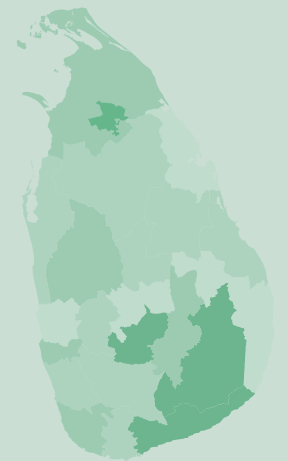


District Investment Case Analysis

Recommendations, guidelines and
action plan

Sri Lanka



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Abbreviations

AHB	Annual Health Bulletin
AIDS	Acquired Immune Deficiency Syndrome
BH	Base Hospital
CBO	Central Budget Officers
CBSL	Central Bank of Sri Lanka
DGH	District General Hospital
DGHS	Director General of Health Services
DH	Divisional Hospital
DICA	District Investment Case Analysis
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
IC	Investment Case
IFA	Iron-Folic Acid
IHD	Ischaemic Heart Disease
IHP	IHP
IYCF	Infant and Young Child Feeding
LKR	Sri Lankan Rupees
MBB	Marginal Budgeting for Bottlenecks
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MMR	Maternal Mortality Ratio
MNCH	Maternal New-born and Child Health
MO	Medical Officer
MoH	Ministry of Health
MOH	Medical Officer of Health
MSD	Medical Supplies Division
NGO	Non Governmental Organizations
PHI	Public Health Inspector
PHM	Public Health Midwife
PHNS	Public Health Nursing Sister
RDHS	Regional Director of Health Services
RGD	Registrar-General's Department
RMO	Registered Medical Officers
ROSA	Regional Office for South Asia
SLDHS	Sri Lanka Demographic and Health Survey
UN	United Nations
UNICEF	The UNICEF

USD	United States Dollars
WB	World Bank
WHO	World Health Organization

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Executive Summary

The Investment Case approach is a form of strategic and evidence-based problem-solving to support better maternal, neonatal and child healthcare planning and budgeting. The District Investment Case Analysis is a study that looks at the goals and requirements of districts, with reference to increasing equitable coverage of quality health care. The Investment Case approach pilot study that was carried out in Vavuniya, Hambantota, Nuwara Eliya and Monaragala districts employed a tool known as Marginal Budgeting for Bottlenecks or MBB, which was developed by the UNICEF and the World Bank to assess strategic options for accelerating progress towards health-related Millennium Development Goals (1, 4, 5, 6 and 7) with equity.

The objective of the District Investment Case Analyses was to provide a situation analysis of the district health systems and their performance in improving Maternal New-born and Child Health outcomes, to identify the key bottlenecks that hamper their functioning, to formulate strategies to overcome these bottlenecks and, finally, to estimate the costs and impacts of different planning choices to generate a set of options or Investment Case for accelerating the process of achieving health-related Millennium Development Goals in the districts.

The MBB-assisted District Investment Case Analysis process in the four districts involved four key steps and the work was carried out in 8-10 months. Firstly, it involved establishing a baseline assessment, through conducting data collection and data verification and validation in the district. Secondly, it conducted bottleneck analysis to measure the various bottlenecks that exist within the sides of the supply and demand of services. This was done using the Tanahashi framework for analysing health system bottlenecks in the three, *service delivery modes*, that is, family-oriented community-based services, population-oriented schedulable services and individual-oriented clinical services. Thirdly, it built scenarios to present cost-effective strategic planning options for district managers for better planning purposes. Fourthly, and finally, it used the MBB tool to project the various Maternal New-born and Child Health outcomes that could be gained in terms of reduction in mortality and increase in nutrition status of the population, based on the cost effective scenarios that were developed.

Several issues related to the process, methodology and the results were encountered during the implementation of this pilot District Investment Case Analysis project. Capacity-enhancing sessions that were provided to IHP staff were carried out intermittently, at various stages of the process and were insufficient. An inadequate amount of time between workshops did not allow for organizing and planning for the next phase of activities in the process, cleaning of data and filling of gaps in data and coordination with district and national counterparts. The keenness displayed by the Ministry of Health, in order to ensure the continuation of the District Investment Case Analysis process in the districts at the implementing stage of the projects, was less than expected, particularly in terms of facilitating at the district workshops and participating at steering committee meetings.

Methodological issues encountered included the fact that most of the data for the districts had to be collected through focus group discussions, as it was not feasible to conduct surveys to fill in these indicators, considering the time, resources and finance available during the life span of the project. Initially, there was also scepticism and confusion regarding the outputs generated, as IHP was provided incomplete beta versions of the MBB tool to conduct the analysis. As a result, a considerable amount of time was spent by IHP in trying to identify problems, which caused delays in the process. The MBB tool is also not designed to accommodate the health system of Sri Lanka, especially in the area of choosing various levels of service delivery modes; choosing a suitable tracer to represent the service delivery mode and several data indicators for measurements. Selecting districts in Sri Lanka to conduct the Investment Case analysis was not in keeping with the Investment Case concept because districts are not budget-holding entities.

Some results-related concerns encountered during the project were, decreasing mortality reductions in some scenarios, even though bottlenecks were reduced by 100 per cent; the failure of the tool to assess the base cost of service delivery, that is, the current costs of service delivery that it has assumed. In addition, the MBB tool is not designed to consider if the maternal, newborn and child health interventions identified are cost-effective in comparison to the other potential health investments that can be made in the districts. It is also important to assess whether the MBB tool based projections are realistic considering the present growth in the economy. Furthermore, past trends in the reduction of mortality is another issue that needs to be analysed.

Positive outcomes of the project were as follows: the focus group discussions brought together a mixed group of health workers, ranging from office-based administrators, field workers and institution-based health workers in formulating and planning the district health activities. This led to a sense of belonging among the health workers, as their own input were taken into account in the planning process. The use of the Tanahashi model encouraged the district *working groups* to think analytically when examining the health system bottlenecks and identifying suitable strategies to overcome them. The exercise resulted in providing optimum strategies that districts should adopt for accelerating the process of achieving health-related Millennium Development Goals. For example, it was revealed that using mass communication and media for demand-promotion in a society like Sri Lanka, where the basics have already been set up, was not going to yield any additional efficient outputs.

Moving away from the conventional form of problem-solving and using a scientific method, such as the Tanahashi framework to analyse health system bottlenecks, irrespective of the numbers generated by the MBB tool, provided a significant indication about the direction the district should adopt, in terms of, *Where* and *When* to mobilize resources, *What* health outcomes that could be achieved and *How* to achieve these health outcomes using cost-effective strategies. Thus, given the positive experience of this pilot study in the four districts exercise, it is recommended that this process be shared with other districts in the country. Further consideration should be given at the

highest levels to find ways and means to increase the skills, capacity and resources of district managers to undertake District Investment Case Analysis in the future.

Chapter 1: Introduction

UNICEF is supporting the preparation of Investment Case (IC) analyses in several Asian countries, in order to strengthen the health systems of these countries, which will enable them to be more equitable and efficient and also to support the achievement of the health-related Millennium Development Goals (MDG). The IC approach is a form of strategic and evidence-based problem-solving to support better maternal, neonatal and child healthcare planning and budgeting. IC analyses are based within a bottlenecks framework, and are designed to identify current barriers to better coverage and performance, and to work out the costs and impacts of potential interventions to improve performance and overall equity. IC analyses can also be seen as a means to advocate for accelerated progress towards achieving health-related MDGs, based on evidence.

In this sense, a District Investment Case Analysis (DICA) is a study that looks at the goals and requirements of districts, with reference to increasing equitable coverage of quality health care. It investigates the constraints that exist in the health systems of the districts that hinder the achievement of desired health outcomes. Based on these findings, it proposes optimal strategies that districts can adopt to better achieve those outcomes. In doing so, IC takes into account the feasibility of options at the district level, in terms of finance and other resources. The important feature of this approach is that is based on evidence, which is used to both identify problems and solutions.

The IC approach uses a tool for analysis of health systems, which has been developed since 2001 jointly by UNICEF and the World Bank (WB), known as Marginal Budgeting for Bottlenecks or MBB. MBB has been developed through iterative applications in 34 countries, at national and at sub-national level in 18 of these countries, and continues to propose developments and improvements. The MBB tool uses data to analyse current barriers to service delivery and coverage, and then uses expert-reviewed data from the global evidence on the impacts of maternal, neonatal and child health interventions to estimate the impacts of potential interventions.

In April 2010, UNICEF Sri Lanka was requested by the Director General of Health Services (DGHS) to provide support for the development of DICAs in three pilot districts, namely Vavuniya, Monaragala, and Hambantota, where UNICEF provides extensive support to the Government of Sri Lanka in implementing Maternal New-born and Child Health (MNCH) interventions. This was in order to assess strategic options for accelerating progress towards health-related MDGs (1, 4, 5, 6 and 7) with equity. Subsequently, the Ministry of Health (MoH) proposed (and it was approved), that the DICA work should also cover Nuwara Eliya district, recognizing the continuing problems in coverage and outcomes in that district. To support implementation and full involvement of key managers, *Core Groups* and *Working Groups* for developing the IC initiative at the district level were setup in each district and, at the national level, during the course of the project.

To provide technical support for the whole activity, UNICEF arranged for IHP (Institute of Health Policy), a Sri Lankan independent, non-profit research institute, to assist the MoH in developing the IC initiatives in Vavuniya, Monaragala, Nuwara Eliya and Hambantota. IHP's role included assisting the government counterparts in the collection and review of data, facilitating discussions at both national and district levels, the collation and input of data into the MBB software, and developing policy options, based on the MBB tool projections, for consideration by district and national managers. IHP was also responsible for writing of the DICA reports, and revising the reports following inputs from government and UNICEF counterparts.

The objectives of the DICA is to provide the situation analysis of the district health system and its performance in order to improve MNCH outcomes; to identify the key bottlenecks that hamper its functioning; to formulate strategies to overcome these bottlenecks and; finally, to estimate the costs and impacts of different planning choices to generate a set of options or IC for accelerating the process of achieving health-related MDGs in the district.

Accordingly, IHP completed DICA in Vavuniya, Monaragala, Nuwara Eliya and Hambantota during the course of 2010 and 2011. The overall DICA process in all four districts took 16 months, from August 2010 to December 2011, when the DICA reports were finalized for comment. Work proceeded in four stages: (i) data collection (August – September 2010); (ii) data validation and verification (October-November 2010); (iii) bottleneck analysis workshop (October-November 2010); (iv) strategic planning workshop (May 2011). There was an interruption in work from November 2010 to April 2011, when IHP staff had to wait for critical UNICEF consultant inputs to finalize the costing and budgeting components of the MBB analysis. Finally, the actual work took only 12 months, including 4 months utilized for the compilation of four final reports.

It is in this limelight that this report is being drafted. Objectives of this document involve summarizing the activities taken up during the DICA process that was concluded in the four districts, recognizing the lessons learnt, obstacles and issues faced during the process, and making available a concise document listing out these findings, so that it will enable all stakeholders of DICA to have extensive deliberation on various aspects of DICA. This document also attempts to specify recommendations to district and National planners on the way forwards, using concepts involved in the DICA process for better fund mobilization and planning of activities and provides an action plan on conducting future DICA. This document also aims at providing recommendations to UNICEF regarding improving and modifying the MBB tool and guidelines to facilitate the process at future DICAs.

This report documents the recommendations, guidelines and action plan of the DICA process. It is organized as follows. Chapter 2 provides a summary of process, methodology and results of the recently concluded DICA in Vavuniya, Monaragala, Nuwara Eliya and Hambantota. Chapter 3 lists out recommendations to the district and National planners as well as to UNICEF. Chapter 4 provides guidelines and action plan for future DICA and Chapter 5 outlines the conclusions.

Chapter 2: Summary of DICA

2.1 Summary of process

DICA process consisted of 4 four steps (i) Setting up baseline data, (ii) conducting bottleneck analysis, (iii) strategic planning, scenario-building and cost effectiveness and (iv) generating of outputs (Mahmood (2011)). Setting up baseline data was done by collecting data for *health system, interventions, demography, epidemiology, coverage, and economics* (World Bank et al. (2011) indicators for each of the districts. Data were either based on available statistics, or expert consensus. Collected data in these six categories were then validated by the district *working group* upon extensive deliberation. Data collection for each of the districts was done in two rounds and around 25 participants from each district took part in these workshops (Table 1).

At the bottleneck analysis workshops the participants were presented with the various Tanahashi (Tanahashi, 1978) levels of coverage of the twelve tracers and were asked to identify the problematic areas of the health system of the district. Once these were identified, the participants had to deliberate on the underlying supply and demand-side bottlenecks that intensified these problems. Finally, the district groups were asked to examine the strategies that were best suited to address the entire continuum of care and equity issues of the districts. These workshops provided a forum to discuss and refine policies and strategies to permit evidence-based results that demonstrate realistic, tangible options that can be implemented in the local context.

At the strategic planning stage, efficient and cost effective scenarios to overcome bottlenecks in each of the districts were modelled. The district groups were consulted when modelling these scenarios on feasible options, addressing the entire continuum of care, equity issues and concrete steps for each of the districts. The district *Working Group* was also given an orientation on modelling scenarios in the MBB tool, using the strategies, budgeting and policies sheets of the tool.

Finally, the MBB tool was used to examine a range of different scenarios, without including new policy interventions. This involved varying the size of reduction in bottlenecks to estimate the costs and impacts of each scenario for the districts. This was then used to arrive at the best option that would yield expansions in quality health coverage through efficient resource allocation. The MBB tool was finally provided with visual and numerical MNCH outputs, showing the estimated impact on achieving health-related MDGs by allocating additional resources to remove bottlenecks.

Table 1: Workshops held in Vavuniya, Hambantota, Nuwara Eliya and Monaragala and the number of participants, 2010-2011

District	Workshop	Date	Number of participants
Vavuniya	Data collection round 1	17-18 August 2010	25
	Data collection round 2	31 August – 1 September 2010	25
	Data validation and verification	7 October 2010	28
	Bottleneck analysis	8 October 2010	30
	Strategic planning	21 May 2011	21
Hambantota	Data collection round 1	7- 8 September 2010	30
	Data collection round 2	13 – 14 September 2010	30
	Data validation and verification	3 November 2010	37
	Bottleneck analysis	4-5 November 2010	35
	Strategic planning	27 May 2011	34
Nuwara Eliya	Data collection round 1	13-14 September 2010	30
	Data collection round 2	20-21 September 2010	30
	Data validation and verification	14 October 2010	41
	Bottleneck analysis	15 October 2010	32
	Strategic planning	24 May 2011	34
Monaragala	Data collection round 1	31 August - 1 September 2010	30
	Data collection round 2	7-8 September 2010	30
	Data validation and verification	28 October 2010	43
	Bottleneck analysis	29-30 October 2010	40
	Strategic planning	26 May 2011	34

Note: For a detailed list of activities under DICA please refer Appendix 6

Source: Author's compilation

2.1.1 Issues encountered

MBB is a fairly new concept in the field of health systems and, as a facilitating agency, IHP was not provided with sufficient capacity-enhancing sessions in terms of using the MBB tool, its concept, intricacies and theories of the tool, in an organized manner. This was in fact done intermittently at various stages of the process, whereas it should have ideally been done before the commencement of the project. This was identified as major bottlenecks, as it hindered the ability of IHP to build the capacity of the district *working group* on the operating of the MBB tool.

According to the initial work plan of the project, all work related to the process had to be completed in a short period of time. For instance, the data collection workshops of all eight data collection visits were completed within six weeks, as well as all four-bottleneck analysis workshops had to be completed within four weeks. The insufficient amount of time between workshops gave little time for organizing and planning of the next course of actions of the process, cleaning of data and filling of

gaps in data and coordination with district and national counterparts. Therefore, it is possible to say that the process was carried out hastily up to the time of the bottleneck analysis of the four districts.

The district *working group* possessed insufficient knowledge of computer applications and technical other skills. As a result, it was observed that handling the DICA process on their own, without any facilitation by a competent institutes, such as IHP or UNICEF, to assist and guide them in data entry, analysis and scenario modelling, will pose considerable difficulty in the future.

The MoH displayed great enthusiasm in initiating the IC process in Sri Lanka and implementing DICA in the four districts. However, it should be mentioned that the keenness displayed by the MoH, particularly in terms of facilitating at the district workshops and participating at steering committee meetings was less than expected. It was observed that the participation of the MoH officials at the district workshops was comparatively low and that at the initial stages the steering committee meetings were little planned.

2.1.2 Positives

The data validation process, bottleneck analysis workshops and strategic planning workshops were conducted through focus group discussions. These focus group discussions consisted of experts from the district health sector, ranging from the Regional Director of Health Services (RDHS), Medical Officer (MO) Planning, MO-Maternal and Child Health (MCH), Regional Epidemiologist, Medical Officers of Health (MOH), Regional Malaria Officers (RMO), MOs of District General Hospitals (DGH), Base Hospitals (BH), Divisional Hospitals (DH) and Public Health Nursing Sisters (PHNS), Public Health Inspectors (PHI) to Public Health Midwives (PHM). As a result, the process enabled the coming together of health workers ranging from office-based administrators, field workers and institution-based health workers in formulating and planning the district health activities. This exercise thus developed a sense of belonging among the health workers, as they obtained firsthand experience of the planning process and their inputs were taken into account in the planning process. This was especially observed during the workshops held in the districts where the enthusiasm and participation of the field workers were of a very high level.

The process of DICA seems to be an effective process for individual districts to identify the various constraints that exists within their health systems at a micro level. The use of the Tanahashi model encouraged the district *working group* to think analytically when examining the health system bottlenecks and options for suitable strategies for the district to overcome them.

2.2 Summary of Methodology

The MBB software tool required the input of 1,116 separate indicators. These are grouped into six categories: *health system, interventions, demography, epidemiology, coverage and economics*. Of

these, 16 per cent of the indicators were computed automatically by the MBB tool, from the other data that was entered. Thus, data had to be collected for only 938 indicators in each district. The baseline year for the analysis was set as 2010, since actual data collection was conducted in 2010. However, most data that was entered was for the year 2009, although some data was for earlier years. The collected data was then entered into the MBB tool to conduct the bottleneck analysis for Vavuniya.

When gathering data, the reliability and timeliness of the underlying data source were considered. In general, preference was first given to data that was collected through administrative and routine mechanisms, if these were considered comprehensive and robust. Accordingly, much of the data was published or issued by an authorized organization, department or institution. Examples of this include Annual Health Bulletin (AHB), Sri Lanka Demographics and Health Survey (SLDHS) data 2006/07, Central Bank of Sri Lanka (CBSL) Annual Report, etc.

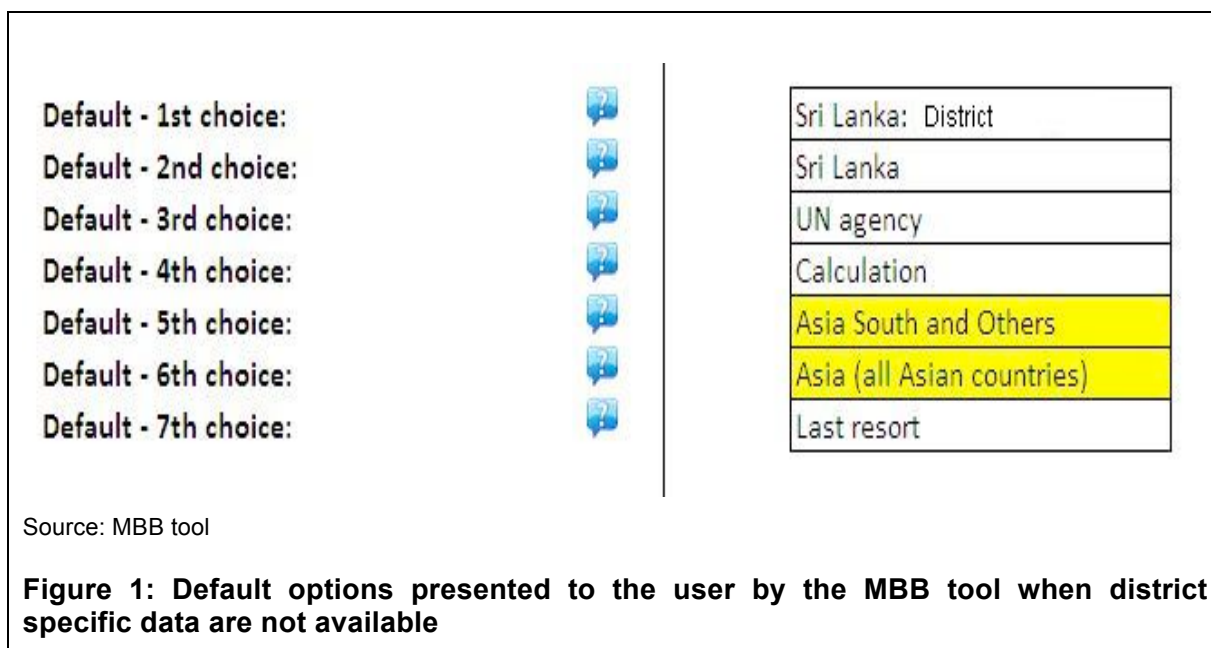
A second category of reliable data consisted of statistics that IHP generated by analyses of government databases. The most prominent examples of this were mortality statistics for the district that were obtained by analysis of the mortality registration data of the Registrar General's Department (RGD), and estimates of medicines expenditures and costs in the districts obtained by analysis of the inventory data of the Medical Supplies Division (MSD), MoH for 2009.

Alternatively, when data could not be obtained from these two types of sources, experts' opinions were used. This was done through conducting focus group discussions. In the case of Vavuniya this led to some difficulties. Focus group discussions in Vavuniya were conducted just after the conflict situation had come to an end in the area. Thus, these numbers represented the epidemiological status of the district at that point of time which may have been different to the present scenario of the district. Focus group discussions were also held, because when data was entered into the MBB tool for about 1,096 indicators, it was revealed that not all 1,096 indicators could be sourced from published or documented sources. Due to time, financial and human resource constraints it was also not possible to conduct surveys to collect this data. As a result, after many rounds of discussions and debate, the IC and DICA partners agreed to address this by conducting focus group discussions. These discussions consisted of UNICEF and IHP support staff, MoH representatives and the district *Working Group*. Once the district *Working Group* was consulted for their opinions about the values of the required indicators, the estimates were presented for extensive deliberation and validation and, finally, a consensus value was taken for the statistic to represent the relevant indicator for the district. In instances, where the district *Working Group* could not arrive at a reasonable conclusion regarding the most appropriate figures for the district, the national level indicator was used.

When none of these sources could provide district-specific data, the value of the indicator was filled by the default sources set by in the MBB tool. The tool's default values were set in such a way that

the first preference was given to district specific data, the second preference to national level data, third preference to United Nations (UN) agency level data, and fourth preference to calculations made by the MBB tool itself (Figure 1). National-level data was collated by IHP and entered into the MBB tool.

The initial data analysis served to identify and measure the extent and impact of the bottlenecks across different *service delivery modes*. The MBB tool was then used to model potential strategies for improving coverage. This way, three strategic options – 1) Equity focus (strengthening community and outreach services) 2) clinical focus and 3) comprehensive approach (community + Clinical), consisting of a defined package of services, were analysed at different levels of bottleneck reduction (from 10 per cent to 100 per cent bottleneck reduction), to examine the impact on reductions of under-five mortality and maternal mortality. Thus, the cost effective percentage of bottleneck reduction for each of the service delivery modes of separate individual districts was determined. Using the outcome of this preliminary analysis, two scenarios each were modelled consisting of cost-effective strategies for all four districts, the *Minimum Budget Package* and the *Maximum Budget Package*. For each scenario, with its percentage reductions in bottlenecks, the overall additional cost was estimated, as well as the ultimate additional improvement in coverage and health outcomes. The analyses were done on the assumption that the interventions would be implemented during 2010-2015.



2.2.1 Issues encountered

The MBB tool consists of 1,116 indicators of data to be entered, in order to carryout the IC analysis. Some data was obtained through published/documented administrative or survey sources. Most of the indicators in the tool were, however, ones that were not readily available and required fresh

surveys in order to collect the data. This was particularly seen for *Coverage* indicators, for example, percentage of population that wash their hands with soap before meals, percentage of population that used improved sanitation, percentage of mothers with knowledge about Infant and Young Child Feeding (IYCF), percentage of health centres with no Iron-Folic Acid (IFA) stock-out etc. However, considering the time, resources and finance available during the life span of the project, it was not possible to conduct such surveys. Therefore, a more rapid assessment was needed and it was decided to use focus group discussions of local information to source the data.

During the IC analysis, IHP encountered many inconsistencies with the outputs that the MBB tool generated. Further investigations into the matter revealed that the erroneous results were in fact due to inbuilt flaws in the tool, as IHP had not been given a clean, “bug-free” tool. This resulted in many correspondences occurring during the months of July to August 2011 between IHP and UNICEF Regional Office of South Asia (ROSA) consultants. A reasonable question also arose whether the rest of the countries who used this version of the tool to compile their IC reports had, in fact, done so without correcting these faults. Since these countries had already completed their analysis by the time IHP started working on DICA, it was queried as to why these faults had not been detected and corrected, before it was presented to Sri Lanka to carry out DICA. It should be noted that IHP had to detect these faults and report back to UNICEF on several occasions, and this caused a considerable delay in the process, and scepticism and confusion were generated regarding the outputs.

Another point that needs to be mentioned is that while carrying out DICA in the districts it was observed that the MBB tool was not designed to accommodate the health system of Sri Lanka, especially in the area of choosing various levels of service delivery modes and with regard to several data indicators for measurements of MNCH outcomes. To sort out these issues rounds of discussions with high-level officers had to be held, before getting a consensus on how to adapt the Sri Lankan context to fit into the MBB model. Sri Lanka’s health system is, in general, divided into preventive and curative sectors, unlike the tool, which is based on 3 levels. The selection of tracers to represent each service delivery mode was, therefore, difficult, and the inbuilt tracers of the tool were not representative of the Sri Lanka’s health system. In this sense, they were not the best tracers to represent these three levels, and the four packages identified for each level. For instance, even though Tuberculosis (TB) is a main concern in Sri Lanka, more than HIV/AIDS and Malaria, there were no tracers to measure this. With regard to indicators, such as causes of maternal deaths etc., the tool takes into account a predesigned set of causes and this cannot be changed. However, in the case of Sri Lanka there were instances where no deaths were recorded for these causes because the pattern of causes of maternal mortality in Sri Lanka is significantly different to that of a high mortality country, since the Maternal Mortality Rate (MMR) is low in Sri Lanka. As a result, most of the causes of maternal and child deaths fall in to the “Other deaths” category. The tool does not provide many solutions for this category. Hence options for MMR unexplored and unanswered by the tool.

Selecting the strategies for the districts involved several rounds of discussions, before arriving at the conclusions. In the strategies section, the ones that were listed were quite basic (in Sri Lankan context and has already been in existence for a long period of time), than the ones that the districts had actually wanted. For example, in Vavuniya the officials had wanted to develop a system where cost of transporting pregnant mothers to a facility could be reimbursed and they wanted to provide Mopeds to the field workers instead of bicycles. The costing items were not listed in the tool to accommodate these. Thus, to cost new strategies that are not in the MBB tool was found to be time-consuming and cumbersome, and required a lot of effort from the IC team. Given the timeframe, financial constraints and the need to conclude DICA within the agreed deadlines, going into this type of adaptation was not possible.

The MBB tool is an Excel-based tool that has many sheets which serve different purposes and analyses. However, it was observed that if the tool had been more simplified, it would have been more user-friendly. In addition, choosing districts in Sri Lanka to conduct the IC analysis cannot fully implement the IC concept because districts are not budget holding entities in Sri Lanka. Therefore, it was not completely possible to make use of the MBB principles in modelling the cost components for the districts.

2.2.2 Positives

Since the tool is evidence-based, it gives optimum strategies that districts should adopt in conducting the IC analysis. For example, it was revealed that certain strategies, such as using mass communication and media, for demand-promotion in a society like Sri Lanka, where the basics have already been achieved, was not going to yield any additional cost effective outputs. Instead, areas such as tracking those who default from the initial utilization of services, mobilizing the community field workers to have one-to-one contact with those obtaining the services, educating them and encouraging them to obtain the services uninterruptedly, and providing non-monetary performance incentives in the form of awards and certificates for health workers in recognition of their services, would increase the demand for services and provide positive motivation for quality performance of health workers.

Use of the Tanahashi framework in analysing health system bottlenecks proved to be an effective exercise in determining where exactly problems lay within each of the service delivery modes.

2.3 Summary of results

Using the findings of the preliminary analysis to determine the cost effective bottleneck reduction levels under each of the service delivery modes, two cost-effective scenarios were developed for each of the districts, the Minimum Budget Package and the Maximum Budget Package. The various bottleneck reduction levels under each package for each of the districts are listed in Table 2. The

strategies and interventions that could be adopted under each of the packages are explained in Table 3. The MBB tool was then used to analyse the various MNCH, MDG and cost outcomes that is projected under each of the package.

The scenario modelling revealed that further investments in social marketing and mass communication would not yield significant gains, as awareness levels are already high at the population level. There remained a critical need to convert this awareness to effective practices at the community level, through interpersonal or group communication, especially for newborn babies and also feeding practices to address the high burden of malnutrition. Malnutrition was the underlying cause of child morbidity and mortality in deprived districts. The analysis strengthened the fact that it was more cost effective to have preventive strategies at household and community levels than treatment at clinical levels for malnutrition. And many secondary infections could be prevented at this level, reducing the cost of treatment at curative settings. The IC analysis of the districts also revealed that, in order to gain a substantial reduction in maternal mortality, the best approach was to reduce bottlenecks in the clinical-based services and not the community-based package.

Table 2: Percentage of bottleneck reduction in Baseline, Minimum and Maximum budget packages, Vavuniya, Hambantota, Nuwara Eliya and Monaragala, 2010

District	Bottleneck reduction level		
	Baseline Package	Minimum Package	Maximum Package
Vavuniya	Community level 0% Clinical level 0%	Community level 15% Clinical level 15%	Community level 15% Clinical level 100%
Hambantota	Community level 0% Clinical level 0%	Community level 12% Clinical level 12%	Community level 12% Clinical level 100%
Nuwara Eliya	Community level 0% Clinical level 0%	Community level 12% Clinical level 12%	Community level 12% Clinical level 100%
Monaragala	Community level 0% Clinical level 0%	Community level 12% Clinical level 12%	Community level 12% Clinical level 100%

Source: Author's compilation using MBB tool

Table 3: Comparison of the proposed strategies of the Baseline, Minimum and Maximum Budget Packages, Vavuniya, Hambantota, Nuwara Eliya and Monaragala, 2011-2015

Parameters	Baseline Package	Minimum Budget Package	Maximum Budget Package
Community health/nutrition worker (Public Health Midwife)	1 per 3,000 population	1 per 3,000 population	1 per 3,000 population
Target population per centre or post (Medical Officer of Health office)	60,000	60,000	60,000
Number of Medical Officers/health officers per 1 million population	418	418	418
Interventions in practice	The same interventions discussed in table 15, 16 and 17	The same interventions discussed in table 15, 16 and 17	The same interventions discussed in table 15, 16 and 17
Introduction of new interventions	No	No	No
Additional investment on provision of buffer stocks for drugs and supplies	No	Yes	Yes. More emphasis on clinics
Increasing health staff and provision of salaries for additional staff	No	Yes. Less recruitment	Yes. More recruitment
Expand health facilities and rehabilitation and maintenance of equipment	No	Yes	Yes. More investment on the expansion of clinics
Pre service training (including returnees/retirees)	No	Less intensive training	More intensive training
Reducing indirect household expenditures on health by targeting a set of households receiving health care services (Conditional Cash Transfer, vouchers, reimbursement)	No	Less number of households targeted	More numbers of households targeted
Defaulter Tracking/reminders /recall (tracking those who default from continuing to use the services after first contact)	No	Less number of households targeted	More numbers of households targeted
Refresher/in-service training for community health workers, nurses, Public Health Midwives, other Para medical staff and doctors	No	Less intensive training targeting Clinical based health workers	More intensive training targeting both Community and Clinical based health workers
Provision of performance incentives for community health workers, nurses, Public Health Midwives, other Para medical staff and doctors	No	Only targeting the community level health workers	More number of community health workers targeted than the <i>Minimum Budget</i> level
Monitoring/peer reviewing, mobilizing the community field workers to have one to one contact with those obtaining the services, educating them and encourage them to obtain the services uninterruptedly	No	Less number of households targeted however more focused on those receiving clinical level care	More number of households targeted however more focused on those receiving clinical level care

Source: Author's compilation using MBB tool

For the district of Vavuniya the MBB tool projected, an additional USD 0.44 (LKR 48.7¹) cost per capita annually from 2011 to 2015 under the *Minimum Budget Package*. It was expected to achieve a 10.6 per cent total reduction in under-five mortality and 7.1 per cent total reduction in maternal mortality (Table 4). The *Maximum Budget Package* will cost an additional USD 1.19 (LKR 131.9¹) per capita annually from 2011 to 2015, and will achieve a 10.9 per cent total reduction in under-five mortality and 9.1 per cent total reduction in maternal mortality (Table 4).

For the district of Hambantota, the *Minimum Budget Package* will cost an additional USD 1.06 (LKR 117.4¹) per capita annually from 2011 to 2015, and will achieve a 8.4 per cent total reduction in under-five mortality and 18.1 per cent total reduction in maternal mortality (Table 4). The *Maximum Budget Package* will cost an additional USD 3.94 (LKR 436.5¹) per capita annually from 2011 to 2015, and will achieve a 12.3 per cent total reduction in under-five mortality and 31.4 per cent total reduction in maternal mortality (Table 4).

According to the MBB tool projections for Nuwara Eliya, the *Minimum Budget Package* will cost an additional USD 1.22 (LKR 135.1¹) per capita annually from 2011 to 2015, and will achieve a 5.1 per cent total reduction in under-five mortality and 14.4 per cent total reduction in maternal mortality (Table 4). The *Maximum Budget Package* will cost an additional USD 7.42 (LKR 822.1¹) per capita annually from 2011 to 2015, and will achieve a 9.6 per cent total reduction in under-five mortality and 24.2 per cent total reduction in maternal mortality (Table 4).

According to the MBB tool projections for Monaragala, the *Minimum Budget Package* will cost an additional USD 0.72 (LKR 79.7¹) per capita annually from 2011 to 2015, and will achieve a 3 per cent total reduction in under-five mortality and 7.7 per cent total reduction in maternal mortality (Table 4). The *Maximum Budget Package* will cost an additional USD 1.63 (LKR 180.6¹) per capita annually from 2011 to 2015, and will achieve a 6.1 per cent total reduction in under-five mortality and 10.4 per cent total reduction in maternal mortality (Table 4).

Despite the fact that more money should be spent in the *Maximum Budget Package*, the marginal increase in impact in most districts was small. In the *Maximum Budget Package*, only maternal mortality reduction increased substantially, and that was only because a large part of the bottleneck reduction in this package targeted the clinical services (Table 4).

¹Based on the exchange rate of USD 1.00 = Rs. 110.8 on 31.12.2010.

Table 4: Summary of the MNCH and MDG outcomes of the Minimum and Maximum Budget Packages, Vavuniya, Hambantota, Nuwara Eliya and Monaragala, 2011-2015

Indicator	Vavuniya		Hambantota		Nuwara Eliya		Monaragala	
	Minimum Package	Maximum Package	Minimum Package	Maximum Package	Minimum Package	Maximum Package	Minimum Package	Maximum Package
Child health								
Total reduction (%)								
NNMR	2.5	3.0	17.9	26.7	7.4	14.5	3.6	9.4
IMR	3.4	3.9	12.0	17.8	7.2	14.1	3.7	9.8
U5MR	10.6	10.9	8.4	12.3	5.1	9.6	3.0	6.1
Total deaths averted (Number)								
Neo-natal	1	1	4	6	10	20	0	1
Under-five	6	6	4	6	14	27	1	3
Nutrition								
Total stunting cases averted (number)	5	5	15	15	49	49	12	12
Maternal health								
Total reduction in MMR (%)	7.1	9.1	18.1	31.4	14.4	24.2	7.7	10.4
Total number of deaths averted								
Maternal deaths	0	0	0	0	1	2	0	0
Family Planning								
Family planning gap met (%)	32.3	32.3	74.2	74.2	96.7	96.7	73.9	74.9
Achievement of MDGs (%)								
MDG 4	56.7	49.4	81.3	89.4	71.3	75.1	52.5	55.6
MDG 5	57.0	51.2	114.5	119.2	52.3	65.2	25.1	29.1
Additional cost per capita in USD	0.44	1.19	1.06	3.94	1.22	7.42	0.72	1.63

Source: Author's compilation using MBB tool

2.2.1 Issues encountered

Before discussing these results, it is important to foreground some crucial problems in the MBB tool computations. According to the tool projections, although costs continue to increase, increasing bottleneck reductions from 80 per cent to 100 per cent in some of the scenarios resulted in smaller mortality reductions. The reasons for this are unclear, and may be related to design bugs in the MBB software. Whilst the IHP team was unable to resolve this issue, it suggests some degree of caution is needed when using and interpreting the tool projections.

A second problem that should be noted is that the MBB tool provides estimates in dollars of the additional investment costs of improving service delivery and coverage, but it fails, as far as the IHP team was able to determine, to indicate the base cost of service delivery, that is, the current costs of service delivery that it has assumed². Consequently, it is not possible to assess what percentage increase in spending the additional costs will represent. As a result, assessing the affordability and value of the different best buy numbers generated by the MBB tool, compared with current strategies is not straightforward, as the MBB tool does not generate estimates of the current cost levels. This is a limitation in the current version of the MBB software tool.

Since the Sri Lankan economy is experiencing annual real Gross Domestic Product (GDP) growth in excess of 8 per cent per annum, and considering the commitment of the government to maintain its financial investments in the health sector, with the 2012 budget likely to allocate an additional 15 per cent to the line ministry, an increased annual expenditure on MNCH services of, for example, 50 per cent by 2015 is likely to be eminently affordable. In the absence of base cost data from the MBB software, what is known is that government health expenditures in Vavuniya, Hambantota, Nuwara Eliya and Monaragala district were approximately LKR 2,700 (USD 24), LKR 2,994 (USD 27), LKR 1,400 (USD 12) and LKR 2,377 (USD 21) in 2008, respectively (Institute for Health Policy, 2011). This suggests that available government health budgets will most likely increase by at least another 60 per cent by 2015, which will be another LKR 1,600 (USD 14) per capita per year in Vavuniya, LKR 1,796 (USD 16) per capita per year in Hambantota and LKR 1,426 (USD 12) per capita per year in Monaragala. In this context, the *Maximum Budget Package* of the districts will be eminently affordable, since it will represent less than 10 per cent of likely increases in government spending. However, in the case of Nuwara Eliya, the projection was LKR 840 (USD 7) per capita per year which represents a similar increase in government spending by the MBB tool.

A separate value question is whether the investments in MNCH that are indicated are the best buy, compared with other alternative uses for increased spending. Here the UNICEF MBB tool, as applied in the four districts, is quite limited. It has good coverage of the existing MNCH interventions

² The inability of the MBB software to provide the baseline costs has been confirmed by UNICEF experts

as allowed by current policies, but there was no attempt to model the cost and impact of other MNCH interventions that are not included in current policies. Additional new interventions have not been considered in the analysis, as the implementing of such interventions is not a matter that can be decided at the district level. This suggests that national planners may want to also consider the impact of new interventions before drawing conclusions about the optimality of the identified packages.

However, this is not the most important value question. The more critical question is whether the MNCH interventions identified are cost-effective, compared with all the other potential health investments that can be made in the districts, including importantly all other non-MNCH interventions. Unfortunately, the UNICEF MBB tool is not designed to consider such issues. Nevertheless, such questions are pertinent. One illustration of this is some recent analyses by IHP of the impact of secondary prevention of Ischaemic Heart Disease (IHD) using four essential medicines recommended by World Health Organization (WHO). Using data collected by the Sri Lanka Diabetes, Cardiovascular Survey 2005, it was found that screening the adult population to identify those at high risk of future IHD death and treating them with just two of the WHO recommended essential medicines (one hypertensive, and one statin) will reduce national deaths from IHD by 40,000 over a decade. Considering the population profile of Vavuniya, this will translate into over 40 adults deaths averted each year, and the cost of the expensive medications involved is estimated to be only Rs. 100 (USD 1.0) per capita per year. This can be contrasted with the expected number of child deaths that will be averted in the Maximum Budget Package (cost=1.19 USD per capita per year) each year in Vavuniya, which is 6 throughout 2011-2015.

This type of comparison suggests that whilst the UNICEF MBB tool can inform choices about future MNCH interventions, it will need to be supplemented by other tools to identify the overall range of investments that districts and national planners should invest in. A separate issue besides affordability is how realistic the UNICEF MBB tool based projections are. This was particularly seen with regard to the analysis carried out in Vavuniya. The historical experience in Sri Lanka and Vavuniya provides grounds to exercise some caution. That experience indicates that prior to the recently concluded conflict, and even during the conflict in areas outside the main conflict zone, child mortality and maternal mortality rates have consistently declined at a rate of 3-4 per cent each year. Such rates of decline are, of course, necessary to achieve MDGs 4 and 5. Even in Vavuniya, where the conflict had significant impact, recent evidence indicates that the district is rapidly getting back on track to achieve an equivalent rate of mortality reduction since 1980, if measured from 1980 to 2011. However, the UNICEF MBB tool projections were only able to come up with a maximum annual reduction in child and maternal mortality of the order of 1.5-2.0 per cent, far less than is the experience in Sri Lanka. This suggests that there are three deficiencies in the current UNICEF MBB tool.

Firstly, is that it is not able to adequately model either the health gains or the impact of interventions that occur in low mortality settings, such as Sri Lanka. The current software uses evidence which is largely from high mortality countries, and such evidence might not provide a good basis to model mortality reductions in countries with low mortality, such as Sri Lanka.

Secondly, the types of intervention that are needed to further reduce child and maternal mortality in the four districts might not be currently included in the UNICEF MBB software tool, indicating that more work needs to be done to redesign it for the Sri Lanka setting.

Thirdly, it does not appear that the UNICEF MBB software tool accounts for the impact of productivity or technical efficiency gains and increase in health awareness of the population which reduce the unit cost of health service delivery. Such efficiency gains have averaged 2-3 per cent per year in the past half-century in Sri Lanka, as government health services have become more efficient at producing basic services. If these types of efficiency gains are not included in the UNICEF MBB software tool, they will act to substantially underestimate the impact of interventions on outcomes.

2.2.2 Positives

Irrespective of the numbers generated by the tool, especially in terms of the cost, the MBB process can be regarded as a valuable mechanism for the districts to use as a process for planning to achieve their health goals. This is due to the fact that the tool does provide a significant indication about the direction that the district should adopt, in terms of, *Where* and *When* to mobilize resources? The health outcomes that can be achieved by the district and *How* to achieve these health outcomes using cost effective strategies?

Chapter 3: Conclusion

3.1 Process

This pilot project, which also covered the districts of Hambantota, Moneragala, and NuwaraEliya, was the first time that the MBB approach has been used in Sri Lanka. The exercise proved challenging, but several useful and positive experiences were gained, and it provided considerable insight into the use of the MBB approach and tool, and its potential applicability and use in the Sri Lankan context.

The analysis of bottlenecks to MNCH delivery and coverage in the districts involved both extensive consultations and discussions with district managers, as well as analyses using the MBB software. District participants found the consultative process rewarding and valuable in helping them think through the operational problems they faced in service delivery, and in brainstorming to identify current bottlenecks to service delivery and potential areas of interventions to overcome them. The MBB approach, with its basis in the Tanahashi framework, proved an effective and relevant tool for assisting district planners and managers optimize the use of available resources, in order to increase service coverage and health outcomes. This type of thinking and analysis ought to be routine and standard in any district management process but, in practice, exposure and experience with such an approach is often limited. The discussion and consultation process invigorated and generated considerable enthusiasm by the district staff. In this way, it contributed significantly to the strengthening of local capacity and empowerment of the local management and planning processes. For this benefit alone, the exercise can be seen as a success, and would justify further replication in other districts, and for it to be sustained in some form in Vavuniya, Hambantota, Moneragala, and NuwaraEliya. The importance of institutionalizing IC process for annual planning and budgeting activities or institutionalizing the Tanahashi framework for scientifically analysing health system bottlenecks within the districts was seen during the pilot DICA process that was concluded.

3.2 Data gaps MBB tool

The analyses using the MBB software tool focused on improving maternal and child health outcomes, that is, those related to MDGs 4 and 5. All the analyses were significantly dependent on collecting sufficient and high quality data. But a large percentage of the data needed for the selected indicators were not available through routine data collection mechanisms, and reliable data had to be obtained using expert informants and focus groups. The MBB approach using the MBB software tool approach is highly data intensive, and this adds considerably to the costs of the process.

Some of these data gaps might easily be addressed in future by modest improvements in existing information systems, whilst others might require large expenditures on new surveys or new information systems. Such spending might not be justified always in terms of benefits that would be

obtained. Assessment need to be carried out to identify how critical such data gaps are, whether the analytical tools can be modified to be less dependent on such data, and the costs and sustainability of potential solutions.

Another issue with sourcing of information, concerned data that are already available through existing information systems, but which require technical expertise to process them into a form that can be used by district managers. For example, the work in Vavuniya relied significantly on the analysis of mortality data collected by the RGD, which is beyond the normal routine tabulations that the department staff undertakes. Similarly, IHP staff had to analyse the MSD database to obtain data for indicators for the four districts. The country has many such data sources, which are under-exploited by district and national planners, owing to the difficulties in accessing data or lack of suitable expertise to process the data. To address this type of problem, the district management teams need to have access to expertise in relevant academic and research institutions, and their needs to be a culture of partnership between MOH staff and external technical experts.

It would also be apt in a way that the data requirements of the tool are more simplified. At the moment the MBB tool consists of about 1,116 data indicators and having the need to collect these data itself cause delays in the process. Some indicators require fresh surveys. Thus it is important to revisit the tool to make it more simplified, user friendly and to suit the health system of Sri Lanka.

A shortcoming of the whole process was identified at the stage where the costing had to be done. Districts are not budget holding entities in Sri Lanka and therefore it was not possible to make the maximum use of the MBB tool in planning of the allocation of funds using the tool. However the IC process generated better outcomes for the districts in terms of the use of the Tanahashi framework to analyse health system constrains and it is vital that such scientific methods are integrated into the health system planning. For the use of the districts it would be rather important to have a simpler version of the MBB tool consisting the Tanahashi framework alone so that the districts could from time to time assess where they stand in terms of achieving MNCH outcomes rather than emphasising on the cost factor of the analysis.

Assessing the affordability and value of the different best buy numbers generated by the MBB tool compared with current strategies is not straightforward, as the MBB tool does not generate estimates of the current cost levels. This is a limitation in the current version of the MBB software tool.

It is necessary to mention that the MBB tool is not designed to evaluate non-MNCH interventions. This indicates the need for other analyses to determine the overall pattern of investment in all district health services, for example the relative allocation of spending to MNCH services compared to spending on diabetes or heart disease. Whilst the MBB tool can inform choices about future MNCH

interventions, it will need to be supplemented by other tools to identify the overall range of investments that district and national planners should invest in.

The current MBB tool is also concentrated on analysing the health system in three different levels, family oriented community based services, and population oriented schedulable services and individual oriented clinical services. However the Sri Lankan health system is only categorized into two segments, the preventive sector and curative sector. In addition the MBB tool requires that clinical services be categorized into a maximum of three levels, in order to input the data and analyse expansions in coverage of individual-oriented clinical services. This is a limitation when applied in Sri Lanka, where clinical services are organized in more than seven levels in practice.

3.3 Realism of the MBB tool projections

A separate issue from affordability is how realistic the MBB tool based projections are. Here, the historical experience in Sri Lanka and Vavuniya provides grounds to exercise some caution. That experience indicates that prior to the recently concluded conflict, and even during the conflict in areas outside the main conflict zone, child mortality and maternal mortality rates have consistently declined at a rate of 3-4 per cent each year. Such rates of decline of course are necessary to achieve MDGs 4 and 5. Even in Vavuniya, where the conflict had significant impact, recent evidence indicates that the district is rapidly getting back on track to achieve an equivalent rate of mortality reduction since 1980, if measured from 1980 to 2011. However, the MBB tool projections were only able to come up with a maximum annual reduction in child and maternal mortality of the order of 1.5-2.0 per cent, far less than is the experience in Sri Lanka. This was same with the other three districts as well. This suggests that there are three deficiencies in the current MBB tool and the MBB exercise was not able to adequately cover all potential options for mortality reduction. Reasons for this might include the lack of generalizability of the global MBB tool to low mortality settings such as in Sri Lanka, and the inability of the MBB tool to account for efficiency improvements in district health services delivery.

First, it is that it is not able to adequately model either the health gains or the impact of interventions that occur in low mortality settings such as Sri Lanka. The current software uses evidence which is largely from high mortality countries, and such evidence might not provide a good basis to model mortality reductions in countries with low mortality such as Sri Lanka. Second, the types of intervention that are needed to further reduce child and maternal mortality in the districts might not be currently included in the MBB software tool, indicating that more work needs to be done to redesign it for the Sri Lanka setting. Third, it does not appear that the MBB software tool accounts for the impact of productivity or technical efficiency gains which reduce the unit cost of health service delivery. Such efficiency gains have averaged 2-3 per cent per year in the past half-century in Sri Lanka, as government health services have become more efficient at producing basic

services. If these types of efficiency gains are not included in the MBB software tool, they would act to substantially under-estimate the impact of interventions on outcomes.

3.4 Implications and next steps

The DICA pilot in Vavuniya, Hambantota, Moneragala, and NuwaraEliya has demonstrated the importance of using a structured approach to analyse problems in healthcare delivery and of the contribution that the Tanahashi bottlenecks framework could provide for the routine work of district planners. It has also revealed the need for investment in capacity building of the district planners and managers, as well importantly their enthusiasm and commitment to such capacity building. The MBB tool proved helpful in assisting district planners and managers in thinking through current barriers to service delivery, and in prioritizing future activities. At the same time, a number of limitations were noted in the use of the MBB software tool, which lead us to recommend caution in how it is used and how the results are interpreted, and to recommend that more work be done to improve the tool. Nevertheless, this does not detract in any way from the great benefits of the whole process for the healthcare workers in the districts.

Based on this experience, it would appear that support for continued analyses like this on a regular basis would benefit the districts. The district experts are of the opinion that many of the conclusions reported here are already out of date, owing to the significant improvements they have made in the past two years in health service delivery and that there is a need to update this work in the near future. In this context means by which the process benefits are maximized, whilst the data analysis components of using the MBB software tool are made less burdensome and less time consuming would be very helpful. Finally, given the very positive experience of this exercise in Vavuniya, Hambantota, Moneragala, and NuwaraEliya, it is recommended that this process be shared with other districts in the country, and consideration be given at the highest levels to strengthen the skills, capacity and resources of district managers to undertake DICA in the future.

Chapter 4: Recommendations

4.1 Recommendations to District planners

There is a need to identify key personnel with skills in planning and statistics within the RDHS office of the district and to form a DICA task-force consisting of these personnel. The DICA task-force should be entrusted with data collection, updating and entering of data into the MBB tool, data cleaning and carrying out of the bottleneck analysis. Nevertheless, as discussed in the previous chapters of this report one of the main issues that were encountered during the pilot DICA study was the lack of technical skills of the district teams when it came to scientific analysis, data handling and computer literacy. Therefore, ideally it is advisable that the district/national authorities obtain technical assistance from a third party organization, such as IHP in this area, so that necessary training could be provided to the district teams in terms of the MBB software, Tanahashi framework and the IC process as a whole. This is also recommended, as IHP already possesses the necessary information and knowledge, as the pilot DICA was conducted and concluded by IHP. Obtaining technical assistance from a third party is also recommended for the districts because of the constraints involved in conducting such a lengthy exercise in terms of time, finances and resources. The districts find it difficult to fit this exercise, randomly, into their annual plans of action due to the already existing programmes or due to various procedures involved in introducing a planning process, such as DICA into their system.

The process of DICA seems to be an effective process for individual districts to identify various constraints that exists within their health systems at a micro level. Therefore, it is recommended that the DICA task-force utilizes the Tanahashi framework prior to development of annual health plans in trying to understand the changes in coverage of the *tracer interventions* and identifying the bottlenecks of each of the *service delivery modes* of the district.

Despite the fact that the district is not a budgeting entity in Sri Lanka as yet, the planning officers of the district, together with the DICA task-force, can use the MBB tool and it's concept to prioritize and organize annual activities for the district and disburse funds received by donors and the government according to the prioritized activities.

The process enables the district health authorities to examine the best strategies that need to be adopted to achieve desired health targets. Since the tool is based on evidence, there is sufficient trust in the reliability of outcomes in terms of best optimal strategies. These then could be costed and included in the budget estimates for the following year for consideration

The tool and concept can also be used as an effective medium-term planning tool to set goals and timelines by taking into account the existing bottlenecks and working towards achieving them.

District planners can use the MBB tool and concept as a mechanism for advocacy, thus the districts can persuade donor agencies, Non-Governmental Organizations (NGO) and Central Budget Officers (CBO) to allocate their funds ear-marked for health to priority activities obtained using the MBB tool.

Since this process requires the inputs of health workers of all levels, such as field workers (PHIs/PHMWs), institution-based health workers (Medical officers/Nurses), and health managers, they will develop a sense of belonging to the health system of the district and this, in turn, will generate positive outcomes to the whole process, in terms of efficiency and getting first-hand feedback from the respective workers. This was especially observed during the workshops held in the districts, where the enthusiasm and participation of the field workers were of a very high standard. Therefore, it is recommended that the DICA task-force conduct focus group discussions consisting of a wide range of health workers when collecting data for the MBB tool. This mechanism is also expected to create a culture of analytical thinking among health workers, based on scientific methods.

4.2 Recommendations to central level policy makers

To establish and facilitate a network between districts, UNICEF and other technical resource institutes so that DICA could be carried out regularly.

Given the very positive experience of this exercise in the four districts, it is recommended that this process be shared with other districts in the country, and that thought be given at the highest levels to how the skills, capacity and resources of district managers can be increased.

4.3 Recommendations to UNICEF

More time should be allocated for planning in terms of organizing the process and providing adequate time to carry out the bottleneck analysis and data collection workshops. It is necessary, especially in the case of undertaking DICA for several districts at once, that this fact is given serious consideration. For instance, the 8 data collection visits of all four districts were concluded within 5 weeks, and the four bottleneck analysis workshops plus the four data validation workshops were concluded within 4 weeks to meet deadlines. To ensure quality analysis and outcomes, it is necessary that sufficient time is provided to carry out these activities properly.

Capacity-building of the key personnel involved in DICA should be carried out in a more organized and methodical manner. It is necessary that UNICEF, along with the MoH, first identify the correct mix of officers who can devote adequate time to carry forward the IC work. They should constitute the core group and be provided with sufficient training in a systematic manner, covering all areas that require to be completed to undertake a comprehensive DICA for a district. A system to

communicate with the UNICEF consultants/experts on a regular basis should be provided in order that there is constant dialogue and technical support for the IC team (core group)

The analysis also revealed that this tool was not sensitive enough to capture the impact that bottlenecks have on outputs of the MBB tool, in the case of a country like Sri Lanka, which has low morbidity and mortality levels. Sri Lanka has already achieved considerable progress towards the health MDG goals and targets, and even disaggregated data in districts in Sri Lanka shows that they have reached high levels of progress, when compared to high mortality and morbidity countries. The gap in achieving MDGs is thus very small compared to other developing countries. Therefore, reducing the mortality rates, even further requires perhaps different strategies and mechanisms than what is modelled in the tool. It would be appropriate, therefore, if UNICEF can take measures to examine and explore how the MBB tool can be modified to accommodate the needs of low morbidity and low mortality countries, in order to provide solutions for them to achieve MDGs.

Chapter 5: Guidelines for future DICA and action plan

There are several positive benefits that emerge from the IC process, which the government can utilise so that desired outcomes, in terms of health and district health management, will be achieved.

This chapter presents guidelines and an action plan that the stakeholders in IC can employ when conducting DICA in other districts of the country.

The guidelines and action plan could be categorized into two main sections (i) guidelines and action plan for setting up groups, appointment of key members and networking and (ii) guidelines and action plan of carrying out the IC process.

First, it is necessary that the base for the whole IC process is well planned and implemented. The base includes selecting the correct mix of personnel to assist and work on IC, as well as the setting up of key groups. Taking into consideration, the experience of the pilot project that was launched for IC at national level, it is possible to say that sufficient thought and planning was not put into setting-up of groups, appointment of key members and networking. As a result, in some instances a substantial amount of time had to be spent on debating issues that were taken up several times. In addition, there was a low rate of participation at meetings and workshops by members of the IC steering committee or presence of new personnel at meetings which slowed down the progress of the process. Thus the correct mix of personnel and working members will enhance the smooth progress of the process, save time and finances which are vital elements for the success of the project.

Second, it is imperative that the actual carrying out of the IC process is well-planned, providing sufficient intervals between key junctures. This was also an aspect that was not present during the recent pilot DICA in Vavuniya, Hambantota, Nuwara Eliya and Monaragala. During the process, 8 rounds of data collection visits, 4 rounds of data validation workshops and 4 rounds of bottleneck analysis workshops were concluded within a span of 12 weeks. This is not optimal, as data collection and cleaning requires adequate time. In addition, the personnel involved in the IC process are required to have sufficient knowledge on (i) the IC concept, (II) concept behind the Tanahashi framework and most importantly (iii) the MBB tool. Once the base is set, then the process can be concluded successfully.

5.1 Setting up key groups, appointing members and networking

Activity 1	Appoint an IC steering committee		
Responsibility	Ministry of Health		
Key tasks of the IC Steering committee		Number of members	Qualifications IC steering committee
Appointing of a chairperson and a secretary to the steering committee		Consisting of a member each from IC working group, IC task forces, UNICEF and other partners plus 3-4 policy level administrators from the Ministry of Health	Policy level technical experts
Discussing and debating upon key policy matters, interventions, selection of tracers, selection of indicators for Tanahashi levels, approving of finalized results, providing expertise and guidance to the overall IC process			

Activity 2	Establish an IC working group consisting of the correct mix of national level experts that could work on a full time basis on the IC process		
Responsibility	Ministry of Health		
Key tasks of the IC working group		Number of members	Qualifications/knowledge/skills of members of the IC working group
Appointing of a chairperson and a secretary to the working group		20	Medical administrators, technical experts, statistics, data analysis
Data collection, data cleaning and data entry			
Facilitating district level IC analysis			

Activity 3	Establish a secretariat of Investment Case within the Ministry of Health		
Responsibility	Ministry of Health		
Key tasks of the IC Secretariat		Number of members	Qualifications/knowledge/skills of members of the IC Secretariat
Liaise with districts, UNICEF and other stakeholders and establish networks between IC stakeholders		5	Managerial, technical and administrative skills
Carry out tasks ranging from convening meetings, coordination with RDHS, UNICEF and other stakeholders, getting letters, minutes duly prepared and signed, preparation of agenda, organizing of workshops and meetings, arranging for refreshments			
Providing facilities (Information Communication Technology) to the IC working group members to conduct IC analysis			
Monitoring the overall IC process			

Activity 4	Appoint district level IC task forces at RDHS offices		
Responsibility	RDHS		
Key tasks of the IC task force		Number of members	Qualifications/knowledge/skills of members of the IC Task Force
Appointing of a chairperson and a secretary to the IC task force		8	Medical administration, statistics, data analysis, district planners, Epidemiologists and Consultant Community Physicians
Data collection, data cleaning and data entry			
Facilitating district level IC analysis			

Activity 5	Facilitating the IC process		
Responsibility	UNICEF		
	Key tasks of the UNICEF	Number of members	Qualifications/knowledge/skills of members of UNICEF
	Conduct orientations on IC and MBB tool to members of the IC working group, IC task forces, IC secretariat and IC steering committee	Any	IC, MBB tool, IC costing, financing and strategic planning
	Provide education on Tanahashi concept and hands-on training on the MBB tool to members of the IC working group, IC task forces, IC secretariat and IC steering committee		
	Facilitate at national and district level workshops		
	Provide expert advice and knowledge to members of the IC working group, IC task forces, IC secretariat and IC steering committee, as and when the IC process continues		
	Assist the members of the IC working group, IC task forces, IC secretariat and IC steering committee to establish communication between UNICEF MBB and IC experts when necessary		
	Making necessary and prompt assistance of experts of MBB and IC, to facilitate the process within the country with the local UNICEF staff in an event when such expertise is not available		

5.2: Guidelines for the process of IC

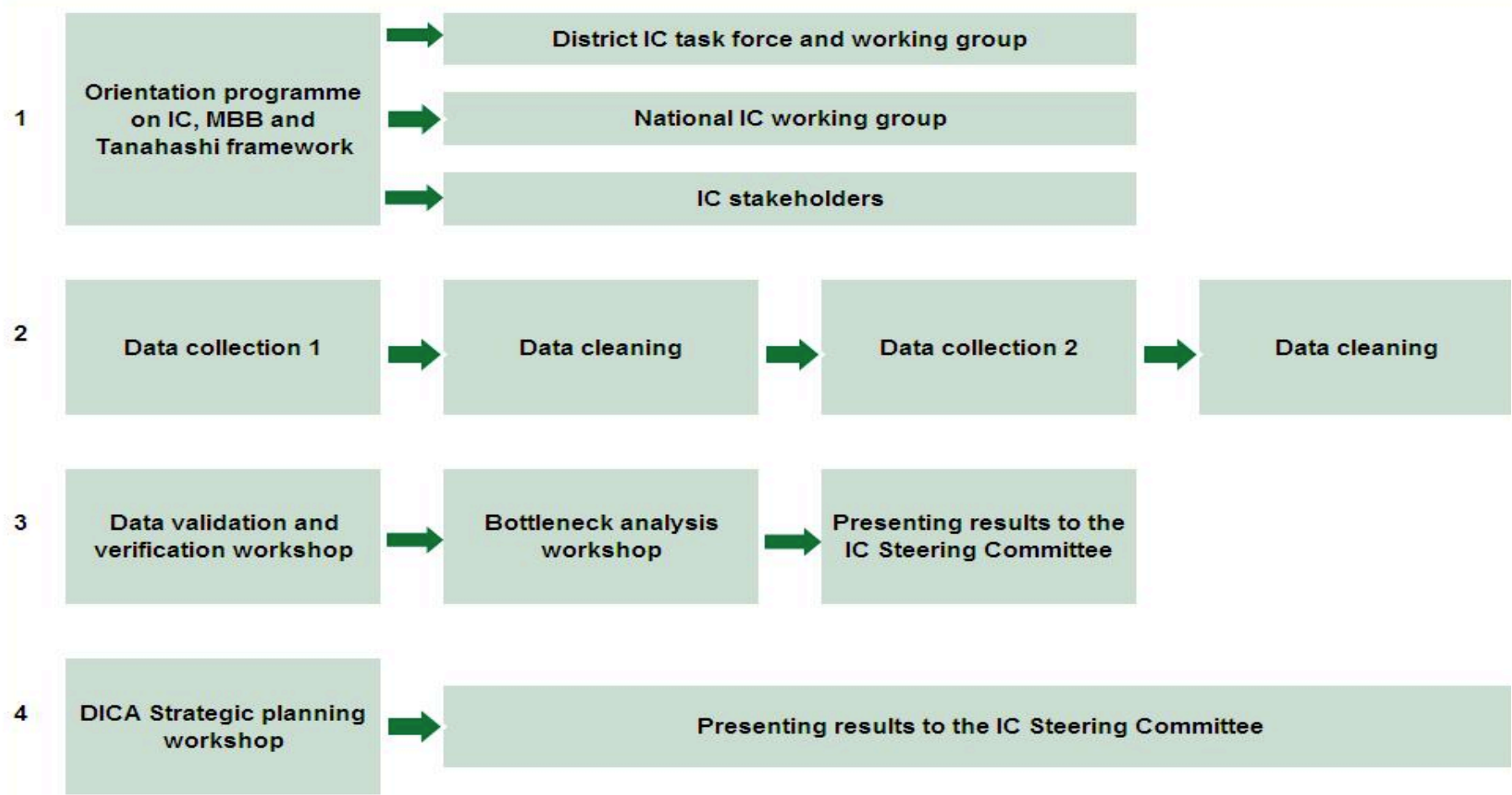
The process can be categorized into four main steps: (i) Orientation (ii) data collection and cleaning (iii) data verification and bottleneck analysis and (iv) strategic planning (Figure 2).

In the first phase, it is vital that all partners of IC are given a thorough understanding about what is done in an IC process, how the MBB tool comes into play, the various data that is needed for the functioning of the tool, the importance of entering correct data and the mechanism of the Tanahashi framework. This could be done, ideally, by UNICEF, as they have the necessary resource persons. Orientation programmes can also be made use for identifying data sources and establishing necessary communications and links between those identified resources.

In the second phase, data collection can be started. By this time the partners of DICA will be aware of the whole process. Therefore, a considerable amount of time can be saved in conducting the data collection. During data collection the identified sources can be contacted and followed-up in filling the necessary data. It is necessary that better communication and networks between the partners of IC are set up so that data collection can be carried out smoothly. It is also necessary that sufficient time is given for data cleaning before the next round of data collection is begun. At the second round of data collection the indicators for which data was not available through a published/documentated administrative or survey source can be presented to a focus group for their views.

The third phase involves validating the collected data and conducting of the bottleneck analysis. These two activities can be conducted during the same workshop. At the bottleneck analysis stage the various Tanahashi levels of each tracer should be presented to the focus group and the bottlenecks should be discussed, along with the strategies that the district officials think will be more suited in minimizing the bottlenecks. At this point, it is also desirable that the district officials be consulted on the percentage of bottleneck reduction that they wish to attain with regard to the Clinical and Community based services. Once this step is completed the results can be presented to the IC steering committee.

In the fourth phase, the various scenario options modelled, using the desired percentage of bottleneck reductions can be presented to the district officials for further deliberation at the strategic planning workshop. Here the various MNCH outcomes and cost levels should be presented and discussed.



Source: Author's compilation

Figure 2: Proposed steps to be followed during future IC processes

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Appendix 1: IC Core Group members, as at 29 June 2010

Name	Designation	Other information
Dr. T. R. C. Ruberu	Secretary Health	Chairperson
Dr. P. G. Mahipala	Additional Secretary Medical Services	Member
Dr. U. A. Mendis	Director General Health Services	Member
Dr. S. T. G. R. De Silva	Deputy Director General Medical Services I	Member
Dr. R. W. Jayantha	Deputy Director General Health Services (Planning)	Convener
Dr. R. R. M. I. R. Siyabalagoda	Deputy Director General Public Health Services II	Member
Mr. P. A. Pathiratna	Deputy Director General/Finance II	Member
Dr. S. R. U. Wimalaratne	Director (Information)	Member
Dr. S. C. Wickramasinghe	Director (Planning)	Member
Dr. Deepthi Perera	Director (Family Health Bureau)	Member
Dr. Paba Palihawadane	Director (Epidemiological Unit)	Member
Mr. Ravindran	Secretary Health, Northern Province	Member
Mr. M. W. Wijethilake	Secretary Health, Southern Province	Member
Mrs. G. A. M. S. P. Ambanwala	Secretary Health, Uva Province	Member
Mr. W. B. Ekanayake	Secretary Health, Central Province	Member
Representatives	UNICEF	Member
Dr. R. P. Rannan Eliya	Director and Senior Fellow, IHP	Observer

Appendix 2: IC Working Group members, as at June 29 2010

Name	Designation	Other information
Dr. R. W. Jayantha	Deputy Director General Health Services (Planning)	Chairman
Dr. S. T. G. R. De Silva	Deputy Director General Medical Services I	Member
Dr. R. R. M. I. R. Siyabalagoda	Deputy Director General Public Health Services II	Member
Dr. S. R. U. Wimalaratne	Director (Information)	Convener
Dr. S. C. Wickramasinghe	Director (Planning)	Member
Dr. S. A. A. N. Jayasekara	Director (International Health)	Member
Dr. S. A. K. Gamage	Director (Medical Services)	Member
Dr. H. M. K. Wickramanayake	Director (Tertiary Care Services)	Member
Dr. Indra Kumari Fernando	Director (Primary Care Services)	Member
Dr. Champa Aluthweera	Director (Non-Communicable Diseases)	Member
Dr. (Mrs) V. S. P. Pannila	Director (Lab Services)	Member
Dr. U. Sivapathasundaram	Director (Estate and urban health)	Member
Mrs. K. A. Ariyalatha	Director Finance (Expenditure) II	Member
Mrs. D. C. Madurawala	Director Finance (Planning)	Member
Dr. Deepthi Perera	Director (Family Health Bureau)	Member
Dr. Paba Palihawadane	Director (Epidemiological Unit)	Member
Dr. Sarath Amunugama	Director (Health Education Bureau)	Member
Dr. U. M. M. Samaranyake	Director (Nutrition)	Member
Dr. S. R. H. P. Gunawardana	Director (Nutrition coordination division)	Member
Dr. Lulu Rasheed	Director (Medical Research Institute)	Member
Dr. Neelamani Hewageegana	Provincial Director of Health Services (Uva Province)	Member
Dr. J. B. Senarath	Provincial Director of Health Services (Southern Province)	Member
Dr. A. E. Ganajothy	Provincial Director of Health Services (Northern Province)	Member
Dr. Shanthi Samarasinghe	Provincial Director of Health Services (Central Province)	Member
Dr. V. S. K. Subasinghe	Regional Director of Health Services (Nuwara Eliya)	Member
Dr. V. T. S. K. Siriwardane	Regional Director of Health Services (Monaragala)	Member
Dr. M. Mahendran	Regional Director of Health Services (Vavuniya)	Member
Dr. A. D. U. Karunaratne	Regional Director of Health Services (Hambantota)	Member
Chairman or a nominee	Finance Commission	Member
Mrs. Yamuna Perera	Director (Children Secretariat)	Member
Dr. Ravi Rannan Eliya/ Dr. K. C. S. Dalpatadu	IHP	Member
Representative	National Water Supply and Drainage Board	Member
Representative	Plantation Human Development Trust	Member
Representative & Members	Sarvodaya	Member
Representative & Members	United Nations Population Fund	Member
Representative & Members	World Bank	Member
Representative & Members	World Food Programme	Member
Representative	World Health Organization	Member
Representative & Members	UNICEF	Member

Appendix 3: Other MoH and provincial members of the IC working group 2010-2011

Name	Designation	Other information
Dr. D. R. K. Herath	Director /International Health	Member
Dr. Sudath Pieris	Acting Epidemiologist	Member
Dr. Nimal Edirisinghe	Director, National STD/AIDS Control Programme	Member
Dr. Ariyaatne Manatunga	Consultant Venereologist,National STD/AIDS Control Programme	Member
Dr. S. L. Deniyage	Director, Malaria Control Programme	Member
Dr. Gowri Gallappathi	Focal point-Country Coordinating Mechanism	Member
Dr. Sunil De Alwis	Director, National Programme for Tuberculosis Control and Chest Diseases	Member
Dr. Samaraweera	Consultant Community Physician /National Programme for Tuberculosis Control and Chest Diseases	Member
Dr. Amanthi Bandusena	Assistant Consultant Community Physician, Health Education Bureau	Member
Ms. K. A. S. Hemalatha	Ministry of Health	Member
Dr. S. S. P. Godakandage	Consultant Community Physician /Family Health Bureau	Member
Dr. V. T. S. K. Siriwardane	Regional Director of Health Services /Monaragala	Member
Dr. A. D. U. Karunaratne	Regional Director of Health Services /Hambantota	Member
Dr. Asanka Wedamulla	Medical Officer (Planning)	Member
Dr. Clive James	Medical Officer (Planning)	Member

Appendix 4: DICA Steering committee members, 2010-2011

Name	Designation	Other information
Dr. R. W. Jayantha	Deputy Director General Health Services (Planning)	Chairmen
Dr. S. C. Wickramasinghe	Director (Planning)	Secretary
Dr. S. R. U. Wimalaratne	Director (Information)	Member
Dr. Renuka Jayatissa	Nutritionist, Medical Research Institute	Member
Dr. Chitramali De Silva	Consultant Community Physician /Family Health Bureau	Member
Dr. Jagath Amarasekera	Assistant Epidemiologist, Epidemiology Unit	Member
Dr. Mozzam Hossein	Chief, Health and Nutrition Section, UNICEF	Member
Dr. Shanti Dalpatadu	Senior Fellow, IHP	Member
Dr. Irosha Perera	Medical Officer(Planning), Management Development and Planning Unit	Secretarial Support
Dr. I.L.M. Rifaz	Emergency Health and Nutrition Officer, UNICEF	Secretarial Support
Ms. Shanaz Saleem	Research Officer, IHP	Secretarial Support

Appendix 5: DICA Core Group members for the districts, 2010-2011

The *Core Group* of each district consisted of the following personnel:

Regional Director of Health Services	- Chairman
Medical Officer, Planning	- Secretary
Medical Officer, Maternal and Child Health	- Member
Regional Epidemiologist	- Member
Consultant Community Physician	- Member
Accountant	- Member
Staff of the Medical Officer Planning Office	- Member

Appendix 6: Detailed description of the main activities involved in IC and DICA process, Sri Lanka and Vavuniya 2010-2011

Date	Place	Activity
April 2010	Colombo, Sri Lanka	The UNICEF and Deputy Director General of Health Services initiated discussions on formulating District Investment Case Analysis for Vavuniya, Hambantota, Monaragala and Nuwara Eliya
4 July 2010	Colombo, Sri Lanka	IHP and UNICEF officials conducted preliminary discussions on carrying our District Investment Case Analysis in Vavuniya, Hambantota, Monaragala and Nuwara Eliya
13-15 July 2010	Kandalama, Sri Lanka	IHP team attended the Investment Case data verification and validation workshop organized by UNICEF and Ministry of Health
5-8 August 2010	Dhaka, Bangladesh	Dr. Shanti Dalpatadu of IHP attended a regional capacity-building workshop on bottleneck analysis
17-18 August 2010	Vavuniya, Sri Lanka	IHP conducted the first round of data collection in the district of Vavuniya
31 August-1 September 2010	Monaragala, Sri Lanka	IHP conducted the first round of data collection in the district of Monaragala
	Vavuniya, Sri Lanka	IHP conducted the second round of data collection in the district of Vavuniya
6 September 2010	Colombo, Sri Lanka	IHP briefed members of the District Investment Case Analysis Steering Committee on the progress of the Marginal Budgeting for Bottlenecks project, data collection visits to the four districts, key issues that IHP facilitators had to face during these visits
7-8 September 2010	Hambantota, Sri Lanka	IHP conducted the first round of data collection in the district of Hambantota
	Monaragala, Sri Lanka	IHP conducted the second round of data collection in the district of Monaragala
9 September 2010	Colombo, Sri Lanka	IHP team engaged in technical and capacity building session conducted by UNICEF consultant Dr. Kyaw Mint Aung
13-14 September 2010	Nuwaya Eliya, Sri Lanka	IHP conducted the first round of data collection in the district of Nuwara Eliya
	Hambantota, Sri Lanka	IHP conducting the second round of data collection in the district of Hambantota
20 September 2010	Colombo, Sri Lanka	IHP team facilitated the first round of technical and capacity building session conducted by UNICEF consultant Dr. Kyaw Mint Aung for members of the District Investment Case Analysis Steering Committee
20-21 September 2010	Nuwaya Eliya, Sri Lanka	IHP conducted the second round of data collection in the district of Nuwara Eliya
24-26 September 2010	Colombo, Sri Lanka	IHP facilitated the national bottleneck analysis at the National Workshop on Investment Case for Achieving Millennium Development Goals in Sri Lanka organized by the Management Development and Planning Unit of the Ministry of Health in collaboration with the UNICEF

Date	Place	Activity
29 September 2010	Colombo, Sri Lanka	IHP team facilitated the second round of technical and capacity building session conducted by UNICEF consultant Dr. Kyaw Mint Aung for members of the District Investment Case Analysis Steering Committee
1 October 2010	Colombo, Sri Lanka	IHP team discussed the tracers that were in dispute during the National workshop held in Cinnamon Grand Colombo on the 25 th -26 th September, reviewed the classification of the levels of service delivery, finalized the schedules for the district workshops with the members of the District Investment Case Analysis Steering Committee
6 October 2010	Colombo, Sri Lanka	IHP team engaged in further discussions with the members of the District Investment Case Analysis Steering Committee into the items taken up during the steering committee meeting held on the 1 st of October
7 October 2010	Vavuniya, Sri Lanka	IHP conducted the data validation and verification workshop in Vavuniya
8-9 October 2010	Vavuniya, Sri Lanka	IHP conducted the bottleneck analysis workshop in the district of Vavuniya
14 October 2010	Nuwaya Eliya, Sri Lanka	IHP conducted the data validation and verification workshop in Nuwara Eliya
15 October 2010	Nuwaya Eliya, Sri Lanka	IHP conducted the bottleneck analysis workshop in the district of Nuwara Eliya
28 October 2010	Monaragala, Sri Lanka	IHP conducted the data validation and verification workshop in Monaragala
29-30 October 2010	Monaragala, Sri Lanka	IHP conducted the bottleneck analysis workshop in the district of Monaragala
3 November 2010	Hambantota, Sri Lanka	IHP conducted the data validation and verification workshop in Hambantota
4-5 November 2010	Hambantota, Sri Lanka	IHP conducted the bottleneck analysis workshop in the district of Hambantota
12 November 2010	Colombo, Sri Lanka	Dr. Shanti Dalpatadu of IHP presented the final finding of the four district bottleneck analyses at the review meeting of the Planning unit (Ministry of Health) for UNICEF support districts 2010-2012, held at the Cinnamon Lake Side, Colombo
25 November 2010	Colombo, Sri Lanka	IHP discussed and finalized the national figures for the tracers of the marginal Budgeting for Bottlenecks tool with the members of the District Investment Case Analysis Steering Committee and presented outcomes of the district bottleneck analyses
20-21 April 2011	Colombo, Sri Lanka	IHP and UNICEF Consultants from Regional Office for South Asia, Dr. Nuzhat Rafique and Mr. Afeef Mahmood engaged in cleaning and finalizing district data and scenario modeling
25 April 2011	Colombo, Sri Lanka	IHP facilitated the UNICEF consultants in presenting the various strategic planning options for the districts of Nuwara Eliya and Hambantota. The presentation was made to officials from the office of the Regional Director of Health Services
26 April 2011	Colombo, Sri Lanka	IHP facilitated the UNICEF consultants in presenting the various strategic planning options for the districts of Monaragala and Vavuniya. The presentation was made to officials from the office of the Regional Director of Health Services

Date	Place	Activity
27 April 2011	Colombo, Sri Lanka	UNICEF consultants presented the national and district level strategic planning options to the Investment Case <i>Working Group</i> members. Dr. Shanti Dalpatadu of IHP presented the plan of action at the district strategic workshops scheduled to be held in the month of May
9 May 2011	Colombo, Sri Lanka	IHP presented national and district level strategic planning options to the programme directors of the Ministry of Health for reviewing, discussion and finalizing.
21 May 2011	Vavuniya, Sri Lanka	IHP conducted the strategic planning workshop in the district of Vavuniya
24 May 2011	Nuwara Eliya, Sri Lanka	IHP conducted the strategic planning workshop in the district of Nuwara Eliya
26 May 2011	Monaragala, Sri Lanka	IHP conducted the strategic planning workshop in the district of Monaragala
27 May 2011	Hambantota, Sri Lanka	IHP conducted the strategic planning workshop in the district of Hambantota
30 May 2011	Colombo, Sri Lanka	Dr. Shanti Dalpatadu of IHP made a presentation to Dr. T. R. C. Ruberu, Secretary Health on the findings of the Strategic planning workshops held in the districts. IHP and UNICEF had discussions on the formulating of the District Investment Case Analysis reports for the districts.
21 June 2011	Colombo, Sri Lanka	Dr. Shanti Dalpatadu of IHP made a presentation to Dr. Wimal Jayantha, Deputy Director General of Health Services (Planning) on the final draft results to be included in the District Investment Case Analysis reports for the four districts. It was agreed at this point that presenting of a national level Investment Case was a bit premature and introducing of new interventions for the district Investment Case analysis was not required by the Ministry of Health. Thus it was agreed by UNICEF, IHP and Ministry of Health that Investment Case reports will only be produced for the four districts and no new interventions would be considered during the analyses.
June -July 2011	Colombo and ROSA	Series of communications between IHP and UNICEF Regional Office for South Asia on refining, de-bugging of the Marginal Budgeting for Bottlenecks tool and issues related to the analyses using the Marginal Budgeting for Bottlenecks tool
July-October 2011	Colombo, Sri Lanka	IHP carried out the cost effective analyses for the districts using Marginal Budgeting for Bottlenecks tool and compilation of District Investment Case Analysis reports.
13 October 2011	Colombo, Sri Lanka	IHP held discussions with Dr. Genevieve Begkoyian, Regional Advisor on Child Survival, UNICEF Regional Office for South Asia and other UNICEF counterparts on draft District Investment Case Analysis report for Vavuniya. Further discussions were made on how the other district reports should be formulated, data collection issues and way forwards for Vavuniya

Date	Place	Activity
13 October 2011	Colombo, Sri Lanka	Dr. Genevieve Begkoyian, Regional Advisor on Child Survival, UNICEF Regional Office for South Asia, other UNICEF counterparts and IHP meeting and discussions with Dr. Paliitha Mahipla, Additional Secretary, Health and Dr. Wimal Jayantha Deputy Director General of Health Services (Planning) about the process and the way forwards of District Investment Case Analysis
21 October 2011	Colombo, Sri Lanka	IHP presented the preliminary draft District Investment Case Analysis report of Vavuniya to Dr. Wimal Jayantha Deputy Director General of Health Services (Planning) and UNICEF officials for reviewing