

**ENHANCING THE EFFECTIVENESS OF ACUTE  
RESPIRATORY TRACT INFECTION CONTROL  
PROGRAM OF BRAC**

**Firoz Mahboob Kamal**

**A Paper**

**Prepared in Partial Fulfillment of the Requirement for the Degree of  
Master of Public Health (MPH)**

**Department of Health Policy and Administration  
University of North Carolina at Chapel Hill  
USA**

**July 1996**

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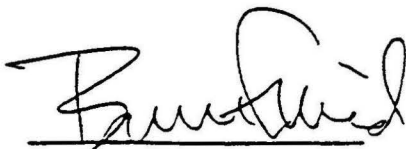

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**Approved by:**

  
**First Reader**  
**Second Reader**

## Preface

This study was aimed at evaluating the Acute Respiratory Tract Infection (ARI) Control Program of BRAC (Bangladesh Rural Advancement Committee - the largest NGO in Bangladesh) with the purpose of enhancing its effectiveness. So, along with diagnostic deliberation, problem solving has been a major imperative of the study.

In the health care sector in Bangladesh, the strategic management issues enjoy little attention. Most emphases are usually spent to establish sophisticated hospital with huge physical infra-structures focused to an urban clientele. Even in its impoverished economy, large hospitals are not few. But a great irony is that several thousands of beds in these hospitals lie vacant or not utilized. This situation is not only because of inadequate amenities in state-run hospitals, rather largely owes to lack of strategic management. Previously the sector was run on charity or public funds granted by the altruistic motive of the government, so its financial sustainability or competitive positioning in the market were not perceived as a worthy concern. But now, the global economic constraints as well as competitive health care initiatives of some entrepreneurial genius have crept into this domain of charity and altruism. The health care sector is now called the 'health care industry' - especially in developed countries, so the competitive positioning of a health program essentially becomes crucial in present day perspectives. In USA, health care went from \$ 11.5 billion in 1960 and the tenth largest portion of economy to nearly \$ 1 trillion in 1995 - only second in size to real estate (Duncan et al., 1995). Due to such rapid boom in this sector, strategic thinking, strategic planning and strategic management of health care industry have attained the pick of importance now-a-days.

The ARI control program of BRAC is funded by donors. The program can not continue relying on donations, hence can not help BRAC fulfill its mission of serving

the rural people in the long run. Therefore its strategic planning and management are crucial not only for its effective functioning but for self-reliance. In Bangladesh, the formal health care sector does very little for the rural majority, it seldom stretches out beyond the country's urban boundary. The rural poor are still dependent on, indeed hostage to, quacks and untrained practitioners. In this context, BRAC's ARI control program has to compete for patients, markets, revenues, employees and more; and as such needs competitive strengths to be successful and sustainable. This report, though restricted in its deliberation by much constraints, has been focused on addressing those issues with a view at positioning the program as an effective caregiver - both at present and in the future. So in this report, emphasis will be on strategic planning component more so than on conventional evaluation analysis.

## Acknowledgment

I must express my deep gratitude to my preceptor Mr. AMR Chowdhury, Ph.D. Director Research, BRAC for guidance and inspiration in conducting the study. I also thank Dr. Sadia Afroze Chowdhury, Director HPD, BRAC for rendering me the access to the program management and the MIS data. I also acknowledge my indebtedness to my faculty adviser Mr. Barun Kanjilal Ph.D. for invaluable suggestion in developing the study design. I owe very much to all the teachers of EPDC course of University of North Carolina at Chapel Hill for their enthusiastic deliberation in high quality teaching. I must express my deep gratitude to Prof. Sagar C. Jain Ph.D. for his untiring patience in teaching the conceptual framework of diagnostic and problem solving research. I am much indebted to UNFPA for granting me the fund, and to BRAC for nominating me for this course.

Above all, I am much thankful to the program staff, the SSs and the village mothers who agreed to participate in the study. I am also grateful to my colleagues in the Research and Evaluation Division of BRAC for their worthy suggestions. Any errors and omissions remain my responsibility.

At the end, I must acknowledge my wife and children for their patient endurance, as my project works largely restricted my caring company with them.

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## Acronyms and Abbreviations:

AC	Area Coordinator
AM	Area Manager
ANC	Ante Natal Service
ARI	Acute Respiratory Tract Infection
BRAC	Bangladesh Rural Advancement Committee (now a proper name)
CEO	Chief Executive Officer
EPI	Extended Program of Immunization
FGD	Focus Group Discussion
FWC	Family Welfare Center
GC	Gram Committee (Village Committee)
GM	Growth Monitoring
HPD	Health and Population Division (of BRAC)
IEC	Information, Education and Communication
LBW	Low Birth Weight
MIS	Management Information System
MO	Medical Officer
MS	Mahila Shova (Women's forum)
NFPE	Non-Formal Primary Education
NFPE-AG	Non-Formal Primary Education for Adolescent Girl
NGO	Non-Government Organization
NTG	Non-Target Group
PO	Program Organizer
RM	Regional Manger
SS	Shastho Shebika
TBA	Traditional Birth Attendant
TG	Target Group
VO	Village Organization
WHO	World Health Organization

## Definition of Key Terms

### **1. Acute Respiratory Tract Infection (ARI):**

WHO/UNICEF defined Acute Respiratory Tract Infection (ARI) as a complex heterogeneous group of diseases, caused by a great number of etiological agents and affecting any site of the respiratory tract. The usual respiratory manifestations of ARI are fever, stuffy nose, refusal to feed, vomiting, diarrhea and convulsion. Upper respiratory tract infection cause morbidity and disability, while lower respiratory tract infections especially pneumonia is a major cause of death (WHO/UNICEF, 86).

### **2. BRAC:**

It is the largest non-government development organization (NGO) in Bangladesh. Originated in 1972 as Bangladesh Rehabilitation Assistance Committee with exclusive involvement in rehabilitation of post-war home-coming refugees, later on evolved into Bangladesh Rural Advancement Committee with the same acronym but with major involvement in rural credit operation for income generation of the poor, women and child health development and non-formal primary education, rural enterprise and cottage industry, fisheries and livestock, afforestation, human source development, management training etc. Since 1995, the term 'BRAC' has been registered as a proper name. At present the organization has 14,124 regular staff, 48,397 part time functionaries and cover some 55,443 villages in 60 districts. It is worth mentioning that Bangladesh has 64 districts and about 68,000 villages. The credit program of BRAC initiated in 1990, has disbursed US \$205.8 million by 1995 among the rural poor to initiate and sustain their income generating activities. Its education program has more than 31,014 on going schools for poor rural children, especially girls (BRAC, 96).

3. **Rural Bangladesh:**

The part of Bangladesh that lies outside the municipal boundaries of the cities. The rural areas consist of villages and are devoid of urban amenities like water supply, electricity (presently a few enjoy this facility), asphalt roads, medium of easy communication, and etc.

4. **Fast breathing:**

It is the increased rate of breathing than normalcy, used as a diagnostic criteria for ARI. WHO's program for control of ARI postulates the following cutoffs for fast breathing:

<b><u>Age of children:</u></b>	<b><u>Cutoff for fast breathing:</u></b>
a. <i>Less than 2 months</i>	60 per minute or more
b. 2 to 12 months:	50 per minute or more
c. 12 months to 5 years	40 per minute or more

5. **Chest indrawing:**

Chest indrawing is considered positive when the lower chest wall goes in when child breaths in. It occurs when the effort required to breath in is much greater than normal. If only the soft tissue between the ribs or above the clavicle goes in when the child breathes in (intercostal retractions) is not chest indrawing. Mild chest indrawing is normal in young infants because their chest wall is soft.

7. **Thana:**

Administrative sub-district with a population of about 70,000-200,000. It may be compared with county in USA or UK. **Sadar thana:** The subdistrict where the district head quarter is located.

9. **Union:**

Rural local body jurisdiction with about 20-30 villages and a population of about 20,000.

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## Executive Summary

### *1. The Project Rationale:*

Bangladesh is one of the poorest countries in the world with an average per capita income of only \$220 per year. (UNICEF, 1995). It is estimated that about half of the 111.4 million people in Bangladesh live in moderate poverty, nearly a third live in absolute poverty (World Bank, 1993). About 80 percent of the total population live in rural areas (Bangladesh Bureau of Statistics, 1995). They are the worst victims of the conspicuous inadequacies of government sectors, especially in the field of health care. To address those inadequacies, some Non-Government Organizations (NGO) have initiated their own health program in rural areas. In this regard, the health intervention of Bangladesh Rural Advancement Committee (BRAC) - the largest national NGO - is worth mentioning.

Acute Respiratory Tract Infection (ARI) is an important killer disease in Bangladesh. It is the most common cause of mortality in infancy. ARI is responsible for about 27 percent of all infant deaths (under 1 year). In under 5 children, it is the second most important cause of mortality, surpassed only by diarrhea. BRAC's initiatives in controlling ARI in children possess a discrete construct, very uncommon in Bangladesh and also in the world. Provision of health care services has almost always been the prerogative of the educated few. However, BRAC deployed illiterate or less literate community health volunteers called 'Shastho Shebika' (SS) from the lowest economic echelon of a program village as caregiver. This strategy has many perceived advantages such as lower drop-out rate of volunteers, lower costs due to less demands for payment, and familiarity and acceptance within the target communities. Since the ARI program has not been formally examined and evaluated, many questions remain to be answered. Moreover, BRAC's ARI control program runs on donor's fund which will not be sustained in the long-run. BRAC must aim at developing a plan that may help sustain its program on internal resources. Such perspective entails to satisfy the internal and external customers as well as stakeholders of the program. It also necessitates to acknowledge the reality that the health care market in rural Bangladesh is

not devoid of competitors. It is filled up with quacks, homeopaths, faith healers, paramedics, drug sellers, and indigenous practitioners. Hence, positioning R AC as an effective, efficient and successful caregiver in the health care market essentially needs a thorough strategic plan. All these factors indeed delineate the very premise of this research.

## 2. The Study Problem:

This study resolved to address two basic problems:

- i. Diagnosing the main obstacles that the A I control program of R AC has been facing in the way of becoming an effective caregiver in a rural community,
- ii. Formulating a corrective strategy, including a budget and a feasible action plan of implementation.

## 3. The Delimitation:

This study limits its premise by not looking into the epidemiological issues ~~that~~ may be linked with the causality of A I in the study population.

## 4. Importance of the Study:

The study would identify problems in the system and formulate the ~~corrective strategies~~ along with its implementation plan. The study may be useful for those ~~who work~~ with health intervention in rural Rangladesh. The study may provide useful ~~cues for~~ researchers engaged in strategic management or management research. Since ~~strategic management~~ and management research in health care is still in its infancy in Rangladesh, a study with such perspectives indeed possesses significant importance. In such ~~context~~ the present study suffices to establish its merit.

## 5. Objectives of the ARI control program:

The objective of the program was to increase awareness on A I among ~~noted~~ develop community based treatment and referral system for at least 75 percent of ~~A I cases~~ and to encourage rational use of drugs.

## 6. Objectives of this Research:

- i. To evaluate the performance of the ARI control program of BRAC,
- ii. To evaluate the external and internal environment of the system with a special focus on the management aspect,
- iii. To figure out the factors that are related to the performance of the program,
- iv. To formulate corrective strategies for enhancing the program performance and to select the most appropriate one for implementation,
- v. To develop a feasible plan of implementation for the selected strategy.

## 7. Methods and Materials:

### a. Study Area:

The ARI control program of BRAC is being implemented since 1991 in two sadar sub-districts (thana): Dinajpur and Bogra. For this research, Dinajpur subdistrict - about 300 hundred KM north-west of Dhaka - has been selected.

### b. Study Population and Sampling:

All the mothers having under-three children and all the Shastho Shebika (SS) working in Dinajpur sub-district were included in the study population. From each program area, 3 mothers of under 3 children and 3 SSs were randomly selected for in-depth interviews. Six to seven mothers and 14-15 SSs from each area were randomly selected for focus group discussion.

### c. Tools of Investigation:

The study is based on both primary and secondary data. The primary data are mostly qualitative, and collected through:

1. In-depth interviews,
2. Focus group discussions (FGD),
3. Interviews with managers and staffs of the program.
4. Observation of the process at different organizational levels.
5. Delphi technique



The secondary data are collected from the reports of Management Information System (MIS) of the ARI control program, kept both at the head office and at the field level.

8. Analytic Model:

For analysis of the performance, a system diagnostic model has been used (Jain SC, 1994). The conceptual framework of the model underlines that an organization invariably works in a system perspective with five components: input, process, output, environment, information/intelligence. Each of these components is subject to influences of others.

9. Limitations:

The study has to rely on MIS data which lack uniformity in terms of collecting format and indicator coverage, and also suffers from inadequacy of information that are essential for measuring the program output. From MIS data, the categorization of the current intervention population with a view to its demographic and socio-economic characteristics was not possible either. The program did not formulate desired output for most program components, therefore it was difficult to assess the performance of the program in relation to the actual output. It was felt that the sample population for FGD and personal interviews were over-represented by the BRAC's target group (TG), therefore opinion of the non-target group (NTG) as regards to customer satisfaction, acceptability and accessibility of the program did not receive the right amount of revelation.

10. Size and Distribution of the Problem:

- i. Objectives are inadequately translated into operation,
- ii. Inadequate number of doctors and paramedics in the program,
- iii. Epidemiological baseline survey and surveillance system on disease specific morbidity and mortality are non-existent in the program,
- iv. Absence of health care and referral center in the rural community,
- v. Inadequate incentives for the community volunteers - the SS,
- vi. Restricted acceptance of the program in the NTG,
- vii. Curative care only for one disease,

- viii Inadequacy of technical skill of the SS.
- ix. Inadequate supervision and supervisory manpower.
- x. Lengthy organizational hierarchy,
- xi. Transfer of program personnel is unusually high,

## 11. Factors in the Environment of the System:

### a. Socio-economy:

52.96 percent of the population belong to families having marginal land (less than 50 decimals), minimal assets and resources devoted exclusively for the survival, and sale labor at least for 100 days.

### b. Trend in Environmental Opportunities:

Political: Increasing egalitarian attitude in politics.

Social: Increasing political empowerment of the rural people encouraging them to demand their share in health care provisions of the government.

Economic: Improving economy of the country and also of the rural people.

Regulatory: Increasing encouragement by the government for involvement of non-government organization in health care system.

Technological: Expanding high technology in health care.

Communication: Expanding road and communication network in the community.

Literacy: Increasing literacy rate in the country.

Donor: Increasing preference of donors to funding health care projects.

Media: Expanding exposure of the people to health education by the media - both electronic and print.

Health research: Increasing trend in research community to conduct health research on issues like alleviating morbidity and mortality in the country.

Competitive: Decreasing competitive ability of quacks, faith/spiritual healers and other non-trained practitioners.

### c. Trend in Environmental Threats:

Customer satisfaction: Growing inadequacy of credibility of illiterate or less literate female health volunteer (Shastho Shebika) as service provider.

Competitive: Increasing antagonism by medical assistants, rural pharmacists and other local practitioners against involvement of community health volunteers in curative care.

Regulatory: Increasing environmental pollution, ecological imbalance and market entry of mal-practitioners with spurious drugs.

Epidemiological: Emerging new strains of virus and bacteria that are resistant to the available cheap antibiotics.

Un-met market demand: Increasing demand of effective drugs and health care services in the community as a result of increasing health awareness.

## 12. Factors in The Process:

### a. Mission, Vision Values and Objectives of BRAC:

#### BRAC: its purpose and business:

Its main purpose is rural development, for that it has two broad objectives: to alleviate poverty and to empower the poor.

#### Core values:

Service to the rural poor, gender equity, commitment to the organizational goal and the continuous learning spirit.

#### Uniqueness:

The largest NGO in Bangladesh.

### b. Mission, Vision, Goal of the ARI Control program:

#### Mission:

To provide preventive, curative and promotive services against ARI for under three (currently under 5) children in 2 thanas (at present 10 thanas) in rural Bangladesh.

#### Vision:

Health care service par excellence against ARI for children in rural areas.

#### Goal:

To reduce ARI related infant and child mortality and morbidity in rural Bangladesh and thereby improve the over all health status of the country.

c. Organizational Type:

BRAC fits neither in a typical mechanistic nor organic nor a matrix brand. Its research division looks more organic, whereas its various product and functional departments present with a mixture. However, its predominant organizational components are organic. Intra-organizational communication is mostly informal, and take place vertically, horizontally and through oblique ways.

d. Manipulative Role of the Process:

i. Manipulative Role on DO:

As regards to identification and treatment of ARI cases, the process has set DO unrealistically high.

ii. Manipulative Role on Environment:

1. Generation of Fund:

The process possesses adequate manipulating skill in generating fund for the program, the evidence comes from the fact that the program was scheduled to end in 1994 but got extended for another 3 years. Moreover, organization like UNICEF has been persuaded to provide the required number of timers for the program.

2. Motivation of Rural Population:

The program showed some success in motivating the TG people, but as regards to NTG, reveals some inadequacies.

3. Elicitation of Government Support:

The distinctive evidence of manipulative skill of the process is revealed from increasing government support for the program. It has evolved through phases, firstly the government used to provide training to the doctors, now has agreed to supply all required drugs for the program.

iii. Manipulative Role on Information:

The process showed some inadequacies in manipulation of ARI related information in setting its desired output. The process does not possess any in-built procedure to know the epidemiological profile of ARI in the community, therefore not adequately equipped to measure the effect of the program.

iv. Manipulative Role on Input:

The number of doctors in the program is inadequate, only one for about 90,000. To address the issue, the process showed some inadequacy in procuring adequate number of professional manpower.

e. Mobilizing Role of the Process:

i. Strategy and Program:

The mobilizing role of the process in formulating strategies and programs vis-à-vis program objectives has been adequate.

ii. Implementation:

The programs are being implemented as per stipulated schedule. Doctors, POs, SSs were recruited duly in time and were given training on ARI: its causes, case identification and management. The program developed a training and case identification module for the field staff. To facilitate smooth referral of serious cases, the program introduced an innovative card system. The required amount of drugs were procured either from the open market or from the donors.

iii. Monitoring and Evaluation:

Till 1994, Research and Evaluation Division (RED) of BRAC used to monitor activities of ARI control program along with other programs of erstwhile WHDP (currently named HPD), but afterwards the job has been undertaken by the program management itself. All the hierarchical managers supervise and monitor the works of the subordinates. Though the program has been running for the last five years but till now no evaluation report has been published except a lonely effort by a medical internee from U.K.

iv. Feedback:

The feedback system, especially on identification of cases, suffers from some inadequacies. Hence procedural inaccuracies like over-diagnosis of pneumonia has been unusually high.

*13. Current Strategy:*

*A. Perceived Strengths of the Current Strategies.*

1. Presence of service provider in the community, therefore easily accessible to the rural folk.
2. Favorable networking for future growth of the program.

3. Low treatment cost per patient.
4. Less drop-out of the community health workers (the SS).

*B. Perceived Weaknesses of the current strategy:*

1. Lack of full range of services, so no "one shop shopping".
2. Less accessibility to doctors' opinion and care.
3. Conceptual inability of the illiterate or less literate SS to grasp all the required understanding of ARI

*14. Alternative Strategies:*

The study formulated the following three strategies to help enhance the program performance:

*Strategy 'A':*

To vertically integrate the community health care services of the community health volunteers (Shastho Shebika) with provision of professional medical care delivered by qualified doctors and paramedics through health care center stationed at each area office (*strategy of vertical integration*).

*Strategy 'B':*

To diversify curative services of the program to cover treatment of all common diseases in the rural community (*strategy of diversification*).

*Strategy 'C':*

To improve the technical skill of the community health volunteers -the Shastho Shebika (*strategy of qualitative differentiation*).

*15. Selected strategy:*

All strategic alternatives have been evaluated. The strategy 'A' '*to vertically integrate community health care services of the community health volunteers (SS) with the provision of professional medical care delivered by qualified doctors and paramedics through health center stationed at each area office (strategy of vertical integration)*' has been selected for immediate implementation in two sub-districts: Dinajpur and Bogra sadar.

#### 16. Implementation plan.

An implementation plan, with resource requirement analysis, activity list, scheduling of activities, budgeting, planning for monitoring and control, has been done for a period of two years, starting from September 1996 to August 1998.

#### 17. Concluding Remarks:

ARI control program is crucial for reducing the infant and child mortality in rural communities. But for predictable sustainability, the provision of treatment for moderately and more than moderately ill cases is essential. Only this way the program can attain credibility as effective caregiver in the community. The work-profile of the SS needs close and constant supervision, that too by health professionals like doctor or adequately trained paramedic. Without adequate number of doctors and paramedics, a disease control program can seldom generate credible acceptance in a community. It should also be duly realized that a disease does not loom alone in an environment. ARI may be accompanied by diarrhea, measles and other diseases. Hence exclusiveness in care giving diminishes the credibility of the caregiver and also of the organization.

Mere close supervision and efficient management may not enhance the effectiveness of the program, deployment of adequate number of the key players - the doctors and paramedics - are crucial. Moreover, they need to be stationed in an adequately equipped health care installation located at close proximity to the rural population. Such health care center will work as a device for vertical integration of community level service provisions of the program, catered by the community health volunteers (SS). Health care center at each area office will work as referral center for the SS, who will receive regular feedback from its resident doctor on identification and treatment of cases.

The implementation of all three strategies though deemed essential, the resource constraint has prompted to prioritize at least one for immediate implementation. However, a step by step approach can be applied to implement the others.

## Chapter One

### The Problem and its Setting

#### 1.1 The Project Rationale

Bangladesh is one of the poorest countries in the world with an average per capita income of only \$220 per year. (UNICEF, 1995). It is estimated that about half of the 111.4 million people in Bangladesh live in moderate poverty and nearly a third live in absolute poverty (World Bank, 1993). About 80 percent of the total population live in rural areas (Bangladesh Bureau of Statistics, 1995). They are the victims of the conspicuously inadequate provision of government services. Especially in the health care sector, the services are not sufficient in coverage and in quality. The absence or inadequacy of professional health care in villages has forced the poor people to depend upon untrained or inadequately trained practitioners.

To address inadequacies of the formal sectors, some Non-Government Organizations (NGO) have initiated their own health care program in rural areas. In this regard, the health intervention of Bangladesh Rural Advancement Committee (BRAC) - the largest national NGO - is worth mentioning. BRAC has been involved in health care programs since its inception in 1972. The present focus of international funding agencies on health in developing countries has encouraged expansion of health programs of BRAC and other NGOs.

In Bangladesh, Acute Respiratory Tract Infection (ARI) is an important killer disease, it is the most common cause of mortality in infancy. ARI is responsible for about 27 percent of all infant deaths (under 1 year). In under 5 children, it is the second most important cause of mortality, surpassed only by diarrhea. About 18-25 percent of all deaths in under 5 children are related to ARI. It is estimated that 145,000 children die annually due to ARI, which is equal to 438 deaths per day (PRICOR, 1991). Between 40 - 60 percent of all



pediatric outpatient visits and 30-40 percent of pediatric admission are attributed to ARI. The children under 5 suffer from 7-9 episodes of ARI each year, each lasting for a period of 7-14 days. The estimated case fatality rate is 10 percent (In Touch, 1993). Such an alarming epidemiology of ARI bestows a significant importance on the ARI control program of BRAC and encouraged the present research to be linked with this premise.

BRAC's ARI control program is now implemented in ten rural sub-districts or thana, each one covering a population of about 100,000 to 200,000. Despite the size and importance of BRAC's ARI program, it is using some innovative but largely unproved strategies. Furthermore, the ARI control program of BRAC is almost entirely funded by overseas donor organizations. It is an aim of BRAC to reduce the ARI control program's reliance upon external assistance by adopting strategies that may ensure its effectiveness as a self-sustaining health-care provider in rural Bangladesh. Though the program was initiated in 1992 and has since been greatly expanded, many questions about the program remain unanswered.

BRAC's initiatives in controlling ARI in children possess a discrete construct, very uncommon in Bangladesh and also in the world. Provision of health care services has almost always been the prerogative of the educated few. BRAC has deployed illiterate or less literate community health volunteers called 'Shasho Shebika' (SS) from the lowest economic echelon of a program village as caregiver. This strategy has many perceived advantages such as lower drop-out rate of volunteers, lower costs due to less demands for payment, and familiarity and acceptance within the target communities. Since the ARI program control has not been formally examined and evaluated, many questions remain to be answered. In relation to the desired output, what has been its actual achievement? What is the level of technical competence of the SS? How is the quality of care and what about the sustainability of the SS? How is their acceptance in the community and how is the customer satisfaction? How is the quality of care and what about the sustainability of the SS? What are the inadequacies in inputs, information and the through-puts? What are the internal strengths and weaknesses? And what are the environmental threats and opportunities?

There are other issues that need to be examined. BRAC's ARI control program runs on donor's funding which will not be sustained in the long-run. BRAC must aim at developing a plan that may help sustain its program on internal resources. Such perspective entails satisfying the internal and external customers of the program and acknowledging the reality that the health care market in rural Bangladesh is not devoid of competitors. Rather it is filled up with quacks, homeopaths, faith healers, paramedics, drug sellers, and indigenous practitioners. These people have already captured a good share of the market. Hence, positioning BRAC as an effective and successful caregiver in the health care market essentially needs a thorough strategic plan.

## **1.2 The Statement of the Problem**

This study proposed to identify and evaluate the determinants of performance of BRAC's ARI control program with the purpose of formulating a corrective strategy for enhancing its effectiveness and sustainability. For that, the study will examine the pertinent issues with a strategic management perspective and will deliberate on:

1. Diagnosing the main obstacles, internal and external of the system, on the way of its becoming an effective caregiver in the health care market in rural areas both at present and in the future. The study will explore the organization and its program with a system perspective which will examine components like inputs, environment, information, processes, and outputs.
2. Formulating a corrective strategy that includes a budget and a feasible action plan of implementation. In achieving this, the study will employ various tools for analyzing the organization with a special focus on its mission, vision, values, objectives, strengths, and weaknesses.

### **1.3 The Delimitation**

This study limits its premise by not looking into the epidemiological issues that may be linked with the causality of ARI in the study population. However, a literature survey has been carried out to examine the epidemiological profile of ARI in Bangladesh and some other parts of the world.

### **1.4 Importance of the study**

BRAC, cherishing the ideal of a learning organization, seldom can ignore the importance of an evaluative undertaking, especially which has specific construct to identify problems in the system and formulate corrective strategies. Such a study helps BRAC to identify problems in the system and to formulate corrective strategies. The study may be useful for those who work with health intervention in rural Bangladesh. The study may provide useful cues to those who are engaged in strategic management or management research. Since strategic management and management research in health care is still in its infancy in Bangladesh, a study with such perspectives indeed possesses significant importance. The present study thus establishes its merit.

## Chapter Two

### Background Information

#### 2.1 ARI: a Global Perspective

Acute Respiratory Tract Infection (ARI) is globally recognized as one of the most important causes of morbidity and mortality in childhood population. In under 5 children of the world, approximately 15 million deaths occur each year. Thirty to forty percent of these deaths are due to ARI and at least 75 percent of the ARI related deaths are due to pneumonia. It is estimated that ARI cause 4.3 million childhood deaths annually. Of these, measles and pertussis account for 1.5 million deaths and other ARIs - primarily Pneumonia - account for the remaining 2.8 million deaths (Pio A, et al., 1985). In developing countries, the ARI mortality rates are 10-12 times higher than those observed in developed countries. In 1977, a study conducted by Pan American Health organization in 13 developed countries found 0.50 ARI deaths per 1000 under 5 children. Whereas in Matlab in Bangladesh, in 1985, the ARI specific mortality rates were found as high as 6 per 1000 under 5 children. In 1977, a study conducted in Peru found 17.19 deaths per 1000 under 1 infants and 5.2 deaths per 1000 under 5 children (Pan-American Health Organization, 1980).

Community-based longitudinal studies indicate that on average, children under 5 suffer 4 to 8 episodes of ARI per year. This suggest that at least 2,000 million episodes of ARIs each year in the developing countries. It is estimated that 20-30 per cent of all the children in the developing countries suffer from pneumonia each year (Ibid, 1980). Thus, ARIs put a tremendous burden on already overburdened and underfinanced health care services of the developing countries. Unfortunately, although diarrhea diseases and malnutrition have already been recognized as a priority health problem of childhood, relatively little attention has been paid to ARI (WHO, 1990)

## 2.2 ARI: Bangladesh Context

In Bangladesh, about 50 percent of the children are born under-weight (less than 2500 grams), hence possess less vigor to encounter against multitude of diseases that swarm in its tropical climate. Malnutrition is inherited by most children as a legacy of their impoverished parents. A large number of these children suffer from advanced degree of malnutrition (Bangladesh Bureau of Statistics, 1987). The high endemicity of diarrhea accompanied by sporadic epidemic adds some catastrophic dimensions to the problem. Repeated attacks of loose motion robs a child of his or her already dilapidated body defense, thus makes the body more vulnerable to abounding ARI of the environment. Hence many of those who somehow manage to survive repeated diarrhea onslaughts succumb to succeeding ARI. This very phenomenon helps ARI be the second commonest killer in children in Bangladesh. Sometimes ARI becomes concomitant with diarrhea. A post-mortem study of patients who died with diarrhea at Dhaka Hospital of the International Center for Diarrhea Diseases Research, Bangladesh (ICDDR,B) has identified pneumonia as the underlying cause of death in one-third of under 5 children (Butler T, et al., 1987). When ARI gets concurrent with diarrhea, the case fatality rate gets increased than diarrhea alone. The case fatality rate for patients with concurrent attack of acute lower respiratory tract infection (ALRI) and diarrhea was higher than rates reported for children from the same population and age group with singular infection of shigellosis (6%), cholera (<1%) and typhoid fever (<1%). The highest case fatality rate (14%) was found in children with diarrhea and bacterial pneumonia (Islam and Shahed, 1986).

In infancy, ARI is the most common cause of mortality; it is responsible for about 27 percent of all infant deaths (under 1 year). In under 5 children, it is the second most important cause of mortality, surpassed only by diarrhea. About 18-25 percent of all deaths in <5 children are related to ARI (Rahman M, et al., 1994). Between 40 - 60 percent of all pediatric outpatient visits and 30-40 percent of pediatric admission are attributed to ARI. The children below 5 years of age suffer from 7-9 episodes of ARI each year, each lasting a period of 7-14 days. The estimated case fatality rate is 10 percent (Ibid, 1994).

### **2.3 ARI Control Program in Bangladesh:**

The ARI control program in Bangladesh was launched in 1992-93, covering 8 rural thanas or subdistricts and 2 urban slums. In 1994, the program expanded to 24 thanas and six slums (Rahman M, et al., 1994). The national ARI control program is being supported by WHO, UNICEF and the World Bank. The national program has been focused to ARI problem in under 5 children. It has the following four objectives:

- i). to reduce severity of and mortality from ARI,
- ii). to reduce severity of and mortality from pneumonia,
- iii). to rationalize the use of antimicrobials for ARI treatment,
- iv). to reduce the incidence of pneumonia.

The first three objectives (i, ii, iii) of the program were planned to be achieved by the strategy of standardized case management in accordance with WHO guidelines and recommendations. The last objective (iv) was to be achieved by specific strategy to prevent respiratory infections caused by measles, pertussis, TB and diphtheria. Since malnutrition and low birth weight are among the most important risk factors of pneumonia in children, the interventions that can enhance the birth weight and the nutritional status of these susceptible population are also incorporated in the program (Ibid, 1994).

### **2.4 Health Management Research in Bangladesh**

In Bangladesh, in the field of health care intervention, very few are done with strategic management perspectives. Most health studies usually emphasize on measuring effect, output or impact indicators, and thereby assessing efficiency and effectiveness of a program. Diagnostic research on an organization with a strategic management perspective is still in infancy in Bangladesh. Some of the most recent studies with such perspective are done by MPH students for their partial fulfillment of their course requirement. These studies are invariably done on secondary data. Methodological approaches that have been deployed in these studies are mostly

multi-disciplinary. In most cases, the research tools are a mix of methods taken from epidemiology, biostatistics, demography, strategic management, organizational behavior, health economics, financial management etc. A system diagnostic model has been commonly used for figuring out the problem. Some researchers have used qualitative techniques like Focus Group Discussion, in-depth interviews and case studies. For formulating alternative strategies, SWOT or SPACE matrix have been employed. In order to schedule the implementation stages, Gantt chart, Pert chart, Action Plan Matrix, Organization Politics Map (OPMT) etc. are used.

## Chapter Three

### The Research Design

#### 3.1 Objective of the study

##### General Objective:

The general objective of the study is to make a diagnostic evaluation of the Acute Respiratory Tract Infection (ARI) Control Program of BRAC and formulate a feasible plan for its strategic management.

##### Specific objectives:

1. To evaluate the performance of the ARI control program of BRAC,
2. To evaluate the external and internal environment of the system with a special focus on the management aspect,
3. To figure out the factors that are related to the performance of the program,
3. To formulate corrective strategies for enhancing the program performance and to select the most appropriate one for implementation,
4. To develop a feasible plan of implementation for the selected strategy.

#### 3.2 Methods and Materials

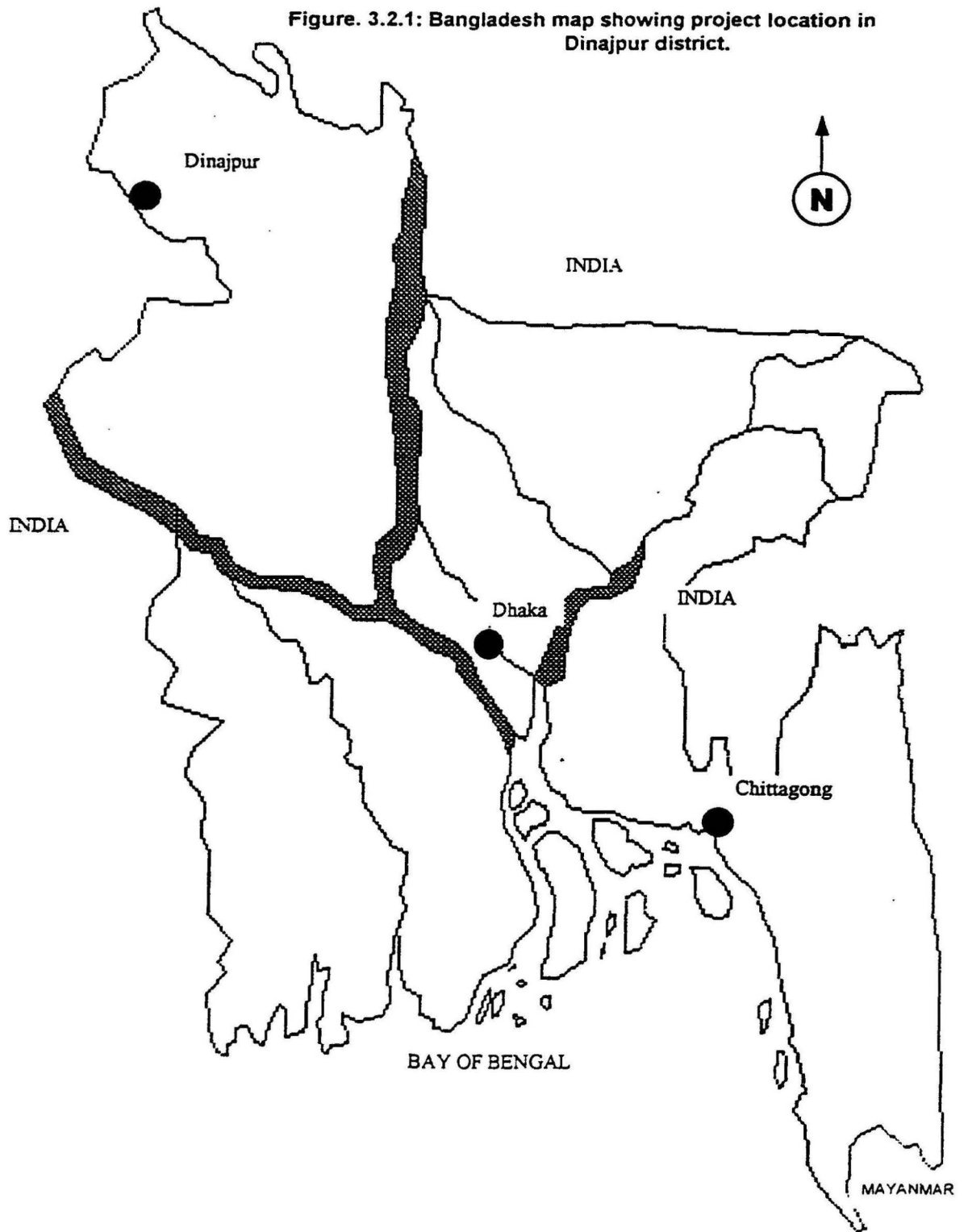
##### a. Study area:

The ARI control program of BRAC is being implemented as a pilot project in two sub-districts, one in Dinajpur and other in Bogra. For this research project, Dinajpur sadar thana - about 300 hundred KM north-west of Dhaka, as revealed from map in the following page - has been selected. The reasons for this purposive selection are as follows:

- i. Though the research area lies in the farthest point of Bangladesh provides easy access to an air traveler, hence convenient for a time constrained researcher.



Figure. 3.2.1: Bangladesh map showing project location in Dinajpur district.



- ii. The Regional Manager (RM) of the program at Dinajpur has been a student in the Department of Health and Policy Administration of University of North Carolina at Chapel Hill and received MPH degree from its EPDC course. Hence it was assumed that the significance of the study would be better understood by the management and render better cooperation in collecting data at the field level.
- iii. The area being one of the distant districts of Bangladesh essentially receives a lower proportion of government's attention in health care, therefore better represent the neglected distant countryside.
- iv. The ARI control program of BRAC in Dinajpur being a pilot one (started in 1992) enjoyed the full length of all intervention opportunities that were available with the organization, hence there is better opportunity of evaluation of the program with its inherent strategies and implementation plan.

**b. Study Population and sampling:**

The ARI control program has divided Dinajpur sadar thana into three areas: i). Ramsagar, ii). Ranigonj and iii). New Town and each has an area office headed by an Area Manager (AM). All the mothers having under-three children and all the Shastho Shebika (SS) working in Dinajpur sadar thana were included in the study population. From each program area 3 mothers of under 3 children and 3 SSs were randomly selected for in-depth interviews. Six to seven mothers and 14-15 SSs from each area were random selected for focus group discussion.

**c. Tools of investigation:**

The study is based on both primary and secondary data. The primary data are mostly qualitative, and collected through:

1. In-depth interviews.
2. Focus group discussions (FGD),
3. Interviews with managers and staffs of the program.
4. Observation of the process at different organizational levels.
5. Delphi technique

The secondary data are collected from the reports of Management Information System (MIS) of the ARI control program, kept both at the head office and at the field level.

**d. Qualitative Techniques:**

**i. In-depth interviews:**

A specific check list for each category of respondents was used so that no important area is left unexplored to generate the required data. Important points were jotted down instantly or immediately afterwards. Six in-depth interviews were held in each area, three with mothers and three with SS.

**ii. Focus Group Discussion:**

Two focus group discussion (FGD) meetings were held in each area, one with the mothers and other with the SS. The age of the mothers were mostly below thirty five. The venue of FGD for the SS was invariably the government owned Family Welfare Center (FWC) at the union level. For mothers, it was the easily accessible household premise of a villager. For each occasion, the environment was conducive for free and fearless discussion. While conducting the discussion, utmost care was undertaken to restrict dominance of any

individual over others. Even opportunity to each participant was ensured to explicitly reveal her opinion on any relevant issue.

**iii. Direct observation:**

Behavior and inter-personnel relationship, communication skill, office climate, leadership skill, political awareness, state of interactively, social linkages, complacency with situation etc. got the importance while observing the personnel of various levels of the organization.

**iv. Delphi technique:**

It was used to gauge the expert opinion vis-à-vis some important strategic issues like the probability of donor's support for the program after five years, probable acceptance of illiterate and less literate SSs in the community after five years, situational changes in the health care market in next five years. The respondents were the field level, mid-level and head office level managers, health and developmental professionals of Research and Evaluation Division of BRAC.

### **3.3 Analytic Model**

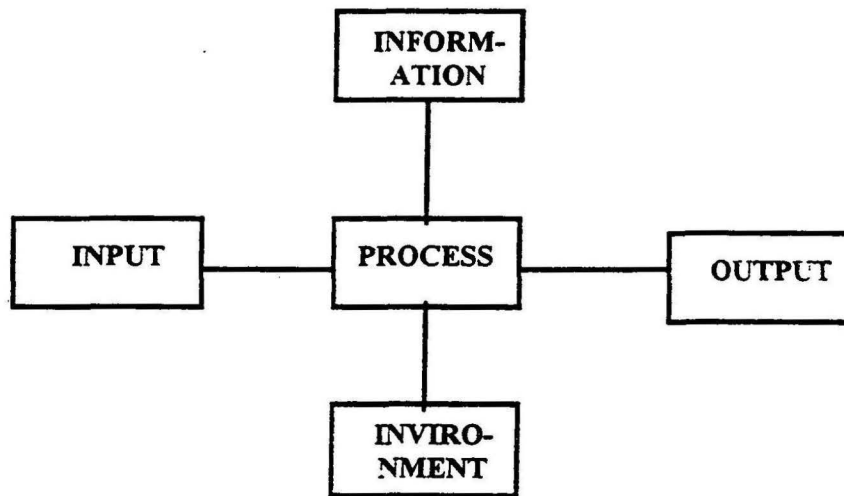
**I. For Analysis of Program Performance:**

For analysis of the performance, a system diagnostic model has been used (Jain SC, 1994). The conceptual framework of the model underlines that an organization invariably works in a system perspective with five components. These are:

- a. Input,
- b. Process,
- c. Output,
- d. Environment,
- e. Information/Intelligence.

Each of these components is subject to influences of others, it may be illustrated as in Figure 3.3.1.

Figure 3.3.1: System paradigm of an organization with its components



The paradigm relates performance of an organization to its components as follows:

$$\text{The System Performance } (Sp) = f(E, I, P, C)$$

Where  $f$  = function,

E = Environment,

I = Input,

P = Process,

C = Information /Intelligence (Communication).

The performance of a program is estimated by the following equation:

$$Sp = AO \div DO$$

Where Sp = System performance,

DO = Desired Output of the program,

AO = Actual Output of the program.

The system performance can be expressed both in percentage and proportion. Here, the actual output is derived from the MIS data and the desired output is taken from or estimated as per project proposal and reports.

## **II. For Analysis of System Components:**

Qualitative data were used to evaluate the various components of the system e.g. environment, information, inputs and the process. Data pertaining to strengths and weakness of the organization and opportunities and threats that have impregnated its external environment were collected by direct observation or through direct interaction with key informants that have been available in the organization and in the environment. The data have been arranged in SWOT (strengths, weakness, opportunities and threats) matrix and gradation based on researcher's subjective judgment has been arranged on a scale from one through ten.

### **3.4 Limitations**

The study possesses some limitations. The study has to rely on MIS data which lack uniformity in terms of collecting format and indicator coverage, and also suffers from inadequacy of information that are essential for measuring the program output. From MIS data, the categorization of the current intervention population with a view to its demographic and socio-economic characteristics was not possible either. The program did not formulate any desired output for its various components, therefore it was difficult to assess the performance of the program in relation to the actual output. Moreover, the ARI program has no vertical entity. It is wholly integrated with other components of the Health and Population Division (HPD). Hence how much time, resources, training, manipulative and mobilizing skill and other inputs have been invested to steer the program can not be figured out either. Amidst all these bottlenecks, the researcher was constrained by inadequacy of time that was deemed essential for collecting primary data from the field.

However, primary data were collected personally by the researcher through Focus Group Discussions (FGD), interviews, in-depth interviews and direct observations. It was felt that the sample population for FGD and personal interviews were over-represented by the BRAC's target group (TG) population, therefore opinion of the non-target group (NTG) as regards to customer satisfaction, acceptability and accessibility of the program did not receive the right amount of revelation.

## Chapter Four

### Size and Distribution of the Problem

#### 4.1 Identification and Treatment of ARI Cases

The ARI control program of BRAC aimed at identifying and treating 75 percent of ARI cases in the community, either by community health cadres (SS) or through referral of serious patients to district hospital (BRAC, 94). So achieving the target of 75 percent, both for case identification and treatment, is the desired output (DO) of the program.

The program does not maintain any surveillance on ARI incidence in the community, nor did it carry out any epidemiological survey to find out the disease profile or treatment seeking behavior of the people. Hence, it is not possible to figure out the proportion of patients that are identified and treated by the program. The MIS data on identified or treated cases of ARI represent the numerator, the essential denominator for calculating any rate or proportion is missing. On the other hand, in adherence with the WHO guidelines the program classified ARI into three categories: i). Common Cold or No Pneumonia, ii). Pneumonia, and iii). Severe Pneumonia. The common cold cases are advised home treatment. The program aims at educating mothers on identifying and treating common cold cases (BRAC, 1995). Therefore, mothers are not supposed to visit SS for common cold which is in fact the commonest type of ARI in the community. These cases essentially remain unidentified by the SS. Therefore, although the program has mentioned identification of 75 percent of ARI cases as its desired output but has not clearly translated into operation at the field level. The other two types are the pneumonia and severe pneumonia. These two types can not be managed by mothers, rather by the SS for the needful, either to be treated with sulfamethaxazole and Trimethoprim (recommended by WHO) or referred to the nearby district hospital. In a community, only a smaller proportion



of ARI cases turn into pneumonia. Some study found it close to 30 percent (Rahman M. et al., 1994). The MIS data suggest that SS are not supposed to identify ARI cases for the sake of identification. For instance, MIS report for July 1992 through June 1993 shows that out of 4050 identified cases, 3972 cases (98 percent) were treated by the SS (BRAC, 1994). Whatever ARI cases are identified by the program are indeed the cases that are treated by the SS. It seems that mere identification of ARI cases has not been adequately realized as a program objective. An SS is not required to treat all three categories of ARI. As mentioned earlier, the management of common cold is supposed to be accomplished by the mothers. Hence these cases of ARI most likely miss to be identified and recorded by the SS. So, there exists an inadequacy of information on actual incidence of ARI. Neither the denominator nor the numerator for estimating the rate of identification and treatment is rightly available in the MIS data.

#### **4.2 Quality of Case Identification**

The program labeled 22 percent of identified cases as common cold, 78 percent as pneumonia (BRAC, 1995). The findings are inconsistent with that of other studies conducted in Bangladesh. Majority of ARI cases do not turn pneumonia. The Bangladesh Government's national ARI project found 30 percent of all identified cases as pneumonia (Rahman M, et al., 1994). Therefore, with regards to diagnosis of cases, there exist inaccuracies.

#### **4.3. Technical Competence of the SS**

The SS plays the key role in the program. Most of them have little or no education. At the beginning, the SSs were given three month's theoretical and practical training, two weeks were spent on teaching ARI management. Beside ARI, they were also taught on common diseases, breastfeeding, sanitary and hygienic practices. They were conversant with the signs and symptoms of common cold or mild form of ARI. But on pneumonia, their knowledge was found inadequate. The SSs are given refresher training once in a month in a

group of about 15. Three such training sessions have been reviewed. In the refresher classes, most of the SSs were found without timer and thermometer that were provided free of cost by the program. Only 3-4 out of 14-16 participants of the class, possessed those instruments. It seems that in these courses, the re-enforcement of practical knowledge on how to use thermometer and timer did not receive adequate importance. Although most of the SSs could figure out the tip of the mercury line in thermometer, they were unable to accurately read the mercury level. They could only tell whether the temperature is above or below 100 degree Fahrenheit. Majority of the SS were able to count the respiratory rate by the timer, but some SSs looked confused with regards to use of the timer and how much of the baby should be exposed for such counting.

#### **4.4 Accessibility of Service**

Each SS has to look after 70 to 120 households, visits them at least once a month. During each visit, they inquire of ARI related morbidity or mortality, family planning use, EPI coverage and sanitation practices. They also impart knowledge to household members, especially to mothers of under 3. They treat moderate cases of ARI with co-trimoxazole tablets and refer serious cases to the district hospitals. Besides, they are supposed to inform the concerned area office about the whereabouts of the patient. The patient is then followed up by one of the program organizers of the area office, if required is referred to the district hospital. Most of the households that are assigned to an SS lie in close vicinity of her neighborhood, hence her services are easily accessible to the community. Usually, she meets most mothers more than once in a month. She also receives patients in her household premise in any time.

#### **4.5 Interpersonal Skill**

The SSs possess a good deal of amicable personal relationship with the community women, especially of TG families. They look like people of some special brand, conspicuously different from the conservative rural folk. They are articulate, ambitious, motivated, purposeful, and good mannered which are uncommon in a rural woman

especially of the lower stratum they belong to. They possess cordial link with the POs and other program staff.

#### 4.6 ARI Cases in the Community

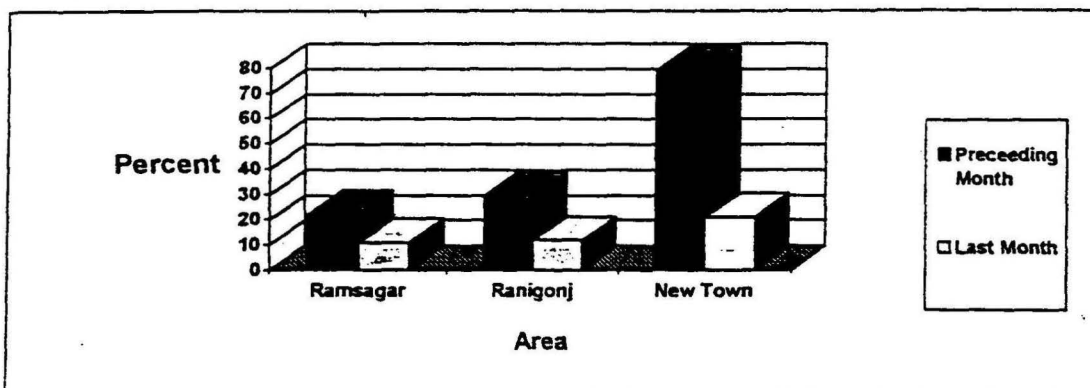
Both the mothers and the SSs have almost unanimously opined that the ARI incidence has discernibly declined over the years. They attribute it to the health and hygienic awareness of the mothers as imparted by educative deliberations of the program. Most of the SSs acknowledged that they did not receive a single patient of ARI in the last one month. Table 4.6.1 shows that only 15.1 percent of the SS got any patient in the last one month. In the preceding month (before the last month), the number of ARI cases was higher, 45.3 percent of the SS received at least one patient. However, in the preceding month, the variance in number of cases across the program areas was comparatively higher. In New Town, 78.9 percent of the SS received at least one case of ARI. While in Ramsagar and Ranigonj, the rates were 22.2 and 29.4 percent respectively. Figure 4.6.1 presents a graphic view of the situation.

Table. 4.6.1 Distribution of SS receiving at least one ARI patient by the last month and the preceding month and area.

Month	Area						Total (n=53)	
	Ramsagar (n=18)		Ranigonj (n=17)		New Town (n=19)		No	%
	No	%	No	%	No	%		
Last month	2	11	2	11.8	4	21.0	8	15.1
Preceding month	4	22.2	5	29.4	15	78.9	24	45.3

\*In the parenthesis is the total number SS interviewed.

Figure 4.6.1: Percentage distribution of the community health volunteers (SS) receiving at least one patient or more during the last month and the preceding month.



#### 4.7 Financial Incentive for the SS

It was quite explicit that an SS earns very meager amount from her involvement in the program. Table 4.7.1 reveals that 33.3 percent of the SSs did not earn any money from BRAC's health program in the last one month, the rate is highest in Ramsagar, 44.5 percent and lowest in New Town, 26.3 percent. The graphic presentation of the picture is depicted in Figure 4.7.1.

Table 4.7.1 Distribution of SS by income in the last one month and area.

Income per Month (in Taka)	Area						Total	
	Ramsagar		Ranigonj		New Town		No	%
	No	%	No	%	No	%		
Nil	8	44.4	5	29.4	5	26.3	18	33.3
Less than 20	6	33.3	9	52.9	5	26.3	20	37.0
20-50	3	16.7	2	11.8	5	26.3	10	18.5
More than 50	1	5.5	1	5.9	4	21.0	6	11.1
Total	18	100	17	100	19	100	54	100

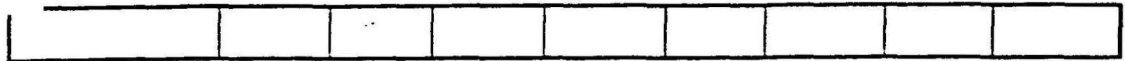
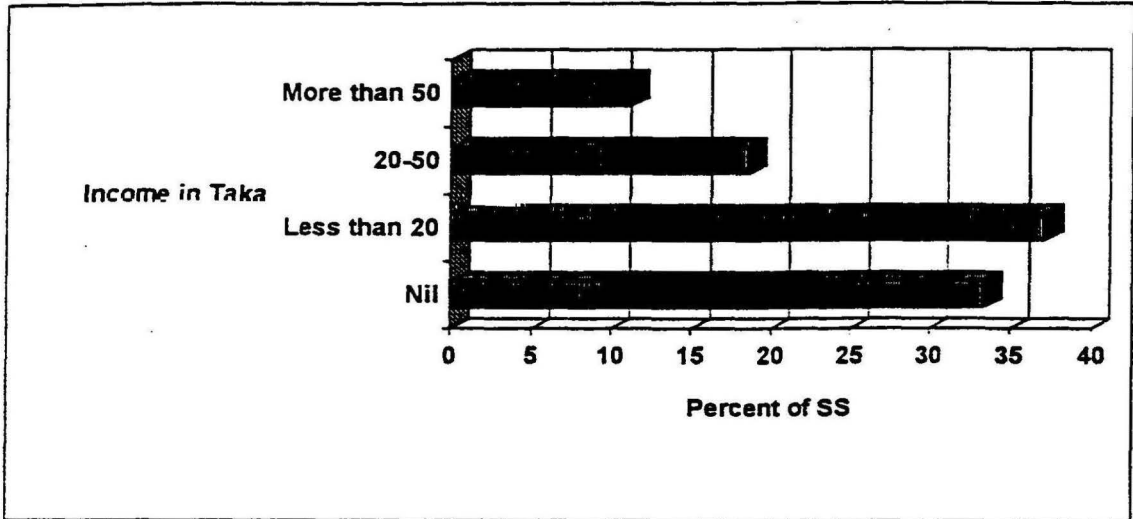


Figure 4.7.1: Percentage distribution of community health volunteers (SS) by income in Taka in the last one month.



While asked why should they continue their involvement in such program, the community health volunteer (SS) revealed their views as follow:

- a. Although monetary reward is meager, they have received some invaluable assets through this program. They gained knowledge on health and hygiene, nutrition and some preventive and curative skills. They consider these useful for themselves and for the family.
- b. The program has worked as a watershed in their life. It has added some status and dignity to them. Previously, none in the village used to pay any value to their views. The program has opened new avenues for them to show some of their worthy endowment to the society. Now people visit them, call them even in the midnight. Now they feel some real worth in the male-dominated society.

- c. The program has offered them ample opportunities to satisfy some of their altruistic desires. Now they can help others in their real need. They argue that such works give them a good deal of mental satisfaction and social value.
- d. Some of the SSs consider it the beginning of improving their own lot and the family. The program has made them ambitious, now they want to go long way ahead with BRAC's income generating initiatives.

#### **4.8 Sustainability of the SS**

Most of the SSs share views that in the coming years the increasing socio-economic development in villages may shrink their opportunity as treatment provider, most people will visit more trained professionals. They think if they are given more health education and skill on treating other common diseases, they will attract more people. Some of them were quite explicit on the point that they be given training for treating other common diseases like diarrhea, dysentery, headache, muscle-pain etc.

#### **4.9 Contact between the SS and the Program Organizers**

The SS acknowledged that they usually meet with program organizers at least thrice a month: once for the refresher training, another for village committee meeting and the third time for EPI, ANC and growth monitoring session. Besides such fixed and formal schedule, POs make visit to their household premises several times a month for supervisory purpose. Such frequent contacts with the POs help increase the credibility of SS in the community, such meetings work as educative discourse for the SS.

#### **4.10 Mothers' Knowledge and Practice**

Most mothers were found conversant with symptoms of ARI and management of high grade fever. They were also found to have knowledge on predisposing factors of ARI. They were unanimous to acknowledge BRAC for imparting such knowledge. Previously pneumonia was called 'Kupi' in the colloquial and people used to take their children to faith-healers and other indigenous practitioners. Now the scenario has changed, people do not take their children to them, rather seek modern medicines.

#### 4.11 Mothers' Satisfaction

The most important external customers of the ARI program are the mothers of the children. They expressed satisfaction over the performance of the SS. When asked why should they take their children to illiterate or less literate women for treatment of their babies, the following views were revealed:

- i. The SSs are our neighbor, therefore we seek their help before going elsewhere,
- ii. They are always available, even at mid-night we can seek drugs and advises from them,
- iii. Though they are mostly illiterate or less literate, but received training on treating a common disease like ARI,
- iv. Their medicines are of good quality, even some local practitioners recommend to take drugs from the SS,
- v. They charge nominal fee for the treatment.

Almost unanimously, they opined that ARI has decreased over the past several years. According to them, this reduction owes to awareness of mothers on prevention of diseases, early treatment and promotion of health practices.

## Chapter Five

### Analysis of Factors Responsible for the Problem

#### 5.1 Factors in the Environment of the System

##### 5.1.1 Geography and Climate

Bangladesh is mostly a flat delta, lying between the Himalayan foothill in the north and the Bay of Bengal in the south. The country has an area of about 144,000 square kilometers and populated by more than 120 million. It is predominantly rural and crisscrossed by more than two hundred big and small rivers. Dinajpur sadar thana lies in the north-western corner of the country, its southern edge approximates with the border of West Bengal of India. Although some of its parts get inundated with water in rainy season but mostly remains flood-free. The climate is extreme if compared to the country's tropical standard, it is severely cold in the winter and very hot in the summer.

The thana is divided into two parts: *urban* and *rural*. In the urban part lies the district head quarter, its peripheral major portion is rural. The BRAC program is focused only to the rural population of the thana, catered by its three area offices at Ramsagar, Ranigonj and New Town.

##### 5.1.2 Socio-economic Profile

The ARI control program of BRAC is focused exclusively to the rural people. BRAC categorizes the rural population into two broad groups: a. **Non-Target Group (NTG)**: endowed with more than 50 decimals land, assets and generally with no or less survival worries, and b. **Target Group (TG)**: having less than 50 decimals land, meager assets and resources devoted exclusively for the survival; their viability is always threatened by poverty, ill health and other



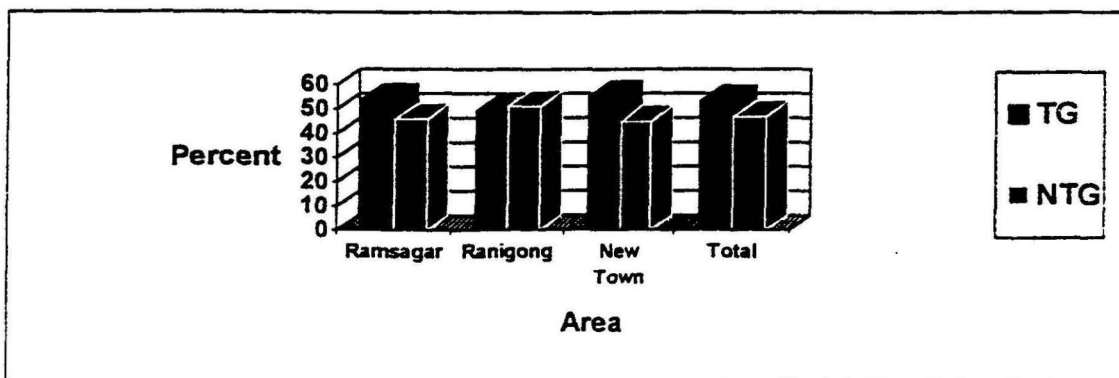
adversities. At least one household member of this TG group sales labor for no less than 100 days in a year.

Table 5.1.1 reveals that 52.96 percent of the population in Dinajpur sadar thana belong to the TG. Of three program areas, they are lowest in Ranigonj, 49.2 percent belong to this category.

**Table 5.1.1: Population by status of household head and area.**

Area	Status				Total	
	Target Group		Non Target Group		No	%
	No	%	No	%		
Ramsagar	38,034	54.02	32,375	45.98	70,409	100
Ranigonj	28,399	49.22	29,303	50.78	57,702	100
New Town	34,073	55.25	27,592	44.74	61,665	100
Total	100,506	52.96	89,270	47.04	189,776	100

**Figure 5.1.1: Household status by area.**



### 5.1.3 Literacy

In Bangladesh as a whole, literacy is still very low, only 32.4 percent of her people (7 years and above) are labeled as literate. Among the rural women, the rate is lowest, only 21.8 percent (Bangladesh Bureau of Statistics, 92). It becomes very difficult to launch and thereafter sustain a program that depends heavily on community participation. Illiteracy help prolong cultural stagnation in a community, innovative ideas are less or least welcome to them. Illiteracy breeds certain patterns of treatment seeking behavior and such behavior are very resistant to change. ARI program of BRAC faces no different situation either.

### 5.1.4 Communication

Most villages are having only earthen roads, heavy rain makes them inaccessible for motor vehicles. Some recently constructed asphalt roads connect the major bazaars of the country side, and made communication easier for adjacent villages. Bicycle, rickshaw (three wheel local vehicle), motor cycle, bus, and in some villages bullock cart are the common means of communication.

### 5.1.5 Health Care Providers in the Community

The district city of Dinajpur possesses a modernized hospital with specialist care in internal medicine, surgery, pediatrics, gynecology, obstetrics etc. In the rural area the government's health outreach stations are: a). Family Welfare Center (FWC): caterer of FP services, b). rural dispensaries: provider of treatment facilities for common illnesses by paramedics. Both of these are built in each union with a population of about 20,000. However the government facilities are grossly inadequate to meet the need, and the gap is filled up by quacks, homeopaths, indigenous practitioners, faith/ spiritual healers and a handful of trained health professionals.

### 5.1.6 Treatment Seeking Practices

Due to expansion of education and GO and NGO activities in the area, treatment seeking behavior of the people has changed significantly in recent years. Now most people prefer to have modern medicine. Faith healers and many indigenous practices are on the way of extinction. However, the unavailability of qualified doctors in rural communities is still the major hurdle to meet the unmet need of the people.

## 5.2 Factors in the Inputs of the System

### 5.2.1 Types of Inputs and the Screening

The program procures its required inputs from its environment. To maintain a desired standard of quality for these new entries, a screening process has been in operation in the system. Table 5.2.1 gives an analysis of the screening process. A scale of 1-10 has been used to measure the adequacy of this screening, 1 represents the lowest and 10 the highest degree of adequacy in screening. However the judgment is entirely based on researcher's own observation.

**Table 5.2.1 Inputs by its type, screening authority and adequacy of screening.**

Type of Input	Screening Authority	Adequacy of Screening (Scale:1-10)
<b>1. Personnel:</b> a. Doctor:	i. Universities of Bangladesh ii. Bangladesh Medical and Dental Council iii. Selection Board of BRAC at the Head Office	9

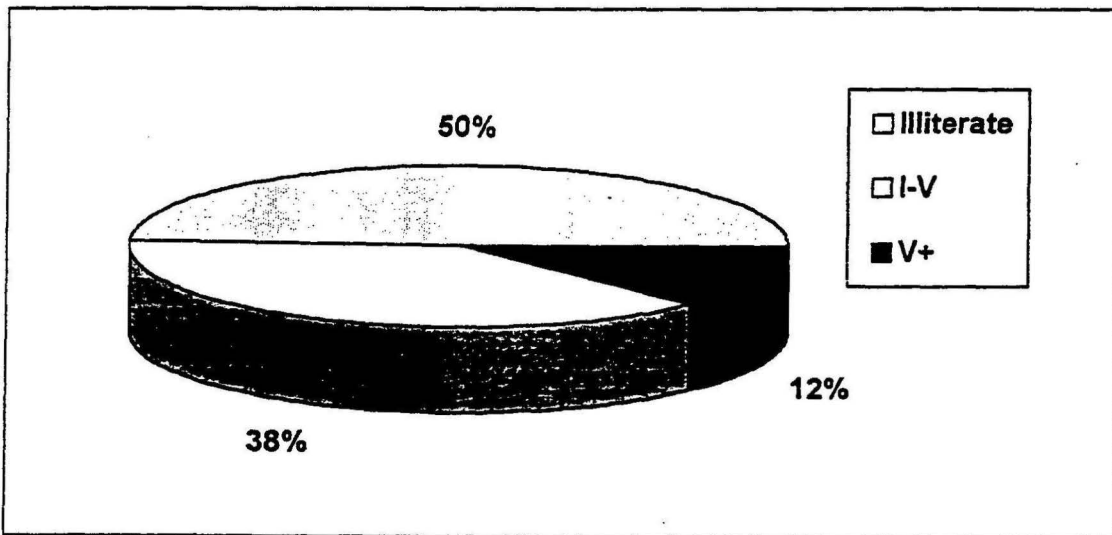
Type of Input	Screening Authority	Adequacy of Screening (Scale:1-10)
b. Program Organizer	i. Universities of Bangladesh. ii. Selection Committee at the Head Office	9
c. SS	i. AC ii. AM	7
<b>2. Drugs:</b>	i. Directorate of Drugs Administration, ii. BRAC management and doctors	9
<b>3. Infrastructures:</b>		
a. Buildings	AM & AC	7
b. Power supply	AM & AC	8
c. Water supply	AM & AC	7
<b>4. Logistics:</b>		
a. Transport	Head office for bicycle/motor cycle	9
b. Office requirements	AM & AC	8
c. Movable assets	AM & AC\	8
<b>5. Training:</b>		
a. Training of doctor	ARI Control Program the Government	8
b. Training of POs	HPD, BRAC	8
c. Training of SSs	Area Office, HPD, BRAC	7

Except SS, the screening process maintains adequacy in recruiting other categories of manpower. However, as the SS plays the most pivotal role in carrying out the implementation activities, any inadequacy of screening their selection makes an adverse impact on the whole performance of the program. It directly affects the customer satisfaction and the acceptance of the program.

**Table 5.2.3 Distribution of SS by age and education**

Education	Age				Total	
	less than 30		30 and above		NO	%
	NO	%	NO	%		
<b>Illiterate</b>	50	32.2	65	45.1	115	38.5
<b>I-V</b>	84	54.2	63	43.7	147	49.2
<b>V+</b>	21	13.5	16	11.1	37	12.4
<b>Total</b>	<b>155</b>	<b>100</b>	<b>144</b>	<b>100</b>	<b>299</b>	<b>100</b>

**Figure 5.2.3: Distribution of community volunteers by education.**



Of all SSs, 38.5 percent are illiterate. The illiteracy is highest in 30 and above age-group, among them 45.1 percent are illiterate. Only 12.4 percent of all SSs have more than 5 years of schooling, the rate is slightly higher (13.5 percent) in less than 30 age-group.

### 5.2.2 Quantity of Inputs

The number of doctors in the program is inadequate, only one for a population of 89,258. The number of POs show some inadequacy too, one for 7,140. However, the number of SS is adequate; on average she has to look after 118 household in her own vicinity. At the head office, the sector specialist on ARI is alone to supervise the all program activities, which is overburdening for him. Table 5.2.1 shows distribution of doctors, POs and SS in Dinajpur sadar thana (BRAC, 1994).

**Table 5.2.2 Personnel by number of households and population**

Staff	Household	Population	Under 3 children
a). Doctor	1:17,628	1:89,258	1:5,330
b). Program Organizer (PO)	1:1,410	1:7,140	1:426
c). Shastho Shebika (SS)	1:118	1:597	1:37

It is worth mentioning that all the program staff including doctors are not desired to invest all of their working time exclusively for the ARI control program. Rather their most times are spent to implement other key programs of the Health and Population Division like MCH services, Tuberculosis control etc. So, doctors and POs are left with inadequate time to look after the ARI control program.

### 5.2.3 Quality of Personnel

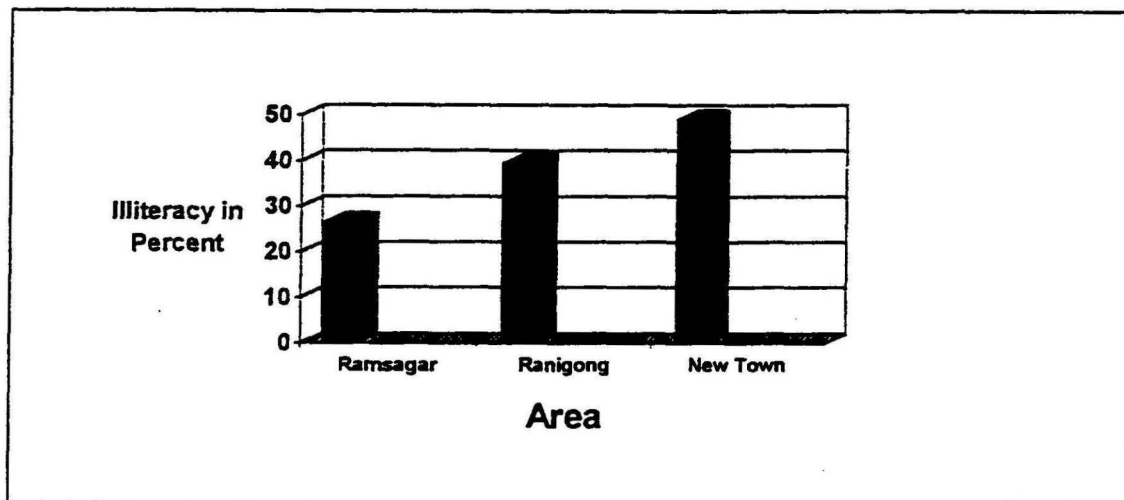
The quality of doctors, POs, AMs and ACs is satisfactory. But the SS suffers from some inadequacies, their inadequacies mostly owe to less or no education. Table 5.2.2 shows distribution of SS by their education and age.

**Table 5.2.4 Distribution of SS by education and area**

Education	Area					
	Ramsagar		Ranigonj		New Town	
	No	%	No	%	No	%
Illiterate	26	26.5	40	39.6	49	49.0
I-V	51	52.0	57	56.4	39	39.0
V+	21	21.4	4	4.0	12	12.0
<b>Total</b>	<b>98</b>	<b>100</b>	<b>101</b>	<b>100</b>	<b>100</b>	<b>100</b>

Table 5.2.3 reveals their education level of the SS by working area. Of all three areas, Ramsagar shows the highest rate of literacy among SSs, 73.5 percent of them are literate. In Ramsagar, 21.4 percent SS have more than 5 years of schooling, whereas it is 4.0 percent and 12.0 percent in Ranigonj and New Town respectively. In Ranigonj, literacy is 60.4 percent and in New Town it is 51 percent.

**Figure 5.2.4: Illiteracy among community health volunteers (SS) by area.**



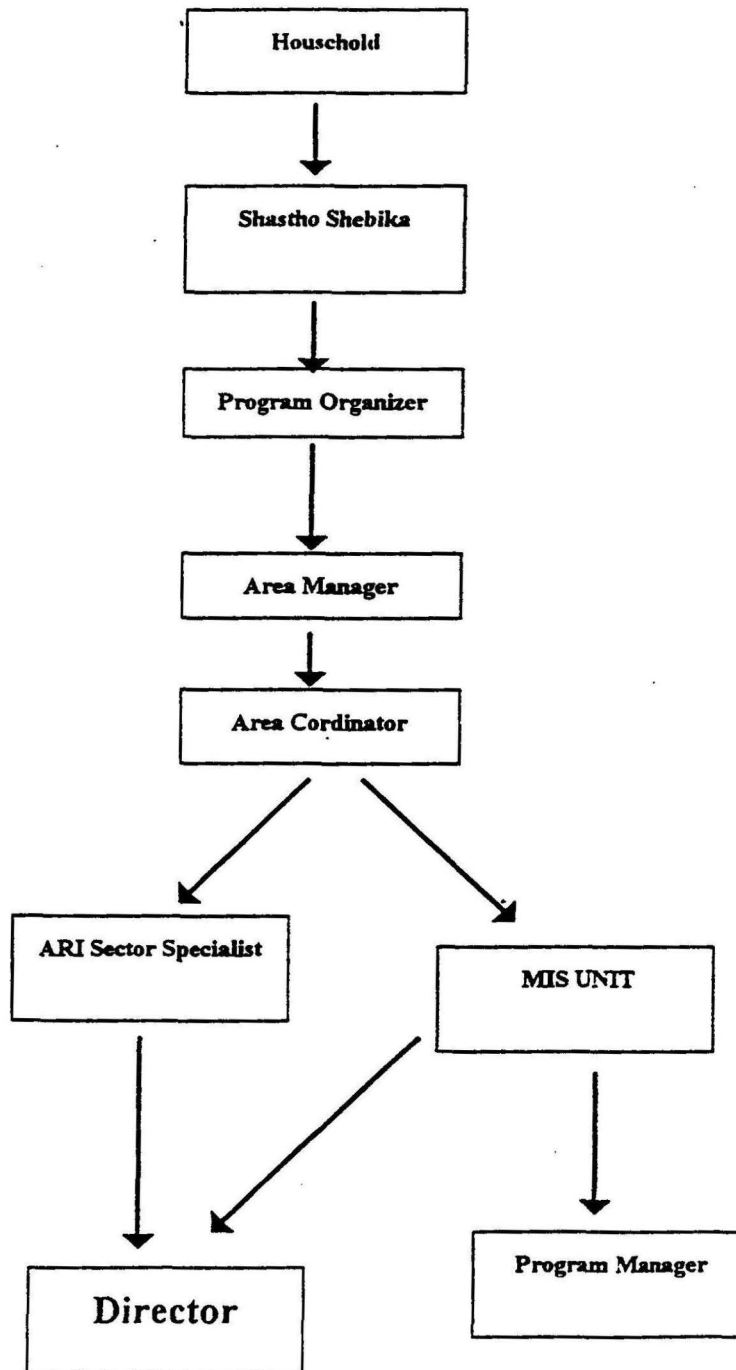
## **5.3 Factors in the Information of the System**

### **5.3.1 Collection and Compilation of Data**

The information of the system starts flowing from the household level on monthly basis. These are collected by the SS and supervised by the POs. As the SSs are mostly illiterate or less literate, the POs while make visit to a village enter the data in the register. Sometimes the SS takes help of a literate member of the household or of the neighborhood. From the SS, the data are collected by the POs and are compiled in the Area Office and then passed on to the Area Coordinator's Office. In AC Office, all the data from three AM Offices are compiled together and checked for any mistakes, and then sent to the MIS unit and ARI sector specialist at the head office. Every month, the MIS unit brings out a concise report and submits to the director and the program manager, HPD. Figure 5.3.1 depicts the flow of information in the organization from the grassroots to the top management.



**Figure 5.3.1 Information Flow Chart:**



### 5.3.2 Status of Information on ARI Management

The information that are available with the organization have been analyzed in Table 5.3.2 with a view to assess their adequacy in relation to program needs. However, the scaling has been based on the researcher's personal judgment. On 1-10 scale, 1 indicates the lowest and 10 the highest degree of adequacy.

Table 5.3.1 Status of information by degree of adequacy

Item	Evidence	Grade: (Scale 1-10)
<b>1. Information on ARI Management:</b>	The program follows WHO recommendations and gets update of information through participation in various national and international seminars. Moreover, various national and international publications help keep in-touch with the latest information on ARI management.	8.5
<b>2. Information on Organizational Strengths and Weakness:</b>	The working environment is interactive and provides opportunities to explore strength and weaknesses of the organization and its strategies. The staff mutually share each others' experiences.	9
<b>3. Information on Environmental Opportunities and Threats:</b>	BRAC staff work in close proximity to the people, they interact with various people, be government or non-government, hence get ample opportunities to explore environmental factors that are very relevant to the success of the program.	9
<b>4. Information on modern technology:</b>	The program is conversant with the modern technology that are relevant to ARI management at the community level. At the grassroots, the program has introduced automatic timer to count respiratory rate.	8.5

### 5.3.3 Some inadequacies

#### a. Absence of Epidemiological Survey or Surveillance

Till now, the program has not conducted any epidemiological survey on ARI, hence its information or intelligence system does not possess accurate data on ARI related morbidity and mortality in the population. Nor does it maintain any ARI disease surveillance system in the program area. So any evaluative effort to examine the case identification rate or to assess effect of the program on cause-specific mortality and morbidity in the community gets restricted.

#### b. Lack of uniformity in indicator of measurement

The data collecting format suffers from lack of uniformity. The program underwent several changes. Till June 1994, the information on age-specific distribution of the children were not available. Sex of the children was also missing, therefore sex-wise distribution of ARI cases was not possible either. Moreover, diagnostic categorization was not consistent with WHO recommendation, cases were identified only as mild, moderate and severe ARI cases.

Since July 1994, the program developed a new format for data collection which is comparatively comprehensive. However, much variations in format over the time make it impossible to evaluate MIS data with a uniform design.

## 5.4 Factors in the Process

### 5.4.1 The organizational culture

The cultural climate of an organization is crucial for its proper functioning. The mutual compatibility, the cohesiveness, the commitment, the morale, the way of doing things, the values that most people share, and many other factors indeed owe to it. In fact, culture makes premises conducive for quality works. It influences all aspects of what goes on in the organization, including how people feel about what they do and the way they do. The organizational culture of BRAC possesses the following specifics:

#### 1. Emphasis on quality improvement:

BRAC management gives emphasis to continuous quality improvement. This contributes substantially to its growing credibility as a caregiver. Its emergence from a small rehabilitation assistance committee working in a small distant village to its current stature as the largest NGO in Bangladesh indeed gives substantial evidence for it.

#### 2. Personnel are rewarded/recognized in proportion to the excellence of performance:

The staff get promotion, increments and other incentives in proportion to the excellence of performance.

#### 3. Friendly atmosphere in the working premises:

The staff in the organization are friendly to each other, and helps create a conducive atmosphere for works. Fictions, feuds or conflicts are not usually explicit in the working premises. A new comer can easily find friends in the organization.

#### 4. Worklevel is demanding but appropriate:

The staff are mostly busy with works, but the load lies within the limit. The management is not stubborn to thrust unusual workload on employees.

**5. Envisages to be a learning organization:**

Since its inception in 1972, BRAC envisages to be a learning organization. Its managers do mistakes, none is required to be immune to that. If not corrupted with ill intention, none is fired for mere mistakes. Mistakes are not looked upon as failures, but as learning opportunities.

**6. Personnel are used to put extra time:**

Most jobs are designed to follow a schedule, hence desired to end by a deadline. If happens otherwise, the staff do not hesitate to put extra hours to complete the job in due time.

**7. Innovative ideas enjoy considerate examination by the CEO:**

Those who are imbued with innovative ideas are welcome to the CEO. Strategies and programs are indeed the creation of such entrepreneurial genius of the program personnel.

**8. Mission and goal are clear to the people in it:**

The mission and the goal of the organization are made public through various forum, and available in printed form. These are explicit to those who work in it.

**9. Taking calculated risk is usually appreciated and brings successes in career development:**

Those who take risk with a view to promote organizational cause are duly valued, such enterprising initiative helps get success in career pathway of the organization.

**10. Personal loyalty is not desired:**

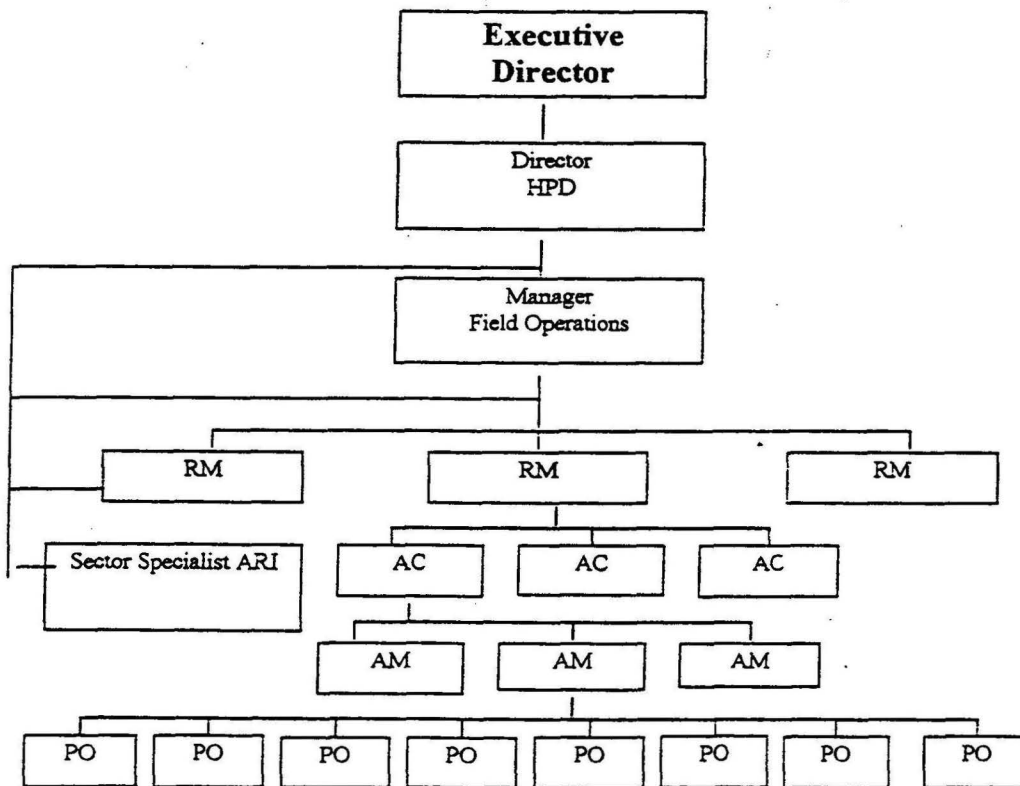
For rewards, efficiency and commitment to the cause is decisive and not loyalty to any person. Cajoling brings little success in career development.

### 5.4.2 Organizational type

The organization fits neither in a typical mechanistic nor organic brand. However, its predominant organizational component is organic. Intra-organizational communication is mostly informal, and take place vertically, horizontally and through oblique ways. However, mechanistic norms are explicit in segments that are engaged in implementation of programs at the field level or in departments that are involved in production with an economy of scale.

### 5.4.3 Management Organogram

Figure 5.4.1 Management organogram of ARI Control Program of BRAC



The organizational structure of Health and Population Division (HPD) is basically product oriented, the concerned functional departments lie outside the division and maintain separate

entity within BRAC and responsible to the Executive Director - the CEO. The hierarchical steps in HPD are many, and at the community level it has a horizontal spread. The intervention areas are divided into three regions and each region is looked after by a RM who oversees works in three or more thanas. Each thana has a AC (Area Coordinator) who coordinates activities in three areas, each of which is headed by an Area Manager (AM). Each AM has 8-9 POs under him, each PO has to supervise works of nearly 12 SS. The overall activities of the ARI program is supervised by the ARI sector specialist stationed in the HPD head office. He communicates vertically, horizontally and also obliquely within the organizational hierarchy. The sector specialist also maintains linkage with the national and international ARI experts and keeps communication with the national ARI control project of Bangladesh government.

#### **5.4.4 Transfers, Recruitment and Dropout**

a. **At Area Coordinator Office:**

In Area Coordinator office, Dinajpur sadar, none has completed one year. The majority have not yet completed six months in the office. All the previous staff including the AC, MO, junior consultant and POs have been either transferred to other place or on study leave. In last three years, three persons worked as AC in Dinajpur. Now the post is lying vacant and looked after by an AC of nearby project thana.

**b. At Area Office:**

Table 5.4.1 shows the distribution of transfers, new entries, resignation of personnel that took place in three area offices during the last one year. In all three areas there are 33 working staff at present. Two have left the job but there was no termination. There were 13 transfers, including both incoming and outgoing types. The number of transfers looks unusually high.

**Table 5.4.1 Distribution of transfers, resignations, termination of personnel by area.**

Area	Personnel	Transferred in 1 year		Joined	Left Job	Terminated
		In	Out			
Ramsagar	11	2	4	1	2	-
Ranigonj	11	2	4	1	-	-
New Town	11	1	2	1	-	-
<b>Total</b>	<b>33</b>	<b>5</b>	<b>12</b>	<b>3</b>	<b>2</b>	<b>-</b>

**5. 4. 5 Manipulative Role of the Process**

The term manipulation has been used here with the connotation of maneuvering all the available potentials of the organization to the cause of positioning the program as a successful competitor in its environment, both at the present and in the future. Indeed, the performance of a project directly and largely relates to the manipulative skill of the process. The process part has to manipulate its all available 'know-how' - both internal and external to the organization - to formulate an appropriate desired objective (DO) of the program so that it can be attainable with its given infrastructure, resources, skill and technology. All organizations work in an environment impregnated with opportunities as well as threats, so they cannot pay any blind eye to it. The process must manipulate its resources to establish a system to generate continuous information regarding its strengths, weaknesses, operational procedures and environmental trends of threats and opportunities. That helps receive feedback for future



strategies. It also entails the art of thwarting the threats and hindrances that exist in or may emerge in the environment. The analysis of the manipulative skill of ARI project of BRAC is revealed as follows:

I. **Manipulative Role on DO:**

As regards to identification and treatment of ARI cases, the process shows some inadequacies. It has set DO unrealistically high. The DO has not been adequately translated into operation at the field. Moreover, the DO of identifying 75 percent ARI cases can not be rightly evaluated by its current MIS data. The process could not fix measurable DO for its other program objectives, therefore offers constrained opportunities for evaluation of its overall performance.

## **II. Manipulative Role on environment:**

### **i). Generation of fund:**

The process possesses adequate manipulating skill in generating fund for the program. The program was scheduled to end in 1994 but got extended for another 3 years. The donor like UNICEF has been satisfactorily persuaded to provide the required number of timers to be used by the SS at grassroots level.

### **ii. Motivation of rural population:**

The program showed discernible success in motivating the TG people, but in regards to NTG, reveals some inadequacies.

### **iii). Promotion of Government Support:**

The distinctive evidence of manipulative skill of the process is revealed from the increasing government support for the program. Such support has evolved through phases. At first the government used to provide training to the program doctors, now has agreed to supply the required drugs.

## **III. Manipulative Role on Information:**

The process showed some inadequacies in manipulation of ARI related information in setting its DO, information being a powerful tool could help fix a realistic DO for the program. The process does not possess any in-built procedure to know the epidemiological profile of ARI in the community, therefore not adequately equipped to measure the effect of the program. The program possesses a good deal of potentials to generate invaluable information on disease profile in the community and can use these as powerful tool in promoting friendly environment, motivating personnel, and generating generous financiers. But absence of an exclusive report on ARI from the program restricts that opportunity.

#### IV. Manipulative Role on Input:

The number of doctors in the program is inadequate, only one for about 89,258. This makes humanly impossible for a doctor to supervise case identifying and curative skill of the key players - the SS. To address the issue, the process showed some inadequacy in taking necessary measures to procure adequate number of doctor and other professional manpower.

### 5. 4. 6 Mobilizing Role of the Process

#### a. Formulation of Strategies and Programs:

The process has the key responsibility of formulating appropriate strategies and programs for actualization of the program objectives. In this regard, the process has to mobilize all possible organizational strengths like information on causalities of disease, available resources and manpower, and its political skill and savy. In Table 5.6.1, the study analyzed the mobilizing skill of the process with a view to possible linkages between strategies, programs, objectives and the causative factors.

**Table 5.4.2: Matrix of causative factors of ARI, program objectives, strategies and programs**

Causative factor	Objective	Strategy	Programs
1. Ignorance of mother about the risk factors of ARI	To increase awareness of the mothers on risk factors of ARI and its prevention.	Health education of the mothers.	<u>I. E.C activities through:</u> i. Monthly household visits, ii. Mothers' forum meetings (MS), iii. Monthly Gram (Village) Committee's meetings, iv. Patients demonstration meetings. v. Monthly EPI, growth monitoring, and ANC sessions

Causative factor	Objective	Strategy	Programs
3. Incompetence of mothers to identify the early symptoms of ARI and manage even mild cases.	To teach mothers to identify and manage mild cases of ARI at home	Enabling mother in early identification and management of ARI at home.	i. Training of mother on early symptoms of ARI through flip charts, case demonstrations, and audio-visual aids.
4. Absence of community based facilities for diagnosis and treatment for ARI cases.	To diagnose and treat 75% of ARI cases in the intervention area.	Development of skilled cadre for identification and treatment of ARI in the community.	i. Identification of ARI by the SS through monthly household visits, ii. Intense supervision and monitoring of the performance of the SS, iii. Reinforcement of knowledge on identification and treatment of ARI by refresher training.
5. Irrational use of antibiotics by rural doctors and other practitioners for ARI, resulting in emergence of resistant strain of bacteria.	To encourage rationale use of drugs for treating ARI cases.	Standardization of treatment procedures for ARI.	i. Training of the SS on ARI treatment in accordance with WHO guidelines, ii. Imparting knowledge on few and most effective drugs to SS, iii. Close monitoring of the SS on use of drugs.
6. Absence of referral system in the community for serious cases of ARI.	To develop a community based referral system.	Establishing referral system.	i. To train SS on how to identify serious ARI cases, ii. To develop referral procedures, iii. To establish linkages with referral hospitals.

**b. Implementation of Programs:**

The programs are being implemented as per stipulated schedule. Doctors, POs, SSS were recruited in time and were given training on ARI with special emphasis on its causes, case identification and effective and efficient management. In each area an area office was stationed in close vicinity of the intervention population. The program developed a training and case identification module for the field staff. To facilitate smooth referral of serious cases, the program introduced an innovative multicolored card system. The drugs are procured either from the open market or from the donors. The hierarchical objectives of implementation were followed in attaining the ultimate implementation goal.

**c. Monitoring and Evaluation:**

Till 1994, Research and Evaluation Division (RED) of BRAC used to monitor activities of erstwhile WHDP (currently named HPD) including its ARI control program. But now the job is being carried out by the program management itself, the responsibility has been delegated to its MIS section. Besides, the hierarchical managers supervise and monitor the works of the subordinates. Though the program has been continuing for the last five years, till now no evaluation report has been published except a lonely effort by a 4th year medical student from U.K. who recommended strengthening of training for the SS and reinforcement of ARI knowledge.

**d. Feedback:**

The most feedback are given in informal way, either directly or through various forums. The proper functioning of the feedback system is restricted by inadequate number of health professionals like doctors and paramedics in the program.. Due to deficient program personnel, there exist essentially some time constraints to meticulously look into possible lapses in procedural matters at the grassroots, hence over-diagnosis of pneumonia could have been unusually high.

## 5.5 Discussion on Diagnostic Findings

The desired output of identifying and treating 75 percent of ARI cases in the community seems quite ambitious. For that, provision of curative care in the community is important but not the only factor, consumers' compliance and physical accessibility are decisive. Though the villages are devoid of doctors, but not in shortage of quacks and other indigenous practitioners. These untrained practitioners already possess a good deal of market share. Hence attaining 75 percent share in health care market within a short period of time was not an easy task. Moreover, the objectives have not been translated into operation at the field level. For instance, the community based identification of cases through regular household visits by SS or other methods has not been emphasized.

The program has only two doctors for the sub-district. Besides ARI, they have to provide services for other components of the program like MCH, TB control etc. too. So they are left with inadequacy of time to supervise, monitor and give feedback to the community volunteers. The program has no health center in the community, nor any resident doctor close to their vicinity. So the community health volunteers, the SS, has to refer all cases that need doctor's opinion to distant district hospital.

The program did not conduct any baseline survey nor maintain any ARI surveillance system, hence difficult to assess what has been the effect of the program in reducing the ARI incidence rate in the community over the intervention years and what percentage of ARI cases was actually identified and treated by the program. It was revealed that ARI incidence rate has decreased over the past several years. But, as there has been no control area or comparison population, how much of this decline can be attributed to the program

performance can not be ascertained either. The I.E.C component of the program has helped generate a good deal of public awareness on ARI, its causation, prevention and preliminary management. Mothers have almost ceased visiting faith or spiritual healers and other indigenous practitioners for seeking treatment of pneumonia. It has been revealed by the mothers that these practitioners are on the path of extinction. They also acknowledged that early diagnosis and treatment of ARI at the community level has ushered a low ARI related mortality.

The acceptance of the SS has been restricted mostly to the lower socio-economic echelon - BRAC's target group population (TG). The non-target population of BRAC's credit program show comparatively less association with the program. The study finds that the low socio-economic status of the illiterate or less-literate SS plays a decisive role in diminishing their territory of operation in the community, as their linkages with people of higher echelon is weak and in some cases even non-existent.

The program has generated very little income for the poor service providers - the SS, hence gives them inadequate incentives for the job. Some of them though ostensibly showed adherence to the program but their interest in BRAC's credit program was quite explicit. Such low financial benefit may eventually reduce their involvement in the program, even may expedite their drop-out. Some operational managers were quite apprehensive on this issue. Invariably, all the SSs were of opinion that they should be given adequate training, drugs and other requisites for treating other common and easily manageable diseases, such measures may substantially help increase their credibility and income, thereby encourage more involvement in the program. Monitoring of the performances of the SS has been inadequately addressed. This owes to in-sufficient medical and paramedical staff in the program.

The acceptance of the program has gradually increased over years. Initially, the competence of the SS in treating ARI cases was highly questionable to most people, but gradually they have gained some credibility. It has been opined by the most respondents

that the initial intensive training on ARI and the subsequent refreshers have helped a great deal to generate such capacity and confidence in the SS. The program has generated a discernible public awareness on ARI and other relevant health issues, and thus changed the treatment seeking behavior of the people. Instead of past practice of visiting indigenous practitioners, the rural people now seek medical care for diseases like ARI and others. Such attitudinal change has increased the demand of health care in the community. The health care providers of BRAC are neither academically nor technically equipped to meet that increased market demand, nor are they desired by the program to play such role. To address such issue, neither does exist the country's formal health sector at close proximity to the rural people. This makes the rural community fertile breeding ground for quacks and other untrained practitioners, and renders the poor villagers to suffer from serious health hazards.

The program needs a constant interaction between the organization and its environment. The success of the ARI program will largely depend on its ability to adapt to its environment that is on transition. The demand and choice of customers are constantly changing. Effectiveness of the program will depend on a fit between its internal stakeholders' behavior attitudes and the external stakeholders' expectation. For BRAC, its internal stakeholders are the employees and the external stakeholders are the beneficiaries. The unusual high rate of drop-outs and transfers of staff - as revealed from data - needs to be examined to figure out any possible dis-satisfaction in its internal stakeholders. The current strategy of the program does not adequately fit into the external customers' expectation either, as revealed by the poor acceptance of the SS by the non-target population. The SSs do not get the necessary feedback from the hospital doctors regarding their diagnosis and referral, as there exists no linkage between them. If there had been referral points in BRAC itself - like a health care center in its each area office, the referral system might have worked more effectively.

The existing lengthy hierarchy has made the organization more mechanistic and needs to be flatter to make it more organic. Such structural changes may be more conducive to quality



of care and strategic management which may help BRAC to position itself as a successful competitor in health care market both at present and in the future.

BRAC teams at all level are found to have a common rallying point around a shared goal of attaining higher health status for the rural poor. BRAC's large infrastructure may be conducive to fill in the gaps to meet the un-met needs of the rural majority. This may help generate income that may be substantially contributive to make the program self sustainable. In rural areas, health has long been hostage to profiteering. In fact, the profiteers have turned the profession into a racket in many places. Non-profit organization like BRAC can usher a break-through in this field. It can provide health care within affordable price for the poor, as it has attained a good deal of success in breaking the unfettered monopoly of the money lending racketeers. Now the external environment has been conducive to such entrepreneurial venture in health care market. Both the government and the donor agencies have reiterated their commitment and support to bring health facilities to the door-steps of the poor. Such egalitarian mind-set has been an encouraging factor for the non-government organization to actively participate in the health care market. BRAC initiatives in health care may prove both supplementary and complimentary to its other development programs like rural credit, non-formal education and others, and hence may provide important opportunities to enhance its credibility in developing Bangladesh.

## Chapter Six

### Formulation of Strategy

#### 6.1 Formulation of Alternative Strategies

The study has so far analyzed the size and distribution of problems and the contributing factors in relation to inputs, outputs, process and information of the program. However, for formulation of an appropriate corrective strategy, the premise of this research essentially needs to push ahead its frontiers. Other germane issues like internal and external situation of the organization, the directional strategies (mission, vision, values and objectives) of BRAC, the current strategies of the program, prioritization of diagnosed problems, and the views of internal and external stakeholders need a meticulous examination. For that, the study deployed following methods:

1. Analysis of Diagnostic Findings,
2. SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis,
3. Analysis of Directional Strategies of BRAC,
4. Internal Analysis of BRAC,
5. Analysis of Current Strategies of the Program,
6. Analysis of Stakeholders,

##### 6.1.1 Analysis of Diagnostic Findings

The diagnostic part of the research could identify several factors that significantly influence the program performance. Some of them have positive contribution and others are adverse, and each differs from others in term of intensity of impact. Hence the importance of these factors in formulating a future strategy should not get equal weightage. Moreover, these problems are not equally manipulable either. For formulating alternative strategies, the specifics of these problems are analyzed with respect to three important criteria: a. their role vis-à-vis program performance,

b. importance that the program should pay to the problem and c. manipulability by the managers. However, the grading are based on subjective judgment. Table 7.3. presents the analysis.

Table 6.1.1 Analysis of diagnostic findings by role, importance and manipulability.

Contributing Factors	Impact/role Scale: -10 to +10	Importance Scale:1-10	Manipulability Scale:1-10
<b><u>I. Desired Output</u></b>			
a. Lack of clarity of DO among staff	-7	8	8
b. Inadequate commitment to DO	-6	7	6
<b><u>II. Inputs:</u></b>			
a. Absence of health care center in the locality	-9	9	9
b. Inadequate number of doctors	-8	9	9
c. Inadequate number of paramedic	-7	9	9
d. Inadequate training	-8	8	8
<b><u>III. Environment:</u></b>			
a. Availability of donors' fund	+8	9	6
b. Poor literacy	-5	6	3
c. Poor economy	-6	7	2
d. Less acceptance of SS	-7	8	6
e. Un-met needs	-4	5	5
f. Large number of competitors	-3	4	1
<b><u>IV. Information:</u></b>			
a. Inadequacy of current information on ARI morbidity	-6	7	8
b. Adequacy of diagnostic 'know-how'	+6	8	6
c. Adequacy of treatment knowledge	+5	9	5

Contributing Factors	Impact/role Scale: -10 to +10	Importance Scale:1-10	Manipulability Scale:1-10
<b>V. Process:</b>			
a. Long vertical hierarchy	-8	9	9
b. Frequent transfers & dropout	-8	8	7
c. Inadequate supervision	-7	7	8
d. Inadequate monitoring	-7	6	6

The Table 7.3 shows that the lack of clarity on the desired output (DO), inadequate commitment to the DO, absence of health care center in the community, inadequate number of doctors and paramedic in the program have higher degree of negative impact on the program and highly important in relation to the program performance. The factors that the part of the process like long hierarchy, inadequate supervision, high rate of transfers and drop-out also show significant negative impact on the performance. However, all these factors possess high degree of manipulability. Hence in formulating alternative strategies, these factor received significant importance.

## 6.1.2 SWOT Analysis

### I. Organizational Strengths

#### 1. Large physical infrastructure:

BRAC has developed a large physical infrastructure spread almost all over the country. It is now a multi-faceted organization with 14,124 regular staff, 48,397 part-time functionaries covering 55,443 villages in 60 districts of Bangladesh. Even in many distant villages it has built its area offices that can station a health care delivery center and a resident medical officer.

**2. Long experience in community works**

Since its inception, BRAC has been working in rural communities especially the poor. Those who join BRAC are well aware that they have to work for rural population, hence there exists little reluctance to stay in villages.

**3. Credibility as Good Caregiver:**

So far, BRAC has implemented several short-term health projects like Oral Rehydration Therapy Extension Project, Child Survival Project, Primary Health Care Project, Women's Health Development Project, and has earned a good deal of credibility as good caregiver both among people and the donors' community.

**4. Motivated Personnel:**

BRAC personnel are motivated to carry on its mission.

**5. Large Training Infrastructure:**

BRAC possesses a large physical as well as resource infrastructure to train manpower. It has been engaged in training its own staff as well as people of other government and non-government organization. It has 14 training and resource center spread all over the country.

**6. Large Number of Trained Personnel:**

While implementing various health and non-health projects, BRAC personnel received training's on delivery of various health services at the community level and on operational management, hence equipped to carry out such program in future too.

## **7. Good Net-work in the Community:**

BRAC has been working amidst the rural people for more than two decades. During this period, setting up of community bodies like village organization, village committees, mothers' forum etc. at the village level had been a major objective. By now, BRAC has established a net-work of such community organizations almost all over the country.. At present it has 52,759 poor landless group organizations in rural areas. Its Non Formal Primary Education Program has so far established more than 31,000 single class schools for rural children. Moreover, its core development program, the Rural Development Project has been operating a credit program since 1990 and so far has disbursed US \$ 205.8 million among the rural poor for promoting their income generating activities. This program covers more than 70 percent villages and has generated a large number of beneficiaries in the countryside.

## **II. Organizational Weakness**

### **1. Inadequate Internal Resources:**

BRAC lacks adequate fund to run a health care program on its own, hence it has to rely on external resources from overseas donors.

### **2. Inadequate Number of Doctors:**

At present BRAC is deficient in doctors to run a health care program.

### **3. Lack of Paramedics:**

BRAC does not possess adequate number of paramedics like laboratory technicians, nurses, pharmacists etc. to run a comprehensive health care project.

### III. Environmental Opportunities:

The prevalent opportunities of the external environment has been analyzed in terms of the perceived trends and the probability of their continuance. Their impact on the program and the probability of continuation are measured on a scale of 1-10. However, all grading are done on the basis of personal judgment of the researcher. The result is revealed in Table 7.1:

**Table 6.1.2: Trends in opportunities by evidence, impact and probability of continuation.**

Trend	Evidence	Impact on the program scale: 1-10	Probability of continuance scale:1-10
<b>1. Political:</b> Increasing egalitarian attitude of the political leaders.	To attract more votes, either for staying in power or gaining power or out of conscience, political leaders are advocating egalitarian approach of governance.	9	9
<b>2. Social:</b> Increasing empowerment of the people are encouraging them to attain their right of health care from the government.	Due to spread of education and increasing political awareness, people are getting more empowered. They get politically mobilized to receive their share in public facilities.	9	9

Trend	Evidence	Impact on the program scale: 1-10	Probability of continuance scale: 1-10
<b>3. Economic:</b> Improving economy of the rural community.	The economy of the local people is growing, thereby improving the people's buying power, living standard and urge for attaining better health care.	8	9
<b>4. Regulatory</b> Increasing desire of the government for involvement of BRAC in health care system.	a. The ARI control program of the government is providing training to M.Os working in the program, b. Presently, the government has been supplying all the required drugs for the program.	9	9
<b>5. Technological:</b> Expanding modern technology in medical care in the district.	Modern medical and diagnostic equipment are being used in the district.	7	8
<b>6. Communication:</b> Expanding road and communication network in the area.	Each year new road are constructed and the old ones are getting better. Number of vehicles and other means of speedy communication are being launched.	8	9
<b>7. Education:</b> Increasing literacy and education in all sections of people .	New schools, colleges and other teaching institutions are getting established.	8	9
<b>8. Donors:</b> Increasing priority for funding health care project for the rural people.	New health care projects are being launched in the country with funding from donors.	8	8



Trend	Evidence	Impact on the program scale: 1-10	Probability of continuance scale: 1-10
<b>9. Media:</b> Expanding exposure to health education given by the media, both print and electronic.	Radio, TV and news paper are getting wide consumption by the people.	7	7
<b>10. Competitive:</b> Decreasing competitive ability of quacks, faithhealers and other non-trained practitioners.	People are less visiting to quacks, faithhealers and the non-trained practitioners.	7	9
<b>11. Professional:</b> Increasing Number of medical colleges and other paramedical institutions in the country, hence more doctors and para-professionals are readily available for service in rural areas.	A large number of doctors and paraprofessionals apply for services in BRAC's rural projects.	9	10

**Weighing scale:**

- 1 - 3 : Unimportant
- 4 - 6 : Moderately important
- 7 - 8 : Important
- 9 - 10 : Very important

**IV. Environmental Threats:**

The trends in environmental threats that currently exist in the external environment of the program are analyzed in table 6.1.2. Like environmental opportunities, the threats too are not static, rather dynamic. Some may persist for a longer period and others may shrink rapidly with the passage of time. The analysis of those perceived threats vis-à-vis their impact on the performance of the program an probability of continuation is given on a scale 1- 10, 1 represents the least and 10 the highest degree in both the cases.

Table 6.1.3. Trends in environmental threats by evidence, impact on the program, and probability of continuation.

Trend	Evidence	Impact on the program (Scale 1- 10)	Probability of continuation (scale 1-10)
<b>1. Acceptability:</b> Growing trend of visiting more trained health care professional.	A large number of ARI patients are taken to rural practitioners and other treatment providers despite provision of drugs by BRAC at a very nominal price.	8	7
<b>2. Competitive:</b> Increasing antagonism by medical assistants, rural pharmacists and even qualified practitioners against BRAC's innovative ARI control program.	Propagation in the community by medical assistants, rural pharmacists and qualified practitioners against the involvement of illiterate or less-literate women in ARI control program of BRAC.	8	8
<b>3. Regulatory:</b> Increasing environmental pollution, ecological imbalance and market entry of untrained practitioners.	a. Presence of increased environmental pollutants like smoke, dusts etc. b. Presence of untrained practitioners in every nook and corner.	8	8
<b>4. Epidemiological:</b> Emerging new strains of virus and bacteria that are resistant to the available chief antibiotics.	Many resistant cases of ARI that can only be cured by costly antibiotic.	7	8
<b>5. Un-met demand:</b> Increasing demand for effective drugs and health care services in the community due to increasing health awareness	Number of patients that are brought to BRAC program needs medical care other than ARI treatment. Hence being unmet by existing provisions are turning to other service providers with dissatisfaction or anguish.	8	8

Trend	Evidence	Impact on the program (Scale 1- 10)	Probability of continuation (scale 1-10)
<b>6. Political:</b> Growing antagonism from religious groups for BRAC's adherence to secular perspectives.	Existing dislike of religious groups against involvement of women as volunteers.	8	9

### 6.1. 3 Analysis of the Directional Strategies of BRAC

**a. BRAC: its purpose and business:**

BRAC is the largest non-government organization in Bangladesh. Its main purpose is rural development. It engages in a nation-wide development enterprise aimed at two broad objectives: to alleviate poverty, and to empower the rural poor.

**b. Needs that BRAC exists to address:**

BRAC exists to address the poverty of the rural poor and their powerlessness. The country's 80 percent people live in rural areas but the major share of the budget is catered to the urban elite. The poor people are devoid of basic health care amenities, they are exposed to all lethal diseases that flourish amidst their unhygienic as well as impoverished premises. They are mostly illiterate, and know little about hygienic way of living. Their incapacitating powerlessness inhibits them to put any demand on public health facilities. BRAC tries to resolve those issues through community mobilization. It combines curative amenities with awareness build-up at the grassroots. For that, BRAC develops cadres like community health workers, the SS, in villages. This way BRAC rationalizes its existence in health care services.

**c. Response of BRAC to identified needs and problems:**

To address the identified needs and problems, the BRAC responses have been the followings:

- i. To cater credit to the rural poor for improving their economic lot,
- ii. To provide training for developing income generating skills,
- iii. To educate the poor children by opening non-formal schools,
- iv. To provide preventive, curative and promotive health care services in rural communities for improving their health status.

**d. BRAC Philosophy and Core Values:**

**Philosophy:**

To alleviate poverty, to empower the poor, and thereby to construct a happy and prosperous Bangladesh.

**Core values:**

Service to the poor, gender equity, high morale, quality of service and steadfastness for the goal.

**e. BRAC's Uniqueness:**

Largest NGO in Bangladesh.

**f. The Current Mission:**

It is dual: a). to alleviate the poverty of the rural poor who have less than 50 decimal of land and sale labor for more than 100 days a year, b). to empower the rural poor especially the women.

## Missions, Visions and Goal of ARI Control Program

### a. Mission of the ARI Control Program:

To provide preventive, curative and promotive services against ARI for under three (currently under 5) children in 2 thanas (presently 10 thanas) in rural Bangladesh.

### b. Vision:

Better health status of the rural children.

### c. Goal:

To reduce infant and child mortality and morbidity in rural Bangladesh and thereby improve the overall health status of the country.

## 6.1.4 Internal Analysis of the Organization

The following matrix presents an internal analysis of the organization as regards to its staff, information/intelligence, technical capabilities and synergy vis-à-vis various program areas.

**Table 6.1.4 Staff, information/intelligence, technical capabilities and synergy by various program areas of BRAC.**

Area	Staff	Information and Intelligence	Technical capabilities	Synergy
Program operations	Adequate in terms of numbers and qualification for the present activities, but insufficient for further expansion.	Internal information flow supports day-to-day activities. It needs enhancement for further expansion. System for obtaining strategic information (intelligence) from outside the organization needs improvement.	Most field staff possess motor cycles and bicycle. Computers are available for all senior managers, and researchers. To sustain as a learning organization, more technical 'know-how's are to be gained.	Most of the health programs, like ARI, are horizontally integrated, and helps maintains a synergy between various product areas.

Area	Staff	Information and Intelligence	Technical capabilities	Synergy
<b>Administrative services</b>	Number of staff & their qualification are adequate at present. But for future expansion, more personnel with higher skill are indispensable.	Information flow is rapid and sufficient for day-to-day activities. for outside information needs further improvement.	Equipment facilities are adequate, senior administrators are provided with computers, printers, and other modern devices. Their knowledge about the programs is adequate.	Administrative functional area shows good synergy with other functional and product departments.
<b>Financing</b>	Their number and expertise are adequate to cope with the present works.	Internal information flow is fast and adequate.	Equipment like computer, technical 'know-how' and other essentials are adequately present.	Good synergy with other departments.
<b>Outreach</b>	Number of staff adequate for catering the present outreach services. But needs more qualified staff for enhancement of quality of care and geographical service coverage.	Internal information flow suffers from some inadequacy, more emphasis should be exerted to promote the level of knowledge on customer satisfaction, process performance and organization's vision, mission, mandate and values.	Equipment facilities are adequate, most program organizers are provided with motor cycles and bicycles. Service providers like female health workers suffer from inadequacy of education.	Exists good synergy, staff share their experiences and help promote a learning climate vis-à-vis service delivery.
<b>General management</b>	Adequate in terms of manpower and academic quality for the present need, for further expansion more staff have to be procured.	Bottom-up information flow needs to be enhanced and should be more comprehensive.	Both equipment facilities and technical capabilities are adequate. BRAC's Management Development Program (MDP) has been contributing substantially to promote management skill of the personnel.	Good synergy exists across the various product and functional lines.

Area	Staff	Information and Intelligence	Technical capabilities	Synergy
Physical facility	There exists some inadequacies in office space for staff especially in the head office. Shifting to its nearly complete two 20 storied office building would solve the problem.	Adequate.	Adequate.	Good synergy in terms of providing physical facilities to all functional and product areas.

### 6.1.5 Analysis of the Current Strategies of the Program

The current strategies of the ARI control program possess some strengths and also some weaknesses, these are analyzed in Table 10.1.

Table 6.1.5a Perceived strengths and weaknesses of the current strategies.

A. Perceived Strengths:	Elaboration:	Impact on performance Scale: 1-10
1. Presence of service provider at the door-step of the rural poor, hence easily accessible to the rural folk.	1. The SSs are selected from the program villages and assigned to work for about 100 households in her close vicinity.	9
2. Favourable networking of BRAC supported community organization.	2. The SS, TBA, GC, MS are well linked with the program. Even BRAC's other program outreach stations like NFPE schools, RDP VOes have good cooperative networking with the program.	9
3. The program is cost-effective, even cost leader.	3. Treatment cost per patient of ARI is lower than charged by other practitioners.	8

<b>A. Perceived Strengths:</b>	<b>Elaboration:</b>	<b>Impact on performance Scale: 1-10</b>
4. Much emphasis on IEC or educative activities, hence long term impact on health, may be expected.	4. Individual meetings, Mahila Shova (Women's Forum) meetings, and other community forums are frequently used for imparting knowledge on ARI and other health, nutrition and preventive issues.	8
5. Less drop-out of the community health workers.	5. So far very few community health workers have dropped out.	9

Table 6.1.5b Current strategy by perceived weakness and elaboration

<b>Perceived Weaknesses:</b>	<b>Elaboration:</b>	<b>Impact on performance Scale: 1-10</b>
1. Lack of full range of services, so no "one shop shopping". Visits to multiple service providers for various health problems are unavoidable.	1. Diseases like diarrhea, worm infestation, skin infections, ear infection etc. are very common in the rural community, but the program provides no curative options. A large number of them visit other practitioners.	9
2. Less accessibility to doctors.	2. Due to gross inadequacy of doctors in the program, it is not humanly possible for a doctor to pay adequate care to deserving patients.	8
3. Conceptual inability of the illiterate or less literate SS, the key service provider, to grasp all the required understanding of this great killer - the ARI	3. The SS possesses little or no education, and therefore incapacitate them to gain from any educative deliberations. Even adequate use of most fundamental tool in health profession like thermometer, timer drugs etc. gets restricted.	9



## 6.1.6 Analysis of the Stakeholders

The program has following two categories of stakeholders: i. external and ii. internal. They follow specific criteria for evaluating the program performance. The management receive their opinion, judgment and feedback with great importance. The analysis of external and internal stakeholders are given in Table 6.1.6a and Table 6.1.6b respectively.

### I. Analysis of External Stakeholders

**Table 6.1.6a Analysis of external stakeholders by criteria of assessment, judgment and the way they influence the program**

Stakeholder	Stakeholder's criteria of assessment	Stakeholder's Judgment	How do they influence the organization?
1. Foreign donors	<ul style="list-style-type: none"> <li>a. Performance as per project proposal</li> <li>b. Proper utilization of money</li> <li>c. Commitment, morale and dedication to the cause of program implementation.</li> </ul>	Good and supportive	<ul style="list-style-type: none"> <li>a. By giving fund.</li> <li>b. By providing ideas, expert opinions and technical 'know-how's.</li> <li>c. By facilitating exposure to national and international research communities</li> </ul>
2. Government of Bangladesh	<ul style="list-style-type: none"> <li>a. Performance as per project proposal</li> <li>b. Proper utilization of donor's fund,</li> <li>c. Output and impact of the program,</li> <li>d. Commitment and morale.</li> </ul>	Good and supportive.	<ul style="list-style-type: none"> <li>a. By licensing/obstructing activities,</li> <li>b. By permitting/hindering the release of donor's fund,</li> <li>c. By allowing/restricting the works in specific areas.</li> </ul>

Stakeholder	Stakeholder's criteria of assessment	Stakeholder's Judgment	How do they influence the organization?
3. Community advocates	a. Customers' satisfaction, b. Impact and achievement of the program, c. Effect on political process in the community	Most of them are appreciative and a few are antagonistic.	a. By instigating people in favor or against the organization, b. By manipulating government policies, c. Exerting power/authority in favor or against the program.
4. Political leaders	a. Over all effect on constituencies of power politics, b. Political utility of the program.	Some are appreciative and some are antagonistic	
5. Media	a. Quality of service, b. Customers' satisfaction, c. Impact and achievement of the program, d. Commitment and moral of the staff and the managers.	Majority are appreciative, sporadic criticism from a few.	a. By publishing success/failure stories, b. Publishing favorable/offensive articles, c. By spreading health education/ miseducation.
6. Intellectuals/ Academics	a. Quality of service, b. Impact of the program, c. Commitment and morale	Most of them are appreciative:	a. By highlighting the success story, b. By influencing the policy makers, c. By enlightening the customers of the program.

## II. Analysis of Internal Stakeholders

**Table 6.1.6b Internal stakeholders by criteria of assessment, judgment and influence on the organization**

Stakeholder	Stakeholder's criteria of assessment	Stakeholder's Judgment	How do they influence the organization?
1. Executive director	<ul style="list-style-type: none"> <li>a. Program performance</li> <li>b. Impact of the program,</li> <li>c. Morale and commitment to the goal of the organization,</li> <li>c. Learning pursuit and improvement of skill,</li> <li>d. Compliance with organizational norm.</li> </ul>	Good, but needs continuous quality improvement.	<ul style="list-style-type: none"> <li>a. Being a role model for the personnel,</li> <li>b. Evaluator of the program performance and its personnel</li> <li>c. Distributing the opportunities and benefits,</li> <li>d. Formulating organizational policies and strategic planning</li> <li>e. Ensuring fund from the donors,</li> <li>f. Ensuring longevity of the organization.</li> </ul>
2. Directors	<ul style="list-style-type: none"> <li>a. Performance,</li> <li>b. Honesty and commitment of the personnel to the goal of the organization,</li> <li>c. Expertise in the specific field,</li> <li>d. Compliance with organizational norm.</li> </ul>	Good, but needs continuous quality improvement.	<ul style="list-style-type: none"> <li>a. Being leader in program implementation,</li> <li>b. Evaluator of performance,</li> <li>c. Initiator of staff development process,</li> <li>d. Helping the formulation of strategic planning.</li> </ul>
3. Personnel of the program	<ul style="list-style-type: none"> <li>a. Sustainability of the job,</li> <li>b. Salary and other benefits,</li> <li>c. Opportunities of career development,</li> <li>d. Opportunities of training and skill development.</li> </ul>	Good, but need more career opportunities, more upward mobility in the service ladder and financial benefits.	<ul style="list-style-type: none"> <li>a. Service and commitment for the organizational causes,</li> <li>b. Giving feedback from practical experience,</li> </ul>
4. Beneficiaries	<ul style="list-style-type: none"> <li>a. Quality of service,</li> <li>b. Impact of the program,</li> <li>c. Sustainability of the program,</li> </ul>	Good, but want more quality in service.	<ul style="list-style-type: none"> <li>a. By active participation cooperation with the program,</li> <li>b. Providing know-how from their long practical experience.</li> </ul>

## 6.2 Alternative Strategies

The study formulated the following three strategies to help enhance the program performance:

### Strategy 'A':

To vertically integrate community health care services of the community health volunteers (SS) with the provision of professional medical care delivered by qualified doctors and paramedics through health center stationed at each area office (*strategy of vertical integration*).

### Elaboration:

To provide professional curative care through qualified doctors and paramedics stationed in the community and to develop vertical integration of the treatment and referral services of the health volunteers - the SS. For that, more doctors and paramedics should be deployed in the program and a BRAC health center should be opened in each area office with the provision of a resident doctor and laboratory facilities.

### Strategy 'B':

To diversify curative services to cover treatment of all common diseases in the rural community (*strategy of product diversification*).

### Elaboration:

Instead of exclusive ARI, treatment facilities against all common illnesses of the rural children should be incorporated in the program.

**Strategy 'C':**

'To improve the technical skill of the community health volunteers - the SS' (*strategy of qualitative differentiation*).

**Elaboration:**

The community health volunteers - the SS - will be given more training and education on case identification and treatment so that they can make a qualitative difference of service in the community. Instead of illiterate or less literate SS, more educated volunteers may be deployed so that they can easily understand the basic logic of various procedures.

### **6.3 Evaluation of Alternative Strategies**

The aforementioned alternative strategies have been analyzed with a particular focus on how they relate to the program's mission, mandates, identified problems and possible consequences if not addressed.

**Alternative Strategy 'A':**

'To vertically integrate community health care services of the community health volunteers (SS) with the provision of professional medical care delivered by qualified doctors and paramedics through health center stationed at each area office (*strategy of vertical integration*)'.

**a. How does it relate to the mission of the program?**

The mission of the program is to identify and treat ARI cases in under three population (currently under 5). The program carries out this mission through community health volunteers - the SS. If a resident doctor and a paramedic are deployed in each area office, the program will be more equipped to carry out the mission more effectively. Setting health center in each area office will help take BRAC health program closer to the door steps of the rural poor.

**b. How does it relate to the mandate of the program?**

Strategy that helps improve the ARI related mortality and morbidity profile of the rural children is consistent with the program objective. As this strategy envisages to cater curative care through doctors and establishing health center in its own premises fits well into the program mandate.

**c. How is it related to the identified problem?**

The study identified that the program suffers from gross inadequacy of qualified doctors and paramedics. The SS works under inadequate supervision of trained health professional and receives insufficient feedback. Due to the lack of trained professionals like doctors, the ARI control program receives less acceptance among BRAC's non-target population - the comparatively well-off people - of the community. Hence deployment of more doctors in the program will help overcome this identified problems.

**d. Consequences if not implemented the strategy:**

1. The rural poor will miss quality health care,
2. BRAC will loose chances of easy market penetration in the health care sector,
3. Inadequacies of formal sectors in credit, commerce, and education in rural areas have long been identified as major causes of backwardness of the rural population. BRAC has been substantially addressing those issues. But these are not the only basics for quality life, health care is crucial. If not addressed, BRAC credibility in the field of integrated approach of rural development will suffer.

**Alternative Strategy 'B': 'To diversify curative services to cover treatment of all common diseases in the rural community'.**

**a. How does it relate to the mission?**

Although the mission of the program is to address ARI related problems, its ultimate goal is to reduce the mortality and morbidity in infant and childhood population in rural areas. ARI is a major problem but not the only problem in rural communities. Epidemiology of ARI also suggests that attack of some common illness makes children more vulnerable to ARI. It has been a common experience of most SS that children suffering from other diseases are brought to them for treatment. But neither they are trained nor officially desired to do that. It is very difficult for a caregiver to restrict the view while looking at sick babies. Denial of treatment for the reason that the child does not fall within the domain of ARI raises serious doubt on the adequacy of skill of the providers, hence enhances the non-compliance with the program. Such one disease treatment approach may indeed hinder the mission of improving child health.

**b. How does it relate to the mandate?**

Improving the health status of the rural children is the ultimate goal of the program, hence the strategy falls within the purview of the mandate.

**c. How is it related to the identified problem?**

The study finds that the acceptance of the program gets restricted due to curative service for a singular disease - the ARI. If provision of treating other common diseases is incorporated, the program will get better acceptance. So this strategy will better address the identified problem.

**d. Consequences if not addressed the issue:**

1. The reputation of the organization as a comprehensive service provider for the poor will be at risk,
2. The competence of BRAC health staff will be put under doubt,
3. People may shift to other health service providers, hence acceptance of the program may shrink,
4. More quacks may emerge in the community to fill the existing gaps in health care sector, thereby may threaten the health care system in rural areas.

**Alternative Strategy 'C': 'To improve the technical skill of the community health volunteers - the SS'**

**a. How does it relate to the mission:**

BRAC lays emphasis on quality of care and its continuous improvement. The rural poor have always been denied the quality service - be it health, education or economy. They received very little of the country's specialized health care. The constrained capacity of the public sector get almost exhausted to meet the demand of the urban elite. In terms of health care, whatever catered to the rural poor are seldom better than charities. As charity seeks no quality, so quality of care has not been the priority issue of the public health sector in rural areas. Such a situation compels the rural people to seek health care from other providers, they become easy prey to quacks that swarm in almost all rural areas. This way, they turn more ill due to wrong treatment. This strategy will decisively improve the quality of care, hence will help differentiate BRAC program from other providers. Therefore the strategy fits well into its mission.

**b. How does it relate to the mandate:**

The program has been assigned to work for improving ARI mortality and morbidity in the rural children. Improved technical competence of the caregiver is crucial to that. As the strategy aims at enhancement of the quality of the SS will be consistent with the program mandate.

**c. How does this strategy relate to the identified problem?**

It has been identified that the acceptance of the program has been restricted in the community, especially in the NTG, due to inadequacy of competence of the SS. The case identification, too, suffers from some inaccuracies. As this strategy emphasizes on improving technical skill, hence will be contributive to overcome the identified problem.

**g. Consequence if not addressed the issue:**



1. Instead of quality of care, poor or mediocre performance will get wide inroads into BRAC programs.
2. The program will miss chances of market penetration, therefore remain dependent on donor's charity. As a consequence, the survival of this program will be at risk.

#### **6.4 Selection of Strategy for Immediate Implementation**

The study has formulated three alternative strategies, all of these have potentials to enhance the effectiveness of the ARI control program of BRAC. But BRAC has its own constraints, its present financial and organizational positions restrict the implementation of all three strategies at a time. Hence it requires to critically evaluate each of these alternative strategies and select only one for immediate implementation. The other two can be implemented in phases. For the selection, the following criteria have been used:

##### **1. Economic Feasibility:**

How much cost is involved to implement the strategy? Will the project be able to manage this cost?

##### **2. Manpower Feasibility:**

Does BRAC have the required manpower to implement this new strategy?

##### **3. Technical Feasibility:**

Does BRAC possess the required technical competence to handle the implementation process?

##### **4. Socio-political Feasibility:**

How far the strategy would be acceptable to the political and social system of the community?  
Will it be compatible with the ethical values and expectations of the community people?

## I. Analysis of Strategies by Selection Criteria:

Table 6.4.1 depicts the analysis of alternative strategies, each strategy has been given a gradation in relation to the degree of congruence with feasibility criteria. The grading are based on researcher's subjective judgment.

Table 6.4.1 Alternative strategies by selection criteria

Criterion	Strategy 'A' Scale:1-10	Strategy 'B' Scale:1-10	Strategy 'C' Scale:1-10
1. Economic feasibility	8	6	5
2. Manpower feasibility	8	5	5
3. Technical feasibility	9	5	4
4. Socio-political feasibility	9	6	4
Total scores:	34	22	18

Table 6.4.1 reveals that strategy 'A' delineating *provision of curative care through qualified doctors and paramedics* got the highest score, hence fits best into the selection criteria. Therefore, strategy 'A' may be selected for immediate implementation in two pilot thanas, Dinajpur and Bogra sadar.

## II. Elaboration on analysis of strategies and the scoring

### a. Analysis of strategies vis-à-vis Economic Feasibility:

The strategy 'A' delineating 'the *provision of curative care through qualified doctors and paramedics*' has been identified as the most feasible one as deployment of adequately qualified doctors in health centers will have the potentials of attracting more patients from a large rural community and generating more revenues through user-fees and drug sales. Whereas the strategy 'B' (*diversification of curative services through SS*) may not attract adequate number

of patients. thereby may fail to generate adequate revenue due to their inadequacies vis-à-vis education and training. The strategy 'C' (*To improve the technical skill of the community health volunteers - the SS*) will require huge infrastructure for conducting training both at the beginning and also as routinely refreshers. Due to illiteracy or less-literacy of the SS, the retention of training will be largely restricted, so will entail frequent refreshers. Moreover, even repeated training may not enhance their market penetration.

**b. Analysis of strategies vis-à-vis manpower feasibility:**

With respect to manpower feasibility, the strategy 'A' enjoys the highest score. In Bangladesh, a large number of medical graduates loom unemployed, hence BRAC can easily deploy them in its health program as care-giver. On the other hand, the present state of insignificant financial incentives may fail to generate the required amount of commitment to service among the women volunteers. Rather, amidst such meager economic opportunities the probability of early dropout may restrict the effectiveness of the program. This is why the strategy 'B' and 'C' score less in the analysis.

**c. Analysis of strategies vis-à-vis technical feasibility:**

In terms of technical feasibility, the strategy 'A' fits best. The doctors and paramedics with adequate professional skill are easily available, hence can be readily recruited. BRAC has a large physical infrastructure in all most all of its area offices, hence may provide premises for installing basic equipment that are needed for a primary health care clinic. Moreover, in BRAC there exists a large number of personnel with long exposure to health care activities in rural communities, its past Oral Rehydration Therapy Extension Project (OTEP), Child Survival Project (CSP), Women and Child Health Development Project (WHDP), and the ongoing Health and Population Program have significant contributions to that end. Hence the strategy 'A' enjoys a very conducive environment for its implementation. On the other hands, for strategy 'B' and 'C', developing wide spectrum of technical skill of SS will be crucial and would require huge physical and financial resources. Their low education profile will restrict the attainment of such technical competence.

**d. Analysis of strategies vis-à-vis socio-political feasibility:**

Strategy 'A' fits best into the socio-political milieu of the country. In Bangladesh, the rural people are traditionally under-served. Till now, doctors are mostly deployed in urban areas. BRAC strategy of providing trained doctors for the rural population will be highly welcomed and will usher a n unprecedented breakthrough in the heath care system of the country. Strategy 'B' and 'C' will be well received too, but their socio-political fit will not be that high due to the inadequacies of the SS as professional care-giver.

## **6.5 Feasibility of the Corrective Strategy**

As discussed earlier, BRAC possesses a large fixed resource infrastructure. It has a good network of area offices, trained manpower, large training potentials, technology and information, support resources like statistical and data processing unit, ancillary service provision, contingency service capabilities, infrastructure of health care service centers and management skill. Moreover, in health intervention in rural areas, BRAC has a long experience. Hence it can be inferred that the new strategy is quite feasible in the current context.

# Chapter Seven

## Implementation Plan

### 7.1 Strategy into Action

Successful responses for any change require planning, systematic implementation and evaluation of plans. All too often, we find responses to be unsuccessful because planning is perfunctory, and implementation is casual, sporadic, ad-hoc and intuitive. As a result, we fail to institute changes effectively and in time. (Schafer, 1987). To transfer strategy into a plan of action, the followings steps should be followed:

1. Identification of hierarchy of objectives in implementation,
2. Identification of resource requirements,
3. Listing of activities to be performed,
4. Scheduling of activities,
5. Budgeting,
6. Planning for implementation,
7. Planning for monitoring, feedback and evaluation

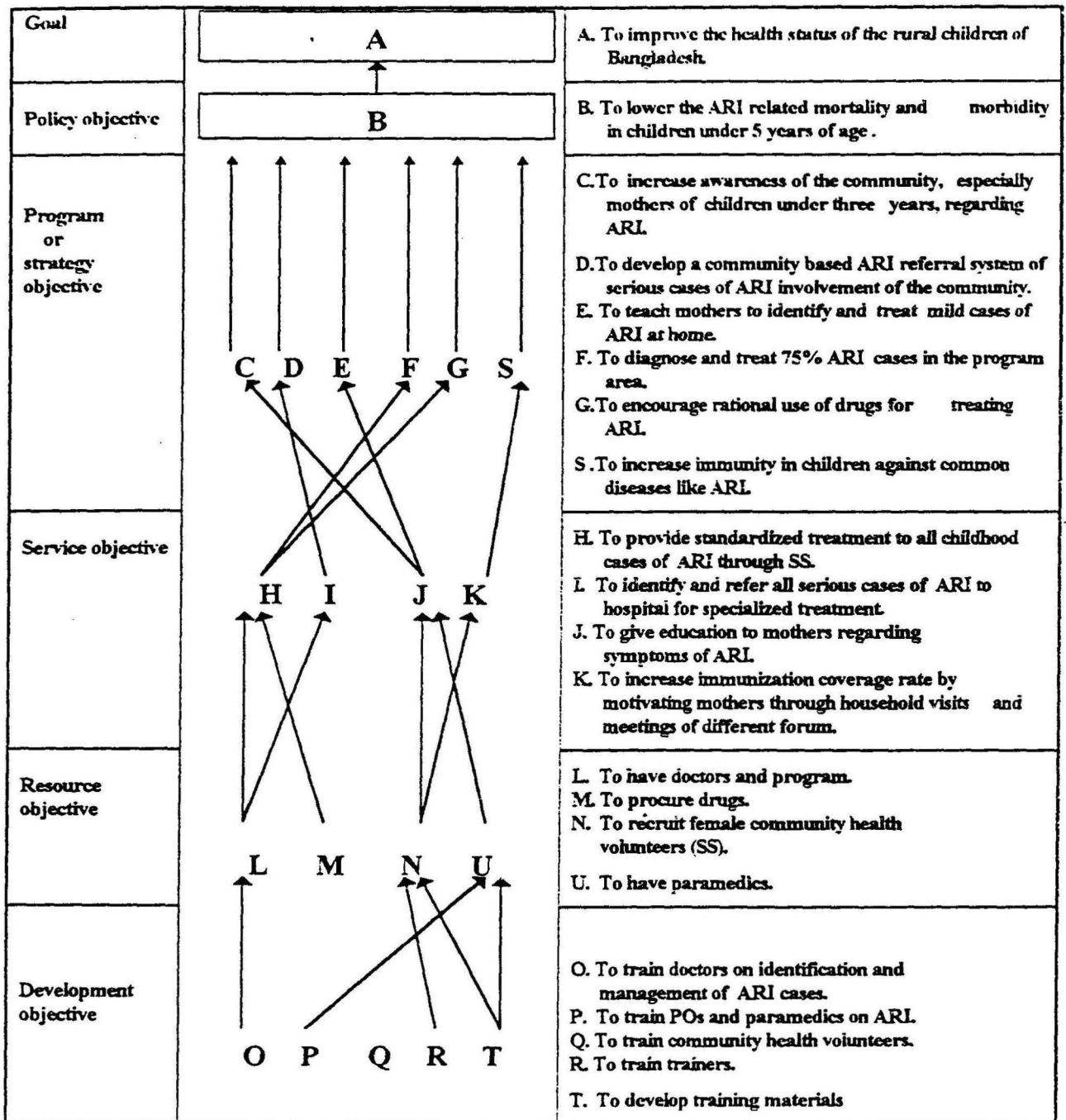
### 7.2 Hierarchical Objectives of Implementation

For implementation of the alternative strategy, the study has identified following six hierarchical objectives. These can be arranged in the following order:

1. Goal
2. Policy objective
3. Program or strategy objective
4. Service objective
5. Resource objective
6. Development objective

Figure 7.2 presents an analysis of various steps of implementation in relation to the above-

Figure 7.1. Hierarchical objectives of implementation.



mentioned hierarchical objectives.

### 7.3 Resource Requirement

The resource requirement for implementation of the proposed strategy with regards to availability and non-availability of the item in BRAC has been analyzed in Table 7.3.

**Table 7.3: Resource requirement matrix for implementation of alternative strategy.**

Types of Resources	Requirement	Available or Not
<b>1. Information &amp; Technology:</b>	<ol style="list-style-type: none"> <li>1. Current ARI specific information of the community,</li> <li>2. Common treatment seeking behavior of the people,</li> <li>3. Health and hygienic practices of the population,</li> <li>4. Immunization status of the population,</li> <li>5. Nutritional status of the children,</li> <li>6. Existing Health Care Service providers in the intervention area.</li> <li>7. Effective drugs against ARI that are available in the market,</li> <li>8. Causes of non-compliance with the treatment,</li> <li>10. Information related to community participation.</li> </ol>	<p>No No No Yes Yes Yes Yes No No</p>
<b>2. Personnel:</b>	<ol style="list-style-type: none"> <li>1. Personnel standard,</li> <li>2. Job description and qualification,</li> <li>3. Salary, incentives and carrier plan,</li> <li>4. Strategies to staff development and expansion,</li> <li>5. In-service re-training and refresher courses for the existing staff,</li> <li>6. Selection criteria.</li> </ol>	<p>Yes Yes Yes Yes Yes Yes</p>
<b>3. Procedures:</b>	<ol style="list-style-type: none"> <li>1. Clinical procedures for identification and screening of cases, treatment of cases and follow-ups,</li> <li>2. Administrative procedures covering personnel, finance, supply record keeping, information processing, and office practice,</li> <li>3. Communication and referral protocols,</li> <li>4. Evaluation and control procedure,</li> <li>5. Recruitment and staff procedure.</li> </ol>	<p>Yes Yes Yes Yes Yes</p>
<b>4. Authorization &amp; Acceptance:</b>	<ol style="list-style-type: none"> <li>1. Policy statement of the program,</li> <li>2. Approvals by the top BRAC management,</li> <li>3. Agreement with the funding agency,</li> <li>4. Service acceptance by the target population,</li> <li>5. Favorable public and professional attitude,</li> <li>6. Community involvement with the program.</li> </ol>	<p>Yes Yes Yes Yes Yes Yes</p>

Types of Resources	Requirement	Available or Not
<b>5. Facilities &amp; Equipment:</b>	<ol style="list-style-type: none"> <li>1. Drugs: its quality and quantity,</li> <li>2. Diagnostic equipment,</li> <li>3. Maintenance of equipment,</li> <li>4. Infrastructure of Health Care Service Centers,</li> <li>5. Vehicles and other transport facilities,</li> </ol>	<p>Yes No No No No</p>
<b>6. Support Resources:</b>	<ol style="list-style-type: none"> <li>1. Supply system with capabilities of acquisition, storage and distributio of medicines,</li> <li>2. Supply stocks,</li> <li>3. Statistical and data processing capacity.</li> <li>5. Emergency/contingency service capabilities.</li> </ol>	<p>Yes  Yes Yes Yes</p>
<b>7. Organization:</b>	<ol style="list-style-type: none"> <li>1 Teams of doctors, paramedics, community health workers for jo specifics,</li> <li>2. Planned division of tasks,</li> <li>3. Coordination between teams,</li> <li>4. Leadership and mobilization,</li> <li>5. Supervision of field, clinic and office works,</li> <li>6. Mutual feedback.</li> </ol>	<p>Yes  Yes Yes Yes Yes Yes</p>



## 7.4 Implementation Activities

Implementation activities regarding designing, training, promotion, procurement and support for various resources are presented in Table 7.4a.

**Table 7.4a. Matrix of Implementation Activities**

Resource	Activities				
	Design	Training	Promotion	Procurement	Support
1. Information Technology: ARI specific morbidity and mortality.	1. Survey designing, 2. Manpower recruitment, 3. Questionnaire designing 4. Time scheduling 5. Analysis plan	1. Training of survey interviewers.	1. Public support build up in the study areas.	1. Training materials. 2. Questionnaire 3. Stationaries.	1. Survey expertise from other organization.
3. Procedure: Treatment procedure	1. Scheduling of clinic works, 2. Job assignment of doctors and paramedics, 3. Drug supply, 4. referral system.	1. Training of health and non-health professionals on ARI. 2. Orientation of staff on procedure of treatment.	Awareness among the people about the schedule and benefit of the clinic.	1. Drugs, 2. Equipment, 3. Stationaries.	Support from pharmaceutical companies and other organizations.

Resource	Activities				
	Design	Training	Promotion	Procurement	Support
<b>4. Authorization &amp; Acceptance:</b> Service acceptance of the people:	1. Designing I.E.C. activities for public awareness build up, 2. Networking with the community institution, 3. Linking with motivated persons and organization.	On I.E.C./Networking/Linkage build up.	Awareness build up among people for service acceptance.	Materials for I.E.C. and for staff training.	Technical assistance from other organization for I.E.C and staff training
<b>5. Facilities &amp; Equipment:</b> Drugs	1. Quantity and quality of drugs, 2. Scheduling of and distribution to the outreach centers, 3. Planning for cost-effective treatment.	On dispensing drugs.	-	Buying from the market or donation from the donor agencies.	Pharmaceutical companies on use and efficacy of drugs.
<b>6. Support resources:</b> Data processing capacity	1. Data processing schedule, 2. Computers allocation, 3. Time allocation of personnel, 4. Planning for staff development on computer.	On advanced skill of data processing.	Nurturing the stakeholders.	Buying computers with adequate capacity and software.	Advanced expertise from other organization.
<b>7. Organization:</b> Coordination between teams	1. Scheduling meeting between top level, mid-level and front line managers, 2. Scheduling of meeting between team leaders, 3. Specifying duties to individuals.	On coordination and management skill.	1. Promotion of coordination among staff, 2. Neutralization of hostility among staff.	-	Expertise from other organization.

The major activities together with person responsible, time frame and resource or inputs needed for each activities are presented in table 7.4b.

Table 7.4b

**ACTION PLAN**

<b>Activities</b>	<b>Persons Responsible</b>	<b>Time Frame (in weeks)</b>	<b>Resources/Input Needed</b>
A. Translating the study findings into project proposal	Project Manager (PM), ARI Sector Specialist	3	Current information on ARI program, Study findings
B. Sharing ideas with the professionals of BRAC	PM, ARI Sector Specialist	2	Project proposal (PP), Support of professional staff
C. Taking approval from the top management	PM, Director of Health & Population Division (HPD)	3	PP, Support of key executives of BRAC
D. Approval from the government and donors	Director of HPD, CEO	6	PP
E. Assigning BRAC staff with job responsibility	Director of HPD, PM, RM	4	PP, Management manual
F. Designing of training for the field staff	PM, ARI Sector Specialist	3	Existing training design, Study findings
G. Recruiting of staff at the project level	PM, Director of HPD	4	Project staff recruitment policy
H. Preparing training curriculum	PM, ARI Sector Specialist	4	Executive curriculum, Study findings
I. Developing training materials	PM, ARI Sector Specialist	4	Training curriculum, Study findings
J. Making training arrangement	PM, ARI Sector Specialist	2	Training venue, Support of training division of BRAC
K. Conducting training	PM, ARI Sector Specialist	1	Guidelines of the program, Instructors, Lesson plan, course pack, trainees

Activities	Persons Responsible	Time Frame (in weeks)	Resources/Input Needed
L. Develop guidelines/checklist/ reporting format	PM, ARI Sector Specialist	4	Existing guidelines/ checklist/ formats. Support of CEO
M. Select venues for BRAC health centers	Regional Manager (RM), Area coordinator (AC), Area Manger (AM)	2	Support of community leaders
N. Make orientation of the community leaders	AC and AM	1	Guidelines, Project Document (PD), Support of local authority
O. Inform parents/community members	AM, Program Organizer (PO)	4	Guidelines, PD, Support of local authority
P. Procure drugs, equipment etc.	AC, AM	4	Guidelines, Doctor's requisition
Q. Start implementing the program	AC, AM, PO	52	Guidelines, Supply of drugs & logistics, Support of local people
R. Make plan for evaluation	Director HPD, Director Research	2	Evaluation guidelines, Support of research professionals
S. Develop instrument for evaluation	Research division of BRAC	2	Computer, Soft wares Support of research professionals
T. Conduct evaluation and prepare report	Research division of BRAC	8	Instruments, Guidelines, PD, Support of Project Staff
U. Redesign and modify the program	PM, Sector specialist ARI	4	Evaluation report, PD, Support of BRAC management,
V. Prepare project proposal for continuation	Director HPD, PM, Sector specialist ARI	3	Evaluation report, PD, Support of BRAC management, government & donors

## 7.5 Scheduling of Activities

A schedule, route map for making a journey, is crucial for successful implementation of the strategy. Here, success implies getting necessary works done on time and at the least possible cost. For that, the identified activities are listed in Exhibit I, then analyzed in an analytic matrix (Exhibit II) by preceding and dependent activities. A PERT network diagram (Exhibit III) has been drawn to show critical pathway, expected event time, latest allowable completion time and slack event. From the PERT network, Gantt Chart (Exhibit IV) of the activities are prepared to closely follow the schedule.

Exhibit I

**Activity List**

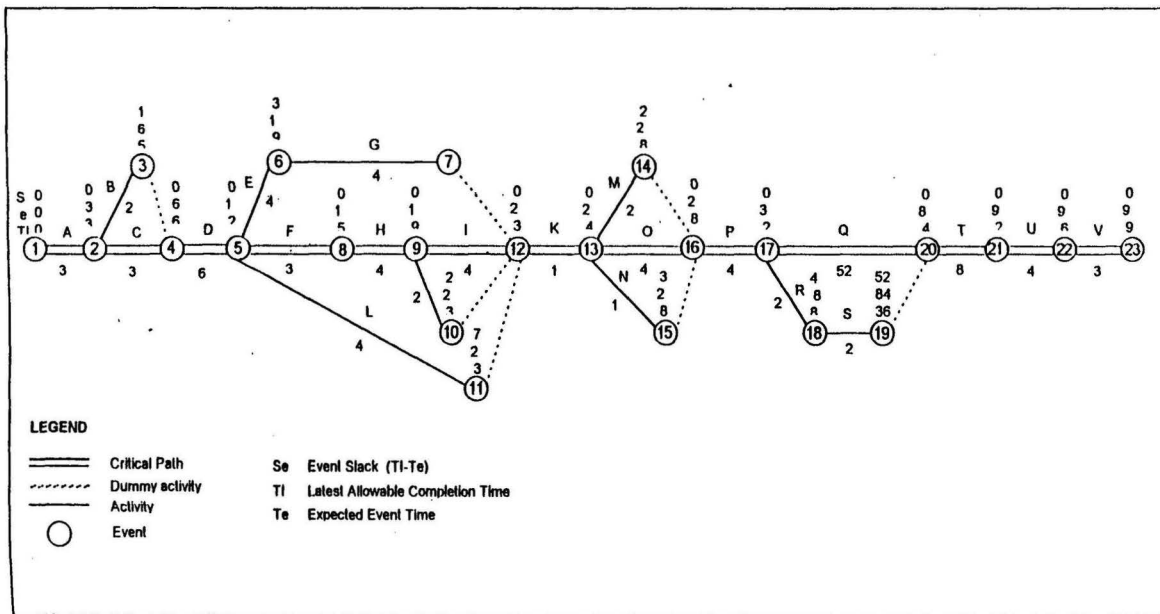
Activity	Description	Estimated Time(Weeks)
A	Translate the study findings into project proposal	3
B	Sharing the ideas with the professionals of BRAC	2
C	Taking approval from the top management	3
D	Approval from the government and donors	6
E	Assigning BRAC staff with job responsibility	4
F	Designing for training for the field staff	3
G	Recruit staff at project level	4
H	Prepare training curriculum	4
I	Develop training materials	4
J	Make training arrangement	2
K	Conduct training	1
L	Develop guidelines/checklist/ reporting format	4
M	Select venues for BRAC health centers	2
N	Make orientation of the community leaders	1
O	Inform parents/community members	4
P	Procure drugs, equipment etc.	3
Q	Start implementing the program	52
R	Make plan for evaluation	2
S	Develop instrument for evaluation	2
T	Conduct evaluation and prepare report	8
U	Redesign and modify the program	4
V	Prepare project proposal for continuation	3

Exhibit II

ANALYTIC MATRIX FOR RELATED ACTIVITIES  
PRECEDING ACTIVITIES

	I	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	
D	A	x																						
E	B		x																					
P	C		x																					
E	D			x	x																			
N	E					x																		
D	F						x																	
E	G																							
N	H																							
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C	M																							
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I	O																							
V	P																							
I	Q																							
T	R																							
I	S																							
E	T																							
S	U																							
	V																							
	End																							

**Exhibit III  
PERT NETWORK DIAGRAM**





**Exhibit IV  
GANNT CHART OF THE ACTIVITIES**

Activity	1996				1997												1998								
	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	
A	---																								
B	-	-																							
C	-	--																							
D		--	----																						
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R									--																
S									--																
T																						----	----		
U																								----	
V																									----

Notes: One dot (-) = one week; one cell chart

= one month; the number denotes the month; only activity time is shown in the

## 7.6 Implementation Phases and Measurement Indicators

The activities for implementing the strategic plan will be started from September 1996 through August 1998 and will be carried out in three stages:

- a. Pre-implementation (planning) phase,
- b. Implementation phase,
- c. Evaluation phase.

The pre-implementation phase will start from September 1996 and will end in December 1996. The required resources will be procured and developed during pre-implementation phase. The activities that will be carried out in this phase includes planning, procurement of approval, designing and developing required materials and procedures, recruiting required staff and orienting staff. All the plans and procedures developed in the pre-implementation phase will be put into action during the implementation phase. The implementation phase will start from January 1997 and continue till the end of the plan. Along with the implementation of the program, monitoring will go side by side. After one year of implementation, the evaluation phase will start from September, 1997 and end by March 1998. During this phase, redesigning of the program as per feedback from the evaluation report will be started and will continue till the pre-stage of the next modified plan.

The activities undertaken in the implementation phase will be reviewed and redesigned (if needed) in the evaluation phase. During the intervention, whatever feedback and information are received from various sources will be critically examined and if necessary, will be incorporated in revising the plan. The following outcome and measurement indicators, as presented in Table 8.1, will be used for monitoring and evaluation of the program.

**Table 8.1 Expected outcome and measurement indicators by phases of implementation.**

<b>Intervention Phase</b>	<b>Expected Outcome</b>	<b>Measurement indicator</b>
<b>I. <u>Planning phase:</u></b>	<ol style="list-style-type: none"> <li>1. Development of proposal for alternative strategic planning.</li> <li>2. Shared the idea with the professional of BRAC</li> <li>3. Approval of the top management.</li> <li>4. Approval from the donor</li> <li>5. Completed the training schedule.</li> </ol>	<ol style="list-style-type: none"> <li>1. Project proposal is available</li> <li>2. Idea is shared with the professionals</li> <li>3. The project is approved by the top management</li> <li>4. The project is approved by the donor</li> <li>5. Training design is available</li> </ol>
<b>II. <u>Implementation Phase:</u></b>	<ol style="list-style-type: none"> <li>6. Recruited the necessary staff</li> <li>7. Developed train curriculum</li> <li>8. Developed training materials</li> <li>9. Completed training arrangement</li> <li>10. Trained the project staff</li> <li>11. Developed guideline/checklist/reporting format</li> <li>12. Renovation of health centers</li> <li>13. Procurement of equipment &amp; drugs</li> <li>14. Orientation of personnel about the intervention area</li> <li>15. Orientation of community leaders and members of BRAC institutions</li> <li>16. Started the curative services of the program.</li> </ol>	<ol style="list-style-type: none"> <li>6. Number of necessary staff recruited</li> <li>7. Training curriculum is available</li> <li>8. Training materials are available</li> <li>9. Training arrangements are done</li> <li>10. Staff are trained</li> <li>11. Guideline/cheklist/ reporting formats are available</li> <li>12. Health center premises are ready</li> <li>13. Equipment and drugs are procured</li> <li>14. Program personnel are given orientation on specifics of intervention area</li> <li>15. Community leaders and members of BRAC institutions are given orientation.</li> <li>16. Curative service started</li> </ol>
<b>III. <u>Evaluation phase:</u></b>	<ol style="list-style-type: none"> <li>17. Completed the evaluation plan</li> <li>18. Developed instruments for evaluation</li> <li>19. Completed evaluation and report prepared</li> <li>20. Modified the program</li> <li>21. Developed continuing proposal</li> </ol>	<ol style="list-style-type: none"> <li>17. Evaluation plan exists</li> <li>18. Instrument for evaluation are available</li> <li>19. Evaluation done and report finalized</li> <li>20. Program is modified</li> <li>21. Continual proposal is developed</li> </ol>

## 7.7 Budget

The duration of the project activities to implement the selected strategy will be two years, beginning from January 1997. The proposed strategy is planned to be executed in 2 thana which contain six area offices. As the ARI control program is an integrated program of Health and Population Division of BRAC, a budget already exists to bear the fixed and recurrent cost of maintaining office premises, logistics, salaries and fringe benefits of Program Organizers, Program Assistants, the service staff etc. The proposed health center will be accommodated with in the existing infrastructure of BRAC's area offices, extra budget for office rent is not allocated. The implementation of the proposed strategy entails deployment of some extra manpower, these are one resident medical officer and one resident laboratory technician for each health center - in total, 6 medical officers and 6 laboratory assistants. The drugs for treating ARI are usually provided by the donors and the Government of Bangladesh, moreover BRAC anticipates substantial amount of income from user fees, drug money and fees for laboratory tests from visitors. Hence the budget only allocate a seed money of Taka 30,000.00 for purchasing drugs to generate a revolving fund for procurement of drugs and other essentials for consumption in subsequent months.

### I. Development Cost:

Type of Cost	Formula	Amount (in Taka)
<b>A. Fixed Cost:</b>		
A 1. Baseline Survey	An aggregate estimate	100,000.00
A 2. Furniture	Tk.20,000×6 health center	120,000.00
A 3. Equipment	Tk.50,000×6 health center	300,000.00
A 3. Office renovation	Tk.10,000×6 health center	60,000.00
A 5. Seed drugs	Tk.30,000×6 health center	180,000.00
<b>Sub Total</b>		<b>760,000.00</b>

Type of Cost	Formula	Amount (in Taka)
<b>B. <u>Variable Cost:</u></b>		
B 1. Recruitment cost	An aggregate estimate	10,000.00
B 2. Training of new personnel (6 doctors & 6 paramedics)	An aggregate estimate	20,000.00
<b>Sub Total:</b>		30,000.00
<b>Grand Total of Development Cost:</b>		<b>790,000.00</b>

## II. Program Support Cost

Type of cost	Formula	Amount
<b>1. <u>Technical assistance visit:</u></b>		
a. Travel	3000x8x2	8,000.00
b. Per diem	200x16	3,200.00
<b>2. <u>Evaluation cost</u></b>	An aggregate estimate	100,000.00
<b>Total (of program support cost):</b>		<b>151,200.00</b>

### III. Recurrent Cost:

Type of Cost	Formula	Amount (in Taka)
<b>C. Fixed Cost:</b>		
<b>C 1. Salary:</b>		
a. Doctors:	Tk.10,000×6 doctors×24 months	1440,000.00
c. Lab. assistant:	Tk.4000×6 doctors×24 months	576,000.00
<b>C 2. Benefit:</b>		
I. Bonus: <i>(twice a year)</i>		
a. Doctors:	Tk.5000×6 doctors×4 times	120,000.00
b. Lab. assistant:	Tk.2000×6 doctors×4 times	48,000.00
II. Provident Fund: <i>(10% of the salary)</i>		
a. Doctors:	1000×6 doctors×24 months	144,000.00
b. Lab. assistant:	400×6 doctors×24 months	57600.00
<b>Sub Total:</b>		
<b>D. Variable Cost:</b>		
D 1. Stationary:	500×6 health centers×24 months	72,000.00
D 2. Refresher training:	15,000×2 times	30,000.00
D 3. Travel expenses:	1000×6 health centers	6,000.00
D 4. Repairing equip.	1000×6 health centers	6,000.00
<b>Sub Total:</b>		
		114,000.00
<b>Grand Total of Recurrent Cost:</b>		1,903,200.00

### Budget Summary: (For two years in two thanas covering six area offices)

**Total Cost = Development Cost + Program support cost + Recurrent Cost**

=790,000.00 + 151,200.00 + 1,903,200.00

=2,844,400.00 Taka.

=67,723.80 US Dollar (\$1=Taka 42.00)

## 7.7 Monitoring and Control System

The implementation activities would be constantly monitored and controlled. Monitoring would include collection and analysis of data on actual operation to detect any deviation from the planned pathway of operation. The control function would imply diagnosis of deviation and taking suitable corrective action. While implementing the program, the monitoring and the control system would accomplish three basic objectives:

1. To review implementation activities against the desired objective,
2. To take corrective action against any deviations,
3. To recognize and reward staff for appropriate performance.

However, any corrective action would follow the following five steps:

- I. Identification of the extent of deviation,
- II. Diagnosis of cause of deviation,
- III. Planning corrective action,
- IV. Review after taking action,
- V. Accountability of the individual and the implementation team.

The program management would accomplish the following five activities:

- I. To help remember, clarify, prioritize, review and if necessary revise the desired goal in implementation,
- II. To help develop a mutually supportive relationship with the environment,
- III. To identify project specific needs and ensure smooth inflow of inputs,
- IV. To develop a general strategy ensuring efficient mobilization and conversion of inputs into desired outputs,
- V. To ensure efficient production and flow of accurate and relevant information to and from all strategic points inside and outside the system to facilitate proper monitoring, control, coordination, evaluation and accountability.

The Program Manager (PM) is required to regularly supervise the implementation works at the operational level. For that, he should make field visits at least once in every three months. ARI sector specialist will help him in his job. After one year, the total program will be evaluated for further development.

#### 8.4 The Possible Barriers in Implementation

A new strategy, whatever sound it looks, usually faces barriers in implementation. The proposed strategy is not an exception either. However, BRAC claims a history of experimenting new strategies in the past. The present strategy has a strong construct that fits well with BRAC ideal. It aims at enhancing the effectiveness of BRAC's ARI control program. ARI is the survival issue of millions in Bangladesh, the rural children are the most helpless victim. Hence it is anticipated that the implementation of a strategy that aims at improving the effectiveness of the ARI control program would face no major barriers. However, there are some issues that may possibly cause some hindrances, hence entails plausible solutions. The following table presents a list of such issues and possible ways of overcoming them.

**Table 8.4.1: Possible barriers by solutions**

<b>Possible Barriers</b>	<b>Solutions</b>
1. The implementation of the proposed strategy needs expansion of existing BRAC program and its infrastructure, hence the management may be reluctant to implement it.	1. To overcome the situation, the importance of the strategy should be properly explained to the key management people. Organizational Political Mapping Technique (OPMT) will be followed to win over the situation.



Possible Barriers	Solutions
<p>2. The implementation of the strategy would need more financial resources, hence management may be unwilling to implement it.</p>	<p>2. To overcome financial constraints, the issue should be discussed with potential donors for more financial grant. If the donors do not agree to finance this program, BRAC should mobilize its own internal resources. The program has its own potentials to generate income. Various means of community financing like user fee, drug fund, health insurance or health card scheme may be introduced to meet that end.</p>
<p>3. Manpower shortage at area office level may restrict the pace of implementation of the program.</p>	<p>3. BRAC area office usually accommodates more than 10 personnel, every one of them will be imparted with adequate training to work efficiently as paramedic. So that if any of the staff goes on leave the smooth functioning of the health center will not be disturbed.</p>
<p>4. Expansion of the program will put extra management load on the program executives, hence will make it difficult to implement program effectively.</p>	<p>4. Some managerial authority like sanction of leave, scheduling duties, procurement of drugs and other supplies, monitoring of works, review of team performance will be delegated to the operational managers at the health center level.</p>

## Chapter Eight

### Concluding Remarks

ARI control program is crucial for reducing the infant and child mortality in Bangladesh. The community health volunteers - the SS - are found to manage ARI satisfactorily in its mild stages. But for predictable sustainability, the provision of treatment for moderately and more than moderately ill cases is essential. Only this way the program can attain credibility as effective caregiver in the community. The work-profile of the SS needs close and constant supervision, that too by health professionals like doctor or adequately trained paramedic. Without adequate number of doctors and paramedics, a disease control program can seldom generate credible acceptance in a community. It should also be duly realized that a disease does not loom alone in an environment. ARI may be accompanied by diarrhea, measles and other diseases. Hence exclusiveness in care giving diminishes the credibility of the caregiver and also of the organization. In an extremely impoverished community, whatever given at the door-step freely or at nominal price is mostly accepted, but that does not ensure the sustainability of that program in a competitive health care market.

Mere close supervision and efficient management may not enhance the effectiveness of the program, deployment of adequate number of the key players - the doctors and paramedics - are crucial. Moreover, they need to be stationed in an adequately equipped health care installation located at close proximity to the rural population. Such health care center will work as a device of vertical integration for community level service provision of the program, catered by the SS. Health care center at each area office will work as referral center for the SS, who will receive regular feedback from its resident doctor on identification of cases and treatment.

BRAC envisions a happy and prosperous Bangladesh, but it is unattainable without improved health status of its rural majority. Health is indeed the most pivotal in man's over all well-being. ARI being the 'number one' killer of infants and the second commonest killer of the children, attract most attention. Hence enhancing the effectiveness of ARI control program must receive the appropriate priority. It will reduce not only the infant and the child mortality, rather improve

the overall health profile of the country. All three strategies that have been formulated by this research were framed after meticulous examination of these and other germane issues. The implementation of all three strategies though deemed essential, the resource constraint has prompted to prioritize at least one for immediate implementation. However, a step by step approach can be applied to implement the others.

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## Annexure I.

### ARI Control Program of BRAC

#### I. Goal and objectives

BRAC incorporated ARI control program as a pilot project in its Women's Health Development Project (WHDP) in 1992. Its goal was to reduce deaths due to pneumonia in under three children and thereby bring down the infant and the child mortality rate in the country. To reach that goal, followings were set as major objectives:

- i. to increase awareness of the community people, especially rural mothers of under three children vis-à-vis causation, prevention, early identification of pneumonia,
- ii. to develop a community based pneumonia treatment and referral system with the involvement of the community,
- iii. to teach mothers to identify and manage mild cases of pneumonia at home,
- iv. to diagnose and treat 75 percent pneumonia cases in the working area,
- v. to encourage rationale use of drugs for treatment of pneumonia.

#### II. Strategies

The following strategies have been undertaken to achieve the objectives of the program:

- i. Educating mothers about signs and symptoms of ARI and home-based management of mild ARI cases,
- ii. Early diagnosis of ARI cases by community health cadres called Shastho Shebika (SS),
- iii. Provision of treatment of mild and moderate cases of ARI at the community level by SS,
- iv. Development of referral system of serious ARI cases to district hospital,
- v. Educating the community people on preventive and promotive measures against ARI.

### **III. Programs**

In order to address the above mentioned strategies, the following programs were undertaken:

1. IEC (Information, Education and Communication) activities at the community level through:
  - a). Monthly household visits by the SS,
  - b). Under three mothers' meetings.
  - c). Mohila Shova (women's forum) meeting once in every three months,
  - d). Monthly Gram (village) Committee's meeting,
  - e). Monthly sessions of growth monitoring, EPI, and ANC services,
  - f). Patient demonstration meetings,
  - g). Monthly refresher training for the SS.

In these forums messages are disseminated by the program organizers (PO) and the Shastho Shebika (SS).

2. Involvement of TBAs for transmitting messages on ARI through Mahila Shova (women's forum) and Gram (Village) Committees - of which they are invariably the member.
3. Involvement of students and teachers of BRAC's Non-Formal Primary Education for Adolescent Girls (NFPEAG) schools in motivating mothers and other community members to take their children to the SS.
4. Coordination meetings of government health workers like Health Assistants, Family Welfare Assistants, Family Welfare Visitors and village doctors on how to promote ARI control program in the rural community.
5. Training of SS on ARI diagnosis, treatment and referrals.
6. Supply of essential drugs that are required for ARI management.
7. Undertaking of preventive and promotive steps like:

- i. Nutritional education in forums like: MS, GC meetings, ANCC and GM/EPI sessions.
- ii. Facilitation of government's EPI program through health education, motivation and social mobilization,
- iii. Facilitation of the government vitamin A distribution program through social mobilization and health and nutritional education, and
- iv. Promotion of colostrum feeding through health education of mothers.

### **III. Procedure of Case Identification**

The responsibility of case identification in the community lies with the SS. She collects information of ARI occurrence from the following sources:

- i. Mothers of affected children,
- ii. Personally through household visits,
- iii. NFPE-AG school students and teachers who inform her about any incidence of ARI,
- iv. TBAs,,
- v. MS and GC members
- vi. FWAs

The SS is desired to inform the Area Office if she finds any severe cases. To facilitate the communication of such information, the program has introduced a letterbox and card system especially in distant areas. Cards are of three types: a). *green*: for common cold, b). *yellow*: for pneumonia, c). *red*: for severe cases. For any serious patient, the SS drops a red card in a fixed box mostly kept in a wayside shop or known house. The boxes are checked daily by any one of the POs, if found then it is desired that the patient be urgently visited by a PO for the needful.



#### **IV. Case Definition and Treatment Schedule**

The program lays the following criteria of case definition for various types of ARI:

**i. Common cold/No pneumonia:**

**Criteria:**

- a. No chest in-drawing,
- b. No fast breathing.

For such cases, no drug is needed, advised to give normal diet/breastfeeding, more fluid, and protection from cold.

**ii. Pneumonia:**

**Criteria:**

- a. No chest in-drawing,
- b. Fast breathing: 50 breaths per minute or more if child is of 2-12 month and 40 per minute if 1-5 years.

For such cases, the SS is advised to prescribe tablet co-trimoxazole and to ask mothers to keep children at home.

**iii. Severe pneumonia:**

**Criteria:**

- a. Fast breathing,
- b. Chest in-drawing.

The SS is desired to refer such cases immediately to a hospital.

**iv. Very severe disease:**

**Criteria:**

- a. Not able to drink,
- b. Convulsions,
- c. Abnormally sleepy or difficult to awake,
- d. Stridor in calm child,

e. Malnutrition.

The patient is immediately referred to a hospital.

All cases of severe pneumonia are required to be followed up by P.O and also the Medical Officer (M.O).

**V. Organizational structure**

The program has no independent entity, hence no vertical organizational structure of its own. The ARI control program of BRAC is horizontally integrated with other components of its Health and Population Division (HPD).

**VI. Referral points and training facilities**

BRAC uses the government health facilities as the referral points. The doctors and program organizers working with the program receive training from the government ARI project. BRAC trains SSs on its own.

**VI. Changes in the program**

In 1995, some changes took place in the program. Now, its target population includes all under 5 children, instead of previously targeted under three. Moreover, the program no more operates as a pilot one, it is replicated as regular program in eight more thanas of HPD working districts.

## Annexure II

### Epidemiology of ARI

The epidemiological issues like why do some children repeatedly suffer from ARI than others, why do some countries have high ARI specific mortality and why do some children are more vulnerable to deaths - have long been the subjects of scientific scrutiny. The susceptibility of a child to ARI and ARI related death is decided upon by the interaction of three crucial factors, these are: i. host factors, ii. agent factors and iii. environmental factors.

#### **I. The Host factors**

##### **a. Age:**

ARI is more prevalent in infants and early age children. Both morbidity and mortality due to ARI are higher in under one children, for this age-group the epidemiological data find it the number one killer in Bangladesh. With the increase in age, the case fatality rate declines.

##### **b. Malnutrition:**

A defective immune response is often associated with malnutrition. In addition to impaired cellular immunity, malnutrition is accompanied by other defects like decreased ability of the white blood cells to fight diseases and low level of complement in blood - a substance essential for destructive action of antibodies against bacteria. In Manila, in children with mild malnutrition the case fatality rate was found to be 23 per 1000, but it was 6 for those with normal nutritional status. For the 336 children who were admitted to hospital with pneumonia and were considered to be severely malnourished, the case fatality rate was 77 per 1000 - more than twelve times higher than those with normal nutritional status. It has been observed that pneumonia following upper respiratory tract infection is much more frequent in malnourished than in healthy children (James JW, 1972).

**c. Low Birth Weight (LBW):**

The children with LBW are more vulnerable to ARI specific death than babies born with normal weight particularly in the first two years of life (Pio A, et al., 1985).

**d. Breastfeeding:**

The first breast milk (colostrum) is an important part of defense against infection. Artificially fed babies, even if adequately nourished, suffer more episodes of serious acute lower respiratory infections (pneumonia and bronchiolitis) than breastfed babies. Breastmilk contains Vitamin A which protects against ARI. It also contains antibodies against influenza, para influenza, diphtheria and pertussis, so reduce the risk of infection in early months of life.

**e. Other diseases:**

Diseases like measles and pertussis (whooping cough) cause severe weight loss and reduce the body defense against ARI. Reduction in serum albumin and deficiency of vitamin A are the complications of measles.

**f. Vitamin A deficiency:**

Vitamin A deficiency is known to reduce the production of mucous, so bacteria can stick to the respiratory tract more easily. Thus the defenses in the respiratory epithelium get critically impaired.

**g. Genetic and other factors:**

A number of rarer genetic and acquired defects can also make some children abnormally vulnerable to ARI. The spleen plays a crucial role in bodily defenses against some respiratory pathogens. The function of spleen may be impaired in both chronic malaria and in sickle cell anemia. Children with cystic fibrosis also pose a significant problem in their susceptibility to ARI.

#### **h. Immune deficiency diseases:**

Immune deficiency diseases like AIDS predisposes children, also people of other age groups, to ARI due to deficient defense mechanism of the body.

#### **i. Beliefs and practices:**

Common belief and practices play an important role in epidemiology of a disease, especially generating a special attitude towards causative factors of a disease and thereby shaping the treatment seeking behavior. Even in the recent past, people used to consider pneumonia as a result of bad air, locally called 'kupi' in Dinajpur district. Medical treatment is often delayed by the use of home remedies and referral to spiritual/faith healer. There are mothers too who do not consider fast breathing as a symptom of any serious illness.

### **II. The Agent factors**

Pneumonia in children is most often caused by haemophilus influenzae and streptococcus pneumoniae. Viruses are incriminated as the main initiator of upper respiratory infections, they also cause laryngitis, bronchiolitis and pneumonia worldwide. On the other hand, bacteria are found to be a potential cause of pneumonia in all age groups.

In developing countries, pneumonia and haemophilus influenzae play a major role in severe lower respiratory infections in young children - in sharp contrast to the developed world where viruses are the main pathogens.

In the causation of ARI, the other important agent factors are as follows:

- i). emergence of virulent strains of infective organisms,
- ii). development of drug resistance among the causative agents and
- iii). epidemic outbreak of diseases like influenza, measles, chicken pox etc. that predisposes children to ARI

### III. The environmental Factors

The environment that surrounds the host (the childhood population) and the agents (bacteria, viruses, etc.) plays an important role in the causation and spread of ARI. The followings are the important environmental factors:

#### a. Crowding:

The ARI are found to spread with greater propensity among those who live in congested premises with little or no ventilation.

#### b. Indoor air pollution:

Cigarette smoke has an injurious effect on child health. In households where one or both parents or other household members smoke, the children are subject to passive smoking. These children are more prone to ARI in their early years. It has been found that the children from families in which neither of the parents smoked had fewer and less severe ARI than those who came from homes where parents were smokers. The domestic cooking smoke is also harmful for child health, it renders children more susceptible to ARI. Children under 2 years spent a considerable time near the fireplace every day. In a rural setting, it is almost a regular phenomenon. It has been revealed that the children under one year of age, who spent longer close to fire-place each day, were more likely to experience potentially life-threatening moderate or severe ARI (Pandey MR, 1986)

#### c. Poor housing:

Damp and muddy houses increase the incidence of ARI.

#### d. Season:

ARI shows a seasonal variation in its incidence, it is more prevalent in winter than summer.

### Annexure III

#### Learning from EPDC Courses Incorporated in the Study

Course	Learning incorporated in the report
1. Biostatistics	<ol style="list-style-type: none"><li>1. Concept of central tendency, rate, ratio, proportion, variance and standard deviation,</li><li>2. Sampling, sample size determination, tools of data collection, quantitative and qualitative data,</li><li>3. Collection, compilation, coding, checking of data,</li><li>4. Data management like classification of data, checking and validation of data, processing, analysis, tabulation, and presentation of data.</li></ol>
2. Epidemiology	Epidemiological methods in public health, Epidemiological survey tools like incidence rate, prevalence rate, disease specific morbidity and mortality etc.
3. Demography	Demographic differentials of population, education, morbidity and mortality.
4. System Assessment and Diagnosis	Diagnostic evaluation of an organization with system paradigm (the analytic model of this research is based on this model).

<b>Course</b>	<b>Learning incorporated in the report</b>
<b>5. Strategic Management and Planning</b>	<ol style="list-style-type: none"> <li>1. The concept of strategic management and strategic planning with a view to position the organization as a successful competitor in the market both at present and in the future has been incorporated to formulate the corrective strategy for the program.</li> <li>2. Situation analysis, analysis of directional and operational strategies, analysis of internal and external environment of the organization, organizationn type, etc.</li> </ol>
<b>6. Implementation of Strategic Planning</b>	How to transform strategy into action, hierarchical objectives of implementation, figuring out the resource requirement, listing and scheduling of implementation activities, selection of specific measurement indicators, monitoring the implementation activities
<b>7. Health Economics</b>	Concept of cost-effectiveness, financial sustainability, pricing, user price, community financing in health care, depreciation, budgeting etc.
<b>8. Financial Management</b>	Concept of financial auditing of a program, management of accounts, financial viability of a program
<b>9. Organizational Behavior and Human Resource Development</b>	Internal analysis of an organization, assessment of organizational type, culture, climate, behavior skill of personnel,
<b>10. MIS</b>	Development of measurement indicators for monitoring a program
<b>11. Leadership in Health and Population</b>	Importance of political savy, concept of planned changes and leadership for implementation of a strategy.