low DPT1-3 dropout rates. An NGO member of the MESPCC commented through one of its officers:

“We are trying to work through a partnership approach rather than merely a need basis, to build on the foundation of the CSP work. [...] Recognizing that municipalities can have resources [to commit to the health sector] is a new thing. The capacity building of municipalities helped bring NGOs to the table and helped the NGO-GO [government organization] coordination issue.”

Municipalities also identified relatively weaker areas of capacity:

- Weakening of Commissioners' efforts in mobilizing the WHCs and insufficient involvement of female Commissioners were reported.
- In Saidpur, where the number of external agencies is greater, coordination with NGO clinic partners was identified as needing improvements.

- Both municipalities, particularly Saidpur, showed weaknesses in M&E, including in monitoring of health worker performance.
- Efforts to build a Health Management Information System (HMIS) were nascent, effective in only one municipality and still strongly dependent on Concern for implementation.
- Management of human resources (such as recruitment of health staff, basic capacity of MHD staff to train WHCs, CHVs and TBAs without external support) and resource mobilization were also considered relatively weaker areas of capacity in spite of some achievements.

The assessment of the human resource capacity of the two MHDs showed important weaknesses, notably that: (1) not all sanctioned positions are filled; (2) not all filled positions are sanctioned; (3) not all health staff are effectively used for health activities—both municipalities notably diverted some staff for tax collection purposes under guidance from the army; and (4) positions are balanced between permanent positions and contractual (“master roll”) positions without benefits or job security. This situation undermines the motivation of personnel and the continuity of support to WHCs and CHVs. Additionally, in spite of attempts by the MOLGRD to recruit Medical Officers (more recently in 2005); the positions continue to be vacant due to low pay and the absence of career opportunities in this position.

Viability of the municipalities in their health sector functions

Viability of the municipalities was assessed notably lower than capacity areas (on average 1.3 points lower on the same five point scale) in both municipalities in 2007. The post-project assessment phase confirmed that a number of challenges to the viability of the MHDs still exist.

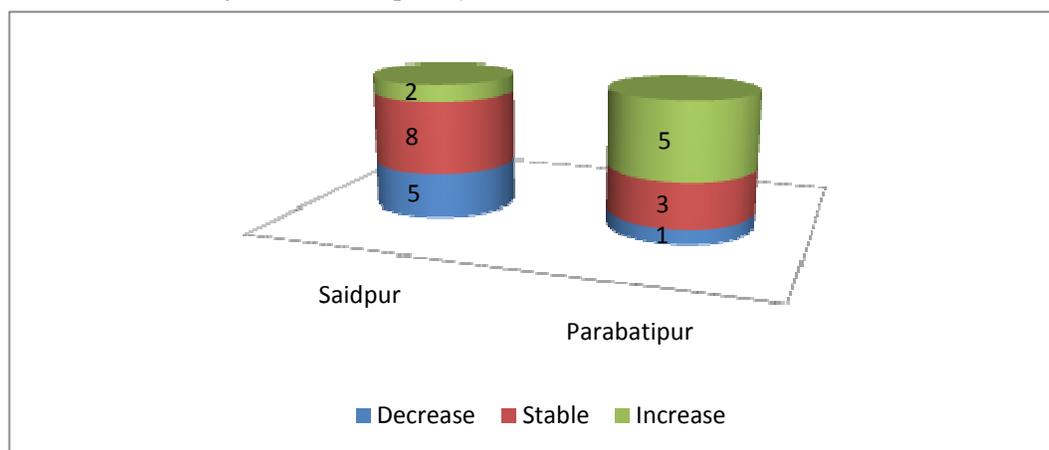
- The relative weaknesses, identified through the HICAP, correspond to unresolved questions about financial commitment and financial viability of the MHDs.
- In spite of the serious financial crises experienced by many municipalities in recent years, Saidpur and Parbatipur have increased their health budgets since 2004, before it decreased again for the last fiscal year in Parbatipur. Informants however report that actual expenditures, which are unknown, have been less than budgeted amounts, to some extent due to the absence of a Medical Officer able to ‘protect’ the municipal health budget.
- There are obvious overlaps between the capacity and viability of MHD components, as well as between these components and the environmental determinants. For example, weaknesses in human resources (a capacity issue) are directly related to resourcing issues (a question of viability). The accountability of commissioners—assessed as demanding improvement—was affected by the national political situation, which led to one ward commissioner being put under arrest during the recent political troubles in Bangladesh. In this situation, the HICAP allowed discussion of the contingencies necessary in case of the Commissioner’s unavailability. Cultural factors prevented the development of an effective solution. Finally, both municipalities commented equally that implementation of a favorable municipal health policy was lacking due to insufficient involvement from the central government financially in terms of support for human resources.

Capacity of WHCs (Community Capacity Component)

As seen in Figure 2, the average capacity score of WHCs has remained high, even improving in Parbatipur (from a score of 77 [promising] to 85 [strong]); it remained effectively unchanged in Saidpur). The consideration of the “average” however misses the dynamic elements of the self-assessment. Once again, self-assessments proved useful and allowed municipalities and WHCs themselves to focus attention on areas of operation deserving attention. As shown in Figure 5, WHCs’ scores increased or decreased based on actual perceived performance of operations.

- In 2005, as work in the new municipalities started and Concern started referring them for training and advice to Saidpur and Parbatipur, now considered “Learning Centers,” it became obvious that the drastic end of support (see Figure 1) had carried negative effects in terms of WHC operations. An internal review carried out in 2005 by Concern showed that eight out of 15 (8/15) WHCs in Saidpur were either non-functioning or functioning very poorly. The situation was even worse in Parbatipur, with six out of nine (6/9) WHCs in these two categories. By 2006-2007, following new but minimal inputs, most if not all WHCs were back to operational, even after having gone through elections and replacement of some commissioners.¹³
- WHCs’ capacity translated in additional valuable public services to the community, although not always directly health related. Services included providing shelter, food, safe water and financial assistance for medical services to the populations affected by disasters (fire, flash floods, cold season) or identified by WHCs as in need for welfare assistance.

Figure 5: WHCs’s self-assessed capacity 2004-2007



WHCs also face challenges to their own viability:

- On the positive side, municipalities are making efforts to provide ‘office space’ for the committees and try to incentivize WHC activities on a cost-sharing basis.

¹³ Anecdotal reports suggested that WHCs which remained active saw their commissioners re-elected more frequently.

- Financial flows and allocations from municipalities to WHCs are however hard to establish with precision, and do not always translate into rapid cash transfers.
- Commissioners occasionally have to make personal cash or in-kind contributions (such as a fan for the meeting room, snacks for meetings, etc.).
- WHC member contributions are small (in one case observed from \$60 to \$80 per annum) but serve a critical role in supporting basic operations and assistance to community members.
- An additional threat to the WHCs is the uncertain recognition of the role given to CHVs by powerful new players in the health sectors (i.e., NGOs and other internationally funded programs), which can be tempted to either ignore CHVs, or incentivize them and divert them from their core functions.

Evolution of Activities and Services Delivered

Although no metric was developed to assess this component¹⁴, the post-project study demonstrated that basic community health promotional services continue to be implemented, albeit at a sub-optimal level:

- CHVs trained during the CSP phase have largely continued to operate and carry out promotional activities. Their work is reported at the WHC level, with some support from MHD staff. CHV activities are in part responsible for the high results achieved in terms of immunization, and a reported increase in demand for maternal and child health services.
- The coverage by CHVs remains insufficient however, and attrition is only partly compensated by new recruitment and training.
- In terms of coverage of the municipalities by CHVs, Saidpur is at one CHV per 257 female residents and Parbatipur at one CHV for 119 female residents.¹⁵ This coverage, in both cases remains far from the objective of one CHV per 50 female residents. Monitoring records for movement of CHVs indicate an attrition of slightly over one in four (1/4) CHVs over the three year period, due to personal reasons, illness or death, or cooptation by NGOs into other activities. Municipality health staff working with WHCs trained new CHVs by the time of this study and replaced 80% of the vacated CHVs positions.

The municipalities do not have yet a strategy to address the delivery of quality of care:

- Financial accessibility is addressed on an ad hoc basis by welfare interventions of WHCs, and increased demand for services is not always matched by the availability of quality services.⁽²⁰⁾
- Limited information is available on the quality of services at facility level, however, with some indicators stagnant (i.e. percentage of women who received at least two critical services during ANC consultations), and with a drop in the delivery of post-partum Vitamin A to

¹⁴ Notably, no assessment was made of the intensity and quality of CHV work.

¹⁵ For Saidpur and Parbatipur respectively, CHVs are 304 and 156 in 2007, for a female population (1999 figures from the CSP DIP) of 78,167 women and 18,638 women.

women in Parbatipur (from 75% to 39%), due to temporary lack of supplies. (This issue was discussed by the MESPCC with the UHFPO and resolved by the time of the assessment.)

Better maintenance of maternal and newborn health care results in Saidpur—paradoxically the more challenged municipality of the two—seems in part linked to increased NGO activities supported through USAID’s National Service Delivery Project (NSDP).

Assessing the Environment

Table 3 proposes a list of socio-ecological environment determinants of sustainability based on discussions carried out in 2003 and during the post-project evaluation itself. Scores are proposed either based on available indicators (i.e. education) or assigned post-hoc based on the findings. The resulting picture is that of a very challenging environment, with some areas of progress:

- In spite of stress in the environment (notably the political upheavals the country is still going through¹⁶), environment scores have improved due to socio-economic improvements (education and sanitation), due in part to the increased capabilities of municipalities, effective coordination by the MESPCCs and mobilization of the WHCs.
- In addition to the structural conditions which prevail in Bangladesh and its northern divisions (poverty, susceptibility to ecological disasters), the commitment of the government of Bangladesh, which launched the direction for urban health, presents critical gaps in terms of staffing and resource allocation.

Environmental factors do not affect all health issues in the same direction. For example, Saidpur, being a larger, poorer, less cohesive and more urban agglomeration than Parbatipur has suffered more dramatically from an increase in the price of foodstuff—leading to its worsening malnutrition situation. But being the more vulnerable of the two, it also received more support from external agencies, notably NGO projects linked to USAID’s NSDP working in maternal health—leading to its better maintenance of maternal and newborn care indicators.

DISCUSSION

We discuss the strengths and weaknesses of the municipal health model, and the value of the sustainability evaluation methodology.

Demonstrated strengths of the Saidpur and Parbatipur urban health model

Three years post-project, the urban health model based on MHDs, WHCs and a network of CHVs has demonstrated a reasonable level of robustness:

¹⁶ The unsettled political situation dating back to October 2006 interfered with proper operations. A state emergency was declared in 11 January 2007, and the interim government that assumed control has cracked down on corruption. This has resulted in one Commissioner having been put in jail.¹⁶ Higher authorities have increased scrutiny and demand for information from municipal chairmen and commissioners, thus creating extra workload and tensions among them. This also contributes to increased requirements for accountability.

Table 3: Construction of a social-ecological environment component index (post-hoc).

Determinants	Comments	Saidpur		Parbatipur	
		2004	2007	2004	2007
Policies for WHC participation and Municipality role in health	From 2004 on, project partners felt the policy conditions were generally in place. This hasn't changed.	70	70	70	70
Effective central level commitment for urban health policy (funding / other support)	One main weakness identified in 2007 was the effective commitment of the central level (MOLGRD), in terms of budget allowance for municipalities, staffing, supporting resolution of the Medical Officer position issue. Some goodwill and budgetary improvements were noted after a high level visit to the two municipalities.	10	25	10	25
Summary: Supportive Policies	A small improvement results as a consequence but the score remains well below satisfactory.	40	48	40	48
Stability of political situation	A stable political situation is critical to long-term success, but so is freedom from corruption practices. Recent events have been destabilizing, but are also expected to oppose corruption practices. Overall assessment of this area is consequently unchanged.	40	30	40	30
Freedom from corruption		20	30	20	30
Summary: Political Element		30	30	30	30
Sanitation coverage	The percentage of households with access to appropriate sanitation was linearly transformed into a score. Parbatipur made very substantial progress in this area.	25	35	16	53
Female Primary Education Level	This important indicator of social development was also translated linearly into a score, showing here also greater improvements in Parbatipur than Saidpur.	62	71	62	83
Poverty	The prevalence of poverty is high in both municipalities—and higher in Saidpur—within the already resource constrained Bangladeshi environment. In absence of a standard indicator, a constant score was assigned for the two periods to account for the impact of poverty on the environmental determinants.	15	15	25	25
Component 6 – Social Environment Score		34	40	35	48

- a) The municipal system has maintained important activities and functions while Concern support was reduced drastically. Elected officials “come and go,” but—in spite of the absence of a Medical Officer—MHDs have demonstrated an effective, if imperfect, capacity to support WHCs and CHVs. Demand for services continues to increase and performance is high in well-institutionalized areas such as EPI.
- b) Few health indicators have continued to improve but none of those initially targeted by the CSP have collapsed. Re-energizing WHCs after the 2004 interruption only required modest efforts. Although strained, the CHV model is basically in place.
- c) There are signs of ownership and institutionalization of the model at municipality, UPFHO, policy-maker levels, as well as NGO service providers. Linkages—notably through the MESPCC—exist and provide ground for further strengthening of the model.

Remaining weaknesses of the urban health model

Some critical weaknesses have however been identified in the model:

- a) The erosion of the majority of health indicators and the dramatic situation in terms of malnutrition of children raises alarms about this complex and multi-sectorial issue. A “sustainable urban health system” cannot leave half of its children malnourished!
- b) Redressing the mixed picture presented by the 2007 Sustainability Dashboard for both municipalities in terms of continued health gains and critical services requires a new energy, strengthened leadership at municipality level, support of and resourcing of the municipal health system (although external resources do not have to be the driving force.)
- c) The number of CHVs and their commitment to the essential services targeted by the municipalities needs to be increased.
- d) As observed elsewhere(14;14;32), the local health planners do not yet fully own the information production tools they need to carry out their work. While organizational self-assessments have largely been transferred into the hands of MHDs, the production of critical information for health management decision (financing of and ability to manage a KPC survey, a CHV or a health facility assessment for example) remains in the hands of Concern. (The Health Management Information System is nascent and unlikely to develop without solid external assistance.)

Three related critical issues underlie a number of these identified weaknesses:

Absence of a Senior Health Officer:

While Municipality Health Inspectors effectively organize and monitor operations within their departments the absence of a more qualified Medical Officer with public health administration capacities constrains the capacity of MHDs in strategic (long term) planning, supervision and coordination with district health officials. One role for a Senior Health Officer would be to maintain visibility at the municipal cabinet level, and to defend the health budget and activities (on an equal footing with Municipal Engineers, as suggested by study informants).

This also limits the municipalities' capacity to establish contractual arrangements with NGO clinics, in order to increase their role in service delivery and ensure the coherence of PHC approaches from the community and facility levels, or to reinforce and institutionalize for all partners the role of CHVs.

Importance of consistency of purpose

Consistency of purpose is a sound management practice, but also intrinsically part of sustainability. If there is no consensus and clarity on what is the public good pursued by an urban health model (hence no clarity on indicators), efforts are unlikely to be steady and sustained.

In spite of efforts carried out since 2003, it took some effort to narrow down the 16 indicators presented in Table 2. Each phase of planning could justify adding or replacing certain indicators and corresponding objectives. This highlights the lack of clarity among the municipalities about which health indicators are to be improved and maintained in priority. Only a few are well institutionalized (i.e., immunization and access to water and sanitation) and those have shown relatively stronger performance.

Role of central and external stakeholders

The current exercise has shown both that achievements can be sustained at a local level to some extent. It has also shown how fragile achievements are if the central level does not play a sufficient role in defining a viable, affordable and performing urban health model. Essential responsibilities resting with the government and its external partners are:

- To resource municipalities at an appropriate level (in terms of finances and/or personnel, including through creative solutions to the technical leadership issue).
- To appropriately balance community and facility approaches (supply and demand).
- To support the implementation of standards of care at both levels around an essential package of PHC services, and to develop effective mechanisms of performance management to guide donor and external agencies investments.

In such a context, external partners (NGO, multilateral and bilateral projects) working at a local level would be encouraged to make their contribution through processes respecting municipality capacity and system development efforts.

Understanding signals from the sustainability assessment; then (2004) and now (2007)

The sustainability dashboard for Saidpur and Parbatipur in 2004 indicated that efforts to build capacity in municipalities and WHCs had allowed developing a basic system for community-based health promotion. The signal *then* was that MHDs and WHCs would continue to operate. To a large extent, they did. But progress achieved in terms of health outcomes, activities and

operations of the system had not reached a tipping point, beyond which the local system could self-correct and continue improving.

There were efforts to plan Concern's disengagement, but its withdrawal proved to be too abrupt, and this had to be corrected.

The signals provided *now*, in 2007, suggest that pointed interventions are required to consolidate the model, improve its performance, its sustainability (for municipalities), and scalability (for policy makers and partners):

- Municipalities should strengthen service delivery in terms of health promotion activities, but also in terms of coordination with clinical PHC services, in order to address faltering health indicators aggressively.
- The central government and municipalities need to resolve human resource deficiencies of MHDs, including in their technical leadership¹⁷.
- The central levels need to strengthen their commitment and balance the distribution of financial responsibilities between municipality and central levels.
- Partners, including Concern, should build the capacity of municipalities to own and manage information, and support creative steps to resolve the previous issues, without stepping back into an implementation role.

In summary, the value in this as other “dashboard” or “scorecard” models is to recognize that different areas of capacity and performance are built on different timelines and to guide attention toward areas of need, without losing track of the ‘big picture.’ It places local leadership and stakeholders at the center of the system; it provides evidence about progress on key processes and outcomes; and given the natural risk of entropy in large scale efforts, it provides essential signals to adjust inputs.

Improving the assessment model (Sustainability Framework)

The sustainability assessment framework, as initially designed, failed to include key signals such as CHV coverage and dropout rates; and we could not properly report on hard indicators such as actual financial expenditures at different levels. While these gaps were more visible because of the wealth of information otherwise produced by Concern and partners, some of these measures should nonetheless find their way into the tool, as part of a plan for scaling an urban health model.

Finding the right balance between hard and soft data continues to be a challenge. Certainly for self-assessment measures, the evolution of scores over time should be considered more valid than point-in-time estimates. To address ceiling effects in self-assessment scores, both external

¹⁷ Suggestions were made during the evaluation that a Senior Health Officer could cover more than one municipality.

monitoring of verifiable measures and self-assessment measures of complex internal processes need to be used and be reported appropriately.

In the end, the production of a sustainability dashboard for both municipalities has been somewhat less than automatic, and ‘measurement creep’ in terms of capacity areas has been observed, leading to entropy in the definition of the areas of measurement. There is a need to standardize measures and make data analysis and reporting simpler.

The dashboard should focus on those measures which can be easily compiled, analyzed and presented, and be complemented by more thorough, *ad hoc* and qualitatively rich periodic assessments. If efforts to scale up the model continue, the information will have to be customized to its end-users: while at the local level, more (information) is probably better, the macro level requires simpler, more ‘digested,’ and definitively standardized information.

CONCLUSION

There are occasional suggestions that more post-project sustainability assessments should be carried out. Most of these calls are unheeded, more often due to lack of data rather than lack of interest.

Another issue is the availability of meaningful data at local management levels. The World Bank Bangladesh states that “*there is a paucity of reliable, time-series data on most MD [Millennium Development] indicators at the district and upazila (sub-district) levels. The lack of such data makes it virtually impossible to monitor progress toward attainment of the MDGs at lower levels of administration.*”(33)

It is thus important to acknowledge the wealth of information provided over time on a range of key processes and outcomes at municipality levels, by Concern and Municipal partners. Local partners have strongly bought into a model requiring regular monitoring and assessment exercises to support decision-making.

As members of a global development and health community, we feel that an evolution of sustainability studies from the field of research to that of routine evaluation is needed to better inform decision-making of program managers and policy makers. Discussions about sustainability are frequently based on an all-or-nothing consideration of inputs, based on timelines with no empirical evidence, determined solely by the budgetary environment in which donors have to operate. Planning and evaluation based on empirical void should perhaps be considered a form of ‘development magical thinking,’ albeit one to which we have grown accustomed. By emphasizing signals for decision making, based on multiple dimensions affecting long-term outcomes, our methodology—though eminently improvable—suggests a direction for improving empiricism.

REFERENCES

- (1) Olsen IT. Sustainability of health care: a framework for analysis. *Health Policy and Planning* 13[3], 287-295. 1998.
Ref Type: Journal (Full)
- (2) Shediak-Rizkallah MC, Bone LR. Planning for the sustainability of community-based health programs: conceptual frameworks and future directions for research, practice and policy. *Health Educ Res* 1998 March;13(1):87-108.
- (3) Bossert TJ. Can they get along without us? Sustainability of donor-supported health projects in Central America and Africa. *Soc Sci Med* 1990;30(9):1015-23.
- (4) Lafond AK. Improving the quality of investment in health: lessons on sustainability. *Health Policy and Planning* 1995;10(Supplement):63-76.
- (5) Knight R., Tsui A. Family Planning Sustainability at the Outcome and Program Levels. The Evaluation Project, editor. 1997. *Constructing Indicators for USAID Strategic Planning*. 7-27-0001.
Ref Type: Catalog
- (6) Abrar A.Kahn, Lisa Hare. *Sustaining the Benefits: A Field Guide for Sustaining Reproductive and Child Health Services*. 12-31-2001. The Center for Development and Population Activities (CEDPA).
Ref Type: Serial (Book,Monograph)
- (7) The Sustainability Initiative. The IPPF Western Hemisphere Region Transition Project; its aims and achievements. International Planned Parenthood Federation (IPPF); 2000.
- (8) Katarbarwa MN, Mutabazi D. The selection and validation of indicators for monitoring progress towards self-sustainment in community-directed, ivermectin-treatment programmes for onchocerciasis control in Uganda. *Ann Trop Med Parasitol* 1998 December;92(8):859-68.
- (9) Seims, LaRue K. A sustainability review of BHR/PVC-funded child survival projects in Bangladesh and Bolivia from 1985 to 1997: What's left after all these years? The Child Survival Collaborations and Resources (CORE) Group; 2000 Apr 28.
- (10) Amazigo U, Okeibunor J, Matovu V, Zouré, norat, Bump J et al. Performance of predictors: Evaluating sustainability in community-directed treatment projects of the African programme for onchocerciasis control. *Social Science and Medicine* 2007;64:2070-82.
- (11) Sarriot EG, Winch PJ, Ryan LJ, Edison J, Bowie J, Swedberg E et al. Qualitative research to make practical sense of sustainability in primary health care projects implemented by non-governmental organizations. *Int J Health Plann Manage* 2004 January;19(1):3-22.
- (12) Sarriot EG, Lafond A, Kouletio M, d'Harcourt Emmanuel. Built to Last: Mapping and Assessment Strategies for Sustaining Capacity. Panel. Global Health Council Conference 2005. Washington, D.C. 6-3-2005.
Ref Type: Personal Communication
- (13) Yourkavitch Jennifer, Ryan Leo, Sarriot EG. Lessons learned from applying the child survival sustainability assessment (CSSA) framework to seven maternal and child health projects. 2004. Child Survival Technical Support Project (CSTS), The CORE Group.
Ref Type: Serial (Book,Monograph)
- (14) Sarriot EG, Ricca JB, Ryan Leo, Basnet J, Arscott-Mills S. Measuring sustainability as a programming tool for health sector investments—report from a pilot sustainability assessment in five Nepalese health districts. *International Journal of Health Planning and Management* 2008;23:1-25.
- (15) Sarriot EG, Winch PJ, Ryan LJ, Bowie J, Kouletio M, Swedberg E et al. A methodological approach and framework for sustainability assessment in NGO-implemented primary health care programs. *Int J Health Plann Manage* 2004 January;19(1):23-41.
- (16) Government of Bangladesh and the United Nations Country Team in Bangladesh. Millennium Development Goals. Bangladesh Progress Report. 2005. Dhaka; 2005.
- (17) Bonu, S, Carlsson, H, Gallego-Lizon, T, Huda, N, Ikemoto, H, Kamayana, P, Mahmood, J, Mulqueeny, K, Otsuka, M, and Sultana, M. Report and Recommendation of the President to the Board of Directors on a Proposed Loan and Asian Development Fund Grant to the People's Republic of Bangladesh for the Second Urban Primary Health Care Project. Asia Development Bank; 2005. Report No.: RRP: BAN 36296.
- (18) Datta D, Kouletio M, Rhaman T. Developing Urban Health Systems in Bangladesh. *PLA Notes* 2005;(14):90-9.

- (19) Pyle, David and Hossain, Jahangir. USAID - Municipality - Concern Worldwide Bangladesh Child Survival Partnership Program. Final Evaluation Report. Saidpur and Parbatipur Municipalities, Rajshahi Division, Bangladesh. October 1, 2000 - September 30, 2004. Washington, DC: Cooperative Agreement No. FAO-A-00-98-00077-00; 2004 Dec 21.
- (20) Pyle D. USAID-Municipality-Concern Worldwide Bangladesh Municipal Health Partnership Program. Mid-Term Evaluation. 10-31-2007. Washington, DC.
Ref Type: Serial (Book,Monograph)
- (21) Datta, Dipankar, Helali, Rezaul, Musha, AKM., Kouletio, Michelle, and Ryan Leo. Child Survival Program Saidpur and Parbatipur Municipalities, Norther Region Bangladesh. Sustainability Review of a Model for Municipal Health in Bangladesh. 17-23 February 2003. Final Report. Concern Worldwide; 2003.
- (22) CSTS. KPC 2000+: Knowledge, Practices and Coverage Survey - Tools and Field Guide. Calverton MD: Child Survival Technical Support project; 2000 Oct.
- (23) Lafond A, Brown L, Mcintyre K. Mapping capacity in the health sector: a conceptual framework. *Int J Health Plann Manage* 17[1], 3-22. 2002.
Ref Type: Journal (Full)
- (24) Management Sciences for Health (MSH). Planning for sustainability: Assessing the Management Capabilities of your Organization. Management Sciences for Health (MSH) - Keeping your organization sustainable . 2001.
Ref Type: Internet Communication
- (25) Van Sant, Jerry. Frameworks for assessing the institutional capacity of PVOs and NGOs. 2008.
- (26) Benini AA. A Shelter for the Poor. The long-term viability of NGO-supported local associations. 2006. RDRS Bangladesh.
Ref Type: Serial (Book,Monograph)
- (27) Egan M. Clinical dashboards: impact on workflow, care quality, and patient safety. *Crit Care Nurs Q* 2006;29(4):354-61.
- (28) Villalbi J, Guix J, Casas C, Borrell C, Duran J, Artazcoz L et al. [The Balanced Scorecard as a management tool in a public health organization.]. *Gac Sanit* 2007 January;21(1):60-5.
- (29) Ministry of Health General Directorate of Policy and Planning, Monitoring and Evaluation Department, Johns Hopkins University Bloomberg School of Public Health, and Indian Institute of Health Management Research. Afghanistan Health Sector Balanced Scorecard. National and Provincial Results. Round 3; 2006. Kabul; 2007.
- (30) Najam, Adil. Community level sustainability assessment - Dasudi, India: A case study based on the work of the IUCN/IDRC project on "Assessing progress towards sustainability". 2000.
- (31) Black RE, Morris SS, Bryce J. Where and why are 10 million children dying every year? *Lancet* 2003;(361):2226-34.
- (32) Unger J-P, De Paepe P, Green A. A code of best practice for disease for disease control programmes to avoid damaging health care services in developing countries. *Int J Health Plann Mgmt* 2003;(18):S27-S39.
- (33) The World Bank Human Development Unit, South Asia Region. Attaining the Millennium Development Goals in Bangladesh. How Likely and What Will it Take to Reduce Poverty, Child Mortality and Malnutrition, Gender Disparities, and to Increase School Enrollment and Completion? 2005 Jun 6. Report No.: 31846-BD.