

Improving the Effectiveness of the Conditional Cash Transfers (CCTs) for Education in Bangladesh: The Importance of a Digital Management Information System (MIS)

MD Zoynal Abedin¹, Makoto Nagahata²

¹Governance Program, The Graduate School of Governance Studies, Meiji University, Tokyo, Japan

²Professor, The Graduate School of Governance Studies, Meiji University, Tokyo, Japan

Abstract: *This paper examines the importance of a digital Management Information System (MIS) to improve the effectiveness of the Conditional Cash Transfers (CCTs) for education in Bangladesh. Despite some positive results such as increasing enrolment and attendance rate, reducing the drop-out rate, minimizing gender gap and delaying early marriage; the overall effectiveness of the CCTs for education in Bangladesh is not satisfactory for the weak and inefficient management system beset with a lot of loopholes for malpractice and corruption. To address these management problems, the government is looking forward to establish program-specific digital management information system (MIS) along with other interventions. Keeping pace with the current situations, this study aims at looking into whether and how the effectiveness can be improved by implementing a digital MIS for the programs in the present context of Bangladesh, suggesting a detailed outline of the MIS for the CCTs for education and making some recommendations for the policy makers who are to implement a digital MIS for the programs. Firstly, the study analytically presents an overview of the CCTs in the past and the present from the Bangladesh and global perspective. The analyses show that some other developing countries have improved the effectiveness of similar programs by implementing digital MISs, but at present there is little guidance about the implementation of a digital MIS for the CCTs in Bangladesh. Secondly, it identifies some aspects in the present management system of the CCTs that can be improved through a digital MIS and analyses three case studies of Brazil, Chile and Indonesia to see how digital MISs can be implemented in different country contexts with the associated challenges. This is followed by an examination of the present country context of Bangladesh as to the implementation of the MIS for the CCTs for education. After that, the study collates what is required from the part of the government for the implementation of a digital MIS, what improvable aspects are there in the CCTs for education in Bangladesh and what advantages and challenges are there at present in Bangladesh for the implementation of a digital MIS for the programs. Considering all these findings, the study has outlined a detailed MIS for the CCTs for education through which the efficiency and the effectiveness of the programs are supposed to be improved. Finally, the study puts forward some recommendations in general for the policy makers on the basis of the findings of the study which is followed by some specific recommendations for implementing the proposed MIS for the CCTs for education in Bangladesh.*

Keywords: CCTs, MIS, Effectiveness, Management, Database

1. Summary of the Thesis

This paper discusses the importance of a digital Management Information System (MIS) to improve the effectiveness of the Conditional Cash Transfers (CCTs) for education in Bangladesh. Since the early 1990s, Social Safety Net Programs (SSNPs) have gained policy priority in general as a key to reduce poverty, to decrease gender inequality and to develop human capital in Bangladesh. Of them, the CCTs for education have been considered an effective means of breaking the generation cycle of poverty, narrowing gender gap and inequality by ensuring human capital development and empowering women.

However, though the programs have showed some positive changes such as, increasing enrolment and attendance rate, reducing drop-out rate, minimizing gender gap and delaying early marriage; their overall effectiveness is not satisfactory owing to the weak and inefficient management system plagued by a lot of loopholes for malpractice and corruption.

Hence, with a view to improving the effectiveness of the SSNPs, the government wants to address the management problems by establishing program-specific digital MIS along with other interventions. However, studies about the way

program-specific MISs can be implemented in the present context of Bangladesh are not available. Therefore, this study has pursued an MIS based management approach for the CCTs for education in Bangladesh to increase the efficiency of the management system and thereby to improve the effectiveness of the programs as it is evidenced by similar cases of other countries.

With the broad objective of developing an outline of the MIS for the CCTs for education, the study goes for finding out the decisive management factors, that make the CCTs effective, from some comparatively successful cases of other countries and identifies the real conditions of those factors in the present management system of the CCTs for education in Bangladesh. Also, it tries to understand the role of the MIS in the management of the CCTs and suggest the ways the MIS can be utilized to improve the effectiveness of the CCTs for education in the current context of Bangladesh. This study has explored, examined and summed up all of these points through a method of secondary data analysis. Therefore, the analyses include an in-depth review of international evidences as to the use of MIS for the CCTs and of the reality, problems and prospects of the CCTs for education in Bangladesh along with the present country context described in the existing relevant studies, scholarly

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documents, articles published in the international journals, reports published by the international organizations, case studies, government reports and documents, etc.

The present study is divided into seven chapters. Chapter 1 contains a general background of the study with the statement of the problem followed by the research objectives, research questions and research methodology. It also states the significance of the study. To clarify the ideas forward, the frequently used operational terms have also been defined in this chapter. Chapter 2 gives an overview of the CCTs with particular emphasis on the changes in the management system over time viewed from the Bangladesh and the Global perspective.

It concentrates on specifying the CCT and MIS related discussion suitable for the present study. The most common independent variables related to the effectiveness of the CCTs and a second set of independent variables affecting the successful implementation of the MIS have also been identified in this chapter. Then, a conceptual framework has been developed at the end of this chapter to show the relationship of the identified independent variables with the dependent variables and make a way forward to further carry out the study.

Chapter 3 presents a thorough analysis of the CCTs for education in Bangladesh. It mainly focuses on the existing management system in the implementation process of the PESP and SESP to see how the first set of independent variables identified in chapter 2 are contributing to the effectiveness of the programs. Chapter 4 describes and analyses three different cases of Brazil, Chile and Indonesia related to the use of digital MIS and IMIS for improving the effectiveness of the CCTs to extract some learning points in connection with the present study. Chapter 5 focuses on the country context for establishing digital MIS for the CCTs for education in Bangladesh on the basis of the second set of independent variables identified in chapter 2.

The most important discussion is held in chapter 6 on the basis of the most important findings about the existing problems in the management of the CCTs for education in chapter 3, the comprehensible lessons learned from the case studies in chapter 4 and the country context required for bringing changes in the management system of the CCTs discussed in chapter 5.

The findings have become the basis of suggesting the ways to address the current management problems, to utilize the current and prospective facilities for introducing the new management system through a digital MIS and to finally improve the effectiveness of the programs.

The most important findings of the study include the considerable government readiness for reforms of the SSNPs in Bangladesh which includes the issues such as, Political Will, promotion of Technology, formulation of the Necessary Policies and formulation of a detailed NSSS. Then, they include some clearly marked improvable aspects of the CCTs for education in Bangladesh including Targeting and Beneficiary Selection, Verification of the Conditionalties, Payment System, Grievance Redress

System, Institutional Arrangement and Monitoring and Evaluation that can be addressed through a digital MIS in line with the international experiences.

The findings also include the challenges and advantages for implementing the MIS for the CCTs for education in the current context of Bangladesh which include challenges such as, ensuring Technological Infrastructure, creating a Unified Beneficiary Database, ensuring Sustainable Source of Funding, employing Sufficient Manpower, ensuring Security of the Data, ensuring Uninterrupted Power Supply and Internet Connectivity and building up capacity of the staff; and advantages such as, fast promotion of Technology in the public sector, ongoing creation of NHD, formulation of National Social Security Framework, new source of Funding and introduction of Solar Power.

Therefore, this part of the study has dilated upon whether and how the effectiveness of the CCTs for education can be improved in every aspect through the implementation of a modern technology based MIS to deal with the existing problems by addressing or minimizing the associated challenges in the process. This chapter also develops an outline of the MIS in detail for the CCTs for education in Bangladesh on the basis of the research findings.

Lastly, chapter 7 contains the final remarks along with some general and specific recommendations for the policy makers based on the present study. The chapter ends with the limitations of the study and a suggestion for future research followed by a concluding comment.

2. Abbreviations and Acronyms

ACF- Award Confirmation Forms
ACT- Additional Class Teacher
ADB- Asian Development Bank
AUPEO- Assistant Upazila Primary Education Officer
BANBEIS- Bangladesh Bureau of Educational Information & Statistics
BBS-Bangladesh Bureau of Statistics
BFP- Bolsa Familia Program
BLT- Bantuan Langsung Tunai
BRICS- Brazil, Russia, India, China, South Africa
BTRC- Bangladesh Telecommunication Regulatory Commission
CCT-Conditional Cash Transfer
CESSP- Cambodia Education Sector Support Project
COPE- In Care of the Poor
CT-OVC- Cash Transfer for Orphans and Vulnerable Children
CGAF-General Bureau of Monitoring and Auditing
DDDPE- Divisional Deputy Director of Primary Education
DEO- District education Officer
DMO- District Monitoring Officer
DPE- Directorate of Primary Education
DPEO- District Primary Education Officer
DRH- Developing Reading Habit
DSHE-Directorate of Secondary and Higher Education
FFE- Food for Education
FYP-Five Year Plan
FESP- Female Education Stipend Project
FPS-Ficha de Protection Social

FSSAP- Female Secondary School Assistance Program
 GDP- Gross Domestic Product
 GED- General Economics Division
 GER- Gross Enrollment Rate
 GoB- Government of Bangladesh
 GPA- Grade Point Average
 GRS- Grievance Redress System
 HIES- Household Income and Expenditure Survey
 HR- Human Resource
 IBGE- Brazilian Institute of Geography and Statistics
 ICT- Information and Communication Technology
 IDA- International Development agency
 IDR- Indonesian Rupiah
 ILO- International Labour Office
 IMIS- Integrated Management Information System
 IMED- Implementation, Monitoring and Evaluation Division
 ISF- Improving School Facilities
 IT- Information Technology
 JFPR- Japan Fund for Poverty Reduction
 JICA- Japan International Cooperation Agency
 LIC- Low Income Country
 LAPOR- National Complaint Handling System
 LMIC- Lower Middle Income Country
 MDG- Millennium Development Goal
 MDS- Ministry of Social Development (Brazil)
 MEC- Ministry of Education (Brazil)
 MEO- Monitoring and Evaluation Office
 MIDEPLAN- Ministerio de Planificación y Cooperación
 MIS- Management Information System
 MoE- Ministry of Education (Bangladesh)
 MoF- Ministry of Finance
 MoP- Ministry of Planning
 MoPME- Ministry of Primary and Mass Education
 MS- Ministry of Health
 NER- Net Enrollment rate
 NGO Non-Government Organization
 NHD- National Household Database
 NIK- Citizen Identity Number
 NIS- Social Identification Number
 NORAD- Norwegian Development Agency
 NSSS- National Social Security Strategy
 N-11- Next Eleven
 PEC- Post Enumeration Check
 PESP- Primary Education Stipend Program
 PEISEV- Participation in Education through Innovative Scheme for the Excluded Vulnerable
 PHK- Program Keluarga Harapan
 PIMU- Project Implementation and Management Unit
 PPLS- Pendataan Program Perlindungan Sosial
 PRSP- Poverty Reduction Strategy Paper
 PTA- Parents Teachers Association
 RPJM- Midterm Development Plan
 SCAE- Subsidio Condicionado a la Asistencia Escolar- Bogotá
 SEQAEP- Secondary Education Quality and Access Enhancement Project
 SESP- Secondary Education Stipend Program
 SESDP- Secondary Education Sector Development Project
 SESIP- Secondary Education Sector Investment Program
 SIGPBF- Bolsa Familia Management System
 SIIS- Integrated System for Social Information
 SMC- School Management Committee
 SQL- Structured Query Language

SRMP Social Risk Mitigation Project
 SSC- Stipend Selection Committee/ Secondary School Certificate
 SSNP- Social Safety Net Program
 SSP- Social Security Program
 SUAS- Single System for Social Assistance
 TAE/ILAE- Tarjeta de Asistencia Escolar/ Incentivo a la Asistencia Escolar
 TNP2K- National Team for the Acceleration of Poverty Reduction
 UCT- Unconditional Cash Transfer
 UDB- Unified Data Base
 UDC- Union Digital Center
 UK- United Kingdom
 UN- United Nations
 UNDP- United Nations Development Program
 UNICEF- United Nations Children's Fund
 UNO- Upazila Nirbahi Officer
 UPEO- Upazila Primary Education Officer
 UPSPK- Unit Penetapan Sasaran Penanggulangan Kemiskinan
 USA- United States of America
 USEO- Upazila Secondary Education Officer
 VGD- Vulnerable Group Development
 4Ps- Pantawid Pamilyang Pilipino Program

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(As on June 21, 2017)

Source: <https://www.bb.org.bd/econdata/exchangerate.php>

Fiscal Year: July 1 - June 30

3. Introduction

3.1 Background of the Study

Bangladesh is one of the promising economies of the world included in the N-11 (a list of fast-growing 11 countries along with BRICS) identified by Goldman Sachs¹ (2007). Recently, it has been marked as a lower-middle income country (LMIC) by the World Bank (Raihan, 2016). In the current decade, Bangladesh has laid down a number of development plans and accordingly it is going ahead with a cherished dream of becoming a middle income country by 2021 and a developed country by 2041. However, the main challenge that has been identified to be in the way to reach the target in all of the remarkable plans and policies² is poverty. Against this haunting phenomenon, the Government of Bangladesh (GoB) wants to make faster progress following the past achievement with poverty reduction (the poverty incidence fell from 48.9 % in 2000 to 40% in 2005, 31.5 % in 2010 and 24.8 % in 2015) by addressing the root causes of poverty and minimizing the impact of risks faced by the poor and the vulnerable through the Social Safety Net Programs (SSNPs) (7FYP, 2015).

In the Perspective Plan (2010-2021), the major poverty reduction strategy of Bangladesh includes policies and programs to improve poor households' access to education and health services. The need for human resource development has also been considered a key component of the overall poverty reduction strategy under the SSNPs with a special focus on human development through education. However, notwithstanding the past progress with the SSNPs,

a large section of the poor and vulnerable households do not have access to the programs including the Conditional Cash Transfers (CCTs). The average performance of the programs is low and there is considerable outflow of the allocated funds with a remarkable section of non-poor beneficiaries. All these are caused by the weak management system of the programs (HIES, 2010; 7FYP, 2015).

Hence, an efficient management system followed by the strengthening of targeting and an increase in the coverage of the programs has been emphasized in the plan. In recent years, there has been a considerable increase in the coverage of SSNPs including the CCTs (the coverage has become about 24 % from 13% of the total population over a period of five years, 2005-2010) (HIES, 2010 ; 7FYP, 2015; MoF, 2016). Besides, GoB has formulated a comprehensive National Social Security Strategy (NSSS) to ensure an effective social protection system for reducing poverty, minimizing inequality and developing human capital simultaneously. Concurrently, the NSSS (2015) recognizes that sophisticated Management Information Systems (MISs) must be in place for ensuring the efficient administration of the SSNPs as it is evidenced by a number of developing countries which have established digital MISs using advanced technologies to facilitate good institutional arrangements, a payment system through financial institutions, a proper monitoring and evaluation system and an appeal system to redress beneficiary grievances. Therefore, GoB is looking forward to establishing program-specific digital MIS to improve the effectiveness of the programs to an optimum level.

Considering education as the key to develop human capital, to eliminate gender gap and to break the generation cycle of poverty, the Latin American countries like Brazil and Mexico and the Asian countries like Pakistan, Indonesia and the Philippines have emphasized the CCTs for Primary and Secondary education (Chaudhury and Parajuli, 2006; Sparrow, 2007; Bailey, 2007 and Glewwe and Kassouf, 2012). It is no exception for Bangladesh. GoB has consistently been operating two CCTs for education, Primary Education Stipend Program (PESP) and Secondary Education Stipend Program (SESP), since the early 1990s. As some of the developing countries have considerably increased the efficiency and effectiveness of the CCTs using digital MISs (see Bassett et al., 2012; Lindert et al., 2007 and Hellmann, 2015), this paper wants to make a study about the implementation of a digital MIS for the aforesaid CCTs for education in Bangladesh to improve their efficiency and effectiveness.

3.2 Problem Statement

At present Bangladesh administers about 145 SSNPs through 23 Ministries. At the outset, most of the SSNPs provided food transfers to the beneficiaries but the number of cash transfers has increased and complying with the requirements of the development partners, the World bank in particular, CCTs have also been introduced over time (7FYP, 2015; NSSS, 2015). PESP and SESP are the two CCTs for education which are administered by the Ministry of Primary and Mass Education (MoPME) and the Ministry of Education (MoE) respectively. While education has been

considered the key to break the generation cycle of poverty and to reduce gender gap and inequality by ensuring human capital development and empowering women, the CCTs for education have so far played an important role in increasing enrolment and attendance rates, reducing the number of drop-outs, minimizing gender gap and delaying girls' marriage which directly or indirectly lead to poverty reduction and human capital development (Tietjen, 2003; Schurmann, 2009; DPE, 2015).

However, studies³ show that though the CCTs for education have showed some positive changes, the results are not satisfactory. There have been lots of errors, fraud and corruption along with poor coordination among the implementing agencies and a lack of administrative capacity and proper monitoring rooted in the weak and inefficient management system beset with loopholes for malpractice and corruption. Therefore, the ultimate goals of the programs to reduce poverty, to minimize inequality and to develop human capital are not yet achieved satisfactorily. On realizing it, GoB has made a comprehensive plan to reform the management system of the SSNPs and emphasized the program-specific digital MIS to improve the effectiveness of the programs. However, various studies⁴ on similar cases of other countries indicate that an efficient MIS is able to check malpractice and corruption and to create a new window of monitoring to improve the effectiveness of the programs like the CCTs for education in Bangladesh but studies about whether and how the digital MISs for the SSNPs and particularly the CCTs can be implemented in the present context of Bangladesh are not available.

3.3 Objectives of the Study

In consideration of the clearly stated research problem within the specific background, the broad objective of the study is:

- To develop an outline of the MIS for the CCTs for education in Bangladesh that is likely to improve the effectiveness of the programs.

However, the specific objectives are:

- To find out the decisive management factors which make the CCTs effective,
- To look into the present management system of the CCTs for education in Bangladesh,
- To understand the role of the MIS in the management of the CCTs for education, and
- To suggest the ways the MIS can be utilized to improve the effectiveness of the CCTs for education in Bangladesh.

3.4 Research Questions

To carry out the research objectives, the study will mainly try to answer the following question.

- How can the effectiveness of the CCTs for education in Bangladesh be improved through a digital MIS?

However, it will categorically answer the following sub-questions to clarify what is pursued in the study.

- 1) What are the management criteria on which the effectiveness of the CCTs depend?
- 2) What are the present conditions of the criteria in the CCTs for education in Bangladesh?
- 3) What can the MIS do in the management of the CCTs like PESP and SESP?
- 4) How can the MIS be utilized to improve the effectiveness of the CCTs for education in Bangladesh?

3.5 Research Methodology

Since the underlying principle of the present study necessitates an in-depth analysis of international evidence as to the use of MIS for the CCTs and of the reality, problems and prospects of the CCTs for education in Bangladesh, a method of secondary data analysis has been employed for the study. Therefore, the existing relevant studies, scholarly documents, articles published in the international journals, reports published by the international organizations, government reports and documents, and case studies have been scrutinized and analyzed with utmost care to complete the task pertinently.

3.6 Significance of the Study

The NSSS of Bangladesh puts forward that the efficient administration of the SSNPs necessitates high quality MISs. A number of developing countries have established MISs for the SSNPs using modern technology and shown that a national Single Registry can be set up based on a network of independent but interlinked scheme-specific MISs. Though it is agreed that a strong MIS can reduce errors, fraud and corruption in the management system and thereby improve the efficiency and effectiveness of the SSNPs, no detailed discussion about the implementation of a digital MIS for the SSNPs in Bangladesh is available. Moreover, no specific guidelines or recommendations have been enunciated in any available literature about how MIS can work and improve the efficiency and effectiveness of the SSNPs in the present context of Bangladesh. This paper seeks to analyze the international evidence along with the country context in detail to make some corroborated recommendations for the purpose.

3.7 Definitions of the Operational Terms

Social Safety Net Programs (SSNPs): Social safety net programs are the programs which include cash and in-kind transfers targeted at poor and vulnerable households with the goal of protecting families from the impact of economic shocks, natural disasters, and other crises by ensuring that children grow up healthy and well-fed, and can stay in school and learn; empowering women and girls; and creating jobs (World Bank, 2015).

Conditional Cash Transfer (CCT): Under social safety net programs, Conditional Cash Transfers (CCTs) are the cash transfers which require the beneficiaries to fulfill a specific obligation or activity such as attending school, planting seed, etc. to receive the cash and in which sometimes a restriction

is placed on how the beneficiaries choose to spend the money (European Commission, 2013).

CCTs for Education: When the cash transfers are made to the beneficiary students or students' families on fulfilling some conditions like a fixed attendance rate for the students, obtaining a certain percentage of marks in the examination by the students, etc., they are called the CCTs for education.

Management Information System (MIS): For social protection programs, management information systems are the systems and procedures of performing functions like the identification of the beneficiaries, verifying compliance with conditions in the CCTs, management of grievance and complaints, exit and graduation of the beneficiaries, production of the payment lists, reconciliation of payments, notification to the program managers and provision of reports that facilitate good program management, decision making and program accountability (Villalobos et. al, 2010; Chirchir and Kidd, 2011; Barrett and Kidd, 2015). The MIS can be either paper-based / manual or online computerized (Browne, 2014). The present study will deal with computerized digital MIS.

Integrated Management Information System (IMIS): When MIS databases of different schemes are linked to one another for policy and operational advantages usually by making a single Registry for the social protection programs, the information management system is called Integrated Management Information System (IMIS).

Programs Implementing Agencies: Programs Implementing Agencies include Ministries, Divisions, Directorates, Departments, Autonomous Bodies, Local Public Offices, Local Governments (LG) and Local Committees which have responsibilities in any form at any stage of the CCTs like the Primary Education Stipend Program and the Secondary Education Stipend Program of Bangladesh.

3.8 Outline of the Study

The study is divided into seven chapters. The introductory Chapter 1 gives a general background of the study with the statement of the problem followed by the research objectives, research questions and research methodology. To clarify the ideas forward, the frequently used operational terms have been defined in this chapter. It also justifies the significance of the study. Chapter 2 presents an overview of the CCTs in the past and present from the Bangladesh and the Global perspective. It concentrates on specifying the CCT and MIS related discussions suitable for the present study. The most common independent variables related to the effectiveness of the CCTs and a second set of independent variables affecting the successful implementation of the MIS have also been identified in this chapter. Then, a conceptual framework has been developed to show the relationship of the identified independent variables with the dependent variables of the study at the end of this chapter. Chapter 3 deals with a thorough analysis of the CCTs for education in Bangladesh. This chapter mainly focuses on the existing management system in the implementation process of the PESP and SESP of Bangladesh in the light of the first set of independent

variables identified in chapter 2. Chapter 4 describes and analyses three different cases related to the use of MIS and IMIS for improving the effectiveness of the CCTs. Chapter 5 focuses on the country context for establishing MIS for the CCTs for education in Bangladesh on the basis of the second set of independent variables identified in chapter 2. The most important discussion is held in Chapter 6 on the basis of the findings in the previous chapters. This chapter also develops an outline of the MIS in detail for the CCTs for education in Bangladesh based on the research findings. Finally, Chapter 7 contains the concluding remarks along with some general and specific recommendations for the policy makers followed by the limitations of the study and a suggestion for future research.

4. Overview of the CCTS - Past and Present: Bangladesh and the Global Perspective

4.1 Introduction

The present study requires exploring the reasons for which the CCTs in some countries are performing better than those in other countries and better than ever before. This further necessitates finding out answers to the following questions. Is there any common characteristic among the CCTs throughout the world? How are they performing in different contexts? What are the keys to better performance of the CCTs? And what can be the way out to improve the performance of the specific CCTs dealt with in this study? With that end in view, this chapter has dilated upon the findings and suggestions of the previous research regarding the points from an analytical point of view. In fact, it has concentrated on understanding the leading concept behind the CCTs, the difference-maker in the effectiveness of different CCTs, the interfaces between the CCTs and the MIS and the way to bring positive change in the performance of the CCTs for education in Bangladesh.

4.2 The CCTs- Resulted from a Development Concept

The CCTs have emerged from a development concept⁵ in the developing countries as a result of the policy discussions and multifaceted experiences with SSNPs for reducing poverty, removing gender disparity and developing human capital for decades. There is no denying the fact that poverty has become the ever-present and most-haunted specter in the developing countries. According to UN (2009), it is evidenced that economic growth cannot reduce poverty without other interventions. Moreover, macroeconomic recovery does not imply important social improvement. This realization has made the governments and multilateral lending institutions devise programs for fighting poverty under the umbrella of the SSNPs.

However, SSNPs usually concentrate on redistributing income and resources to the poor to fight immediate poverty during crises without addressing long-standing structural

poverty. Moreover, they cannot break the vicious circle of poverty (Aber and Rawlings, 2011). Hence, it is realized that the apparent role of the SSNPs to protect the poor and the vulnerable for the time being should underlie an aim to develop human capital and to help people rise above the poverty line. Consequently, the CCTs under the SSNPs have become means-tested programs that offer cash to the poor families on the condition of investing in the development of their children as human capital (Bailey, 2007). Therefore, the developing countries have increasingly adopted the CCTs to move out of the generation cycle of poverty. Almost every country in Latin America has introduced CCTs to reduce inequality and to make the poor households free from poverty by promoting child health and schooling (Fiszbein et al., 2009). Unsurprisingly, the use of cash to incentivize household investments in child schooling has also become popular in the developed countries.

Following the Latin American countries, the introduction of the CCTs in the countries including Bangladesh, Indonesia, Philippines, Pakistan, South Africa, Ghana and Nigeria, and in the cities like New York and Washington DC provides more information on their flexible, creative and effective use in diverse contexts (Fajth and Vinay, 2010). Fiszbein et al.(2009) finds that the CCTs have reduced poverty significantly when the transfer has been generous, well targeted, and structured enough to encourage the recipients to escape poverty. Also, they have helped to protect poor households from sudden income shocks through a steady flow of income and increased the bargaining power of women. Sadoulet (2004) suggests that the CCTs benefit the poor not only in short term but also in long term by increasing human capital. Begum et al. (2015) also suggests that the CCTs for education build lifetime human capital. Therefore, the CCTs for education develop human capital and ensure better health. Thus, they increase the productivity and the employability of the poor which are the recurrent phenomena in the development concepts of the developing countries.

4.3 The CCTs for Education in the Developing Countries - A Common Goal in View

Education is a fundamental right which develops human potentials for individual, social and economic benefits by increasing employment opportunities and incomes and reducing poverty. Therefore, access to education has received the attention of the policy makers in the developing countries as an important human right and a basis for accelerating economic growth and reducing poverty (Ullah, 2013). Needless to say that Millennium Development Goals (MDGs) set out by the UN in 2000 have expedited such policies to a great extent as they emphasize eradicating extreme poverty and hunger, achieving universal primary education, and promoting gender equality and empowering women (see Figure 2.1).



Figure 2.1: Millennium Development Goals

Source: United Nations Website

Accordingly, many developing countries have articulated different plans and policies followed by the initiation of various programs for ensuring education for all, particularly for the disadvantaged groups within the society including the poor and the girls with multifarious objectives like reducing poverty, developing human capital, minimizing gender gap and empowering women through education. Therefore, under the SSNPs, the CCTs for education have become

almost common in the developing countries. Although there are variations between the ways CCTs are operated in different countries and regions (see Table 2.1), one characteristic is common: they all transfer cash to the beneficiaries to make investments in ensuring child health, eliminating gender inequality and developing human capital keeping education at the center.

Table 2.1: Payment schedule of some Latin America and Caribbean, African and Asian countries

Latin America and the Caribbean				
Country	Program	Payee	Payment Frequency	Payment system
Brazil	Bolsa Familia	Mother	Monthly	Transfers credited to a debit card distributed to beneficiaries
Chile	Chile Solidario	Mother	Monthly	Through National Social security Institute or payment points
Colombia	SCAE-Bogota	Student	Bimonthly	Through beneficiary's bank account with associated debit card
Mexico	Oportuni-dades	Mother	Bimonthly	Cash at payments points and payments through beneficiary's savings account with BANSEFI
Africa				
Nigeria	COPE	Mother and designated house- hold member	Monthly	Through microfinance agencies and local community banks
Kenya	CT-OVC	Parent/guardian	Bimonthly	In 30 districts, through district treasuries; in the remaining 7 districts, through post offices
Asia and the Pacific				
Indonesia	PKH	Mother/woman taking care of the children in the family	Quarterly	Cash paid through local post offices
Philippines	4Ps	Mother	Monthly	Land Bank of the Philippines
Turkey	SRMP	Mother	Bimonthly	Through a banking institution; or through the postal service
Pakistan	PEISEV	Student's household	Quarterly	Direct transfer via postal money order
Bangla- desh	FSSAP	Female student	Twice yearly	Through direct deposit to a bank account in the girl's name
	PESP	Beneficiary's guardian	Quarterly	By direct transfer to beneficiary's bank account

Source: Adapted from Fiszbein et al. (2009)

4.4 The CCTs – Past and Present –What makes the Difference?

The first country to open up the mechanism of CCTs in Latin America was Brazil. According to Lindert et al. (2007), the realization that poverty reduction strategies need to go beyond the symptoms and address the underlying sources of poverty prompted the concept of the CCTs in the late 1980s and early 1990s. At the same time, education was considered key to break the vicious circle of poverty.

As a result, in 1995 the first Brazilian CCT program “Bolsa Escola” came into being with the clear objectives to reduce poverty through educational attainment, to decrease child labor and to act as a potential safety net by providing an income transfer to the poor families having 6-15 year old children and a fixed per capita income. Furthermore, this program became a model and it was replicated in more than 100 municipalities and a good number of states by the year 2001. However, the programs undergo different changes over time as to their management system. Now, more than 30 countries throughout the world are launching some form

of CCTs (World Bank, 2016). Hence, this point will concentrate on the paradigm shift in management system of the CCTs for improving their effectiveness.

In Brazil, as Lindert et al. (2007) finds, inefficient administration with considerable gaps and duplications in coverage was missing important synergies from jointly promoting education and health because of providing cash to almost the same poor group despite the fact that Federal governments highlighted their respective programs. Therefore, considering the inefficiency of the programs resulted from lack of administrative coordination, duplication in coverage, etc. the Brazilian government started consolidating the major cash transfers into a single program along with the umbrella initiative of 2003 Fome Zero (zero hunger). Finally, more than 60 CCTs in different ministries were unified under the name 'Bolsa Familia' (BFP).

However, to make the unified program efficient and effective, proper targeting was deemed as the prerequisite to all other factors related to the success of the programs and BFP started to determine family eligibility centrally on the basis of the locally collected household registry data stored in a central database known as the Cadastro Único⁶. It goes without saying that a paradigm shift of database and program management had started with the Cadastro Unico of Brazil. It has pivoted a new experience of management in the CCTs. Different studies⁷ converge on the point that the use of a single registry, the Cadastro Unico, to identify beneficiaries is one of the main reasons for BFP's success.

Before BFP, the programs used diverse means and incongruent data to identify beneficiaries which resulted in poor targeting, weak monitoring and recurrent overlapping. However, when BFP started to use the Cadastro Unico, overlapping also happened to be reduced and cash transfers became more efficient. Furthermore, as household data was updated regularly and made accessible to all levels of government, the Cadastro Unico allowed for more effective monitoring of the graduation of participants. Being the unique source of information management, it also increased the transparency of the program and helped the policy makers in decision making. According to Davies (n.d.), effective MIS and accountability mechanisms have made BFP better targeted than many of its counterparts, including Mexico's Oportunidades and Chile's Solidario (see Box 2.1). Thus, the BFP can be a model for other countries even though they cannot afford the necessary technological infrastructure or the government funds like Brazil. Guatemala, for example, collected data for its 2010 CCT survey using a cloud-based application via mobile phone.

Hence, a remarkable difference can be noticed in the management of the program when the single registry makes the platform of accurate data which gives a strong base for effective CCTs. Gaiger (2012) says that in the debate of MIS for social protection, the Cadastro Unico of BFP is considered a well-functioning model of an efficient and effective MIS for SSNPs. Bassett et al. (2012) finds that MIS facilitates not only program supervision, monitoring and evaluation but also the transparency of the program through dissemination of information. The case of Azerbaijan is

mentioned for instance where the implementation of a sophisticated MIS for pension system leads to increased transparency and reduces space for fraud and errors. However, the implementation of an MIS for a CCT program is not a matter of imitation only. The success factors of an MIS include political will and availability of technology along with flexible incremental systems, simplicity, staffing, administrative structure, financing and accountability in the programs (Browne, 2014). Therefore, when and where all these coincide, it is feasible to implement an MIS to bring a positive change in the performance of the CCTs.

Comparing Bolsa Familia to Oportunidades, they both have more than 90 percent exclusion targeting rate (Bolsa Familia 92% and Oportunidades 93%). However, the exclusion error under coverage rate (Bolsa Familia 59% and Oportunidades 70%) and the inclusion targeting rate (Bolsa Familia 41% and Oportunidades 30%) of Bolsa Familia are better than Oportunidades though, in contrast, the former has a higher inclusion error (Bolsa Familia 49% and Oportunidades 36%) than the latter. As to the targeting performance, Bolsa Familia is almost similar to Solidario and Oportunidades from 20% through 40% poorest of the population (poorest 20% ratio: 2.9 versus 2.9-3.0; poorest 30% ratio: 2.5 versus 2.4-2.5 and poorest 40 ratio: 2.2 versus 2.1) but the concentration indices (Bolsa Familia, -58.9; Solidario, -56.9 and Oportunidades, -55.8) rank Bolsa Familia as the best performer when the whole distribution of the transfers is considered.

[Adapted from Soares F.V., Ribas R. P. and Osorio R.G. (2007)]

Box 2.1: A comparison among the targeting performance of Bolsa Familia, Solidario and Oportunidades

4.5 Interfaces between the effectiveness of the CCTs and the MIS

MIS are considered the backbone of CCTs as they facilitate good program management, decision-making, and program accountability. The gradual improvement in the performance of the CCTs in a good number of countries has been possible through the adoptions and innovations which have been indebted much to the modern MIS (Villalobos, 2010). The literature discussed so far suggests that the performance of a CCT is not satisfactory without having consolidated, reliable, accessible and well protected information and in absence of such information the program's design and institutional arrangements cannot work well. Rather, errors, fraud and corruption are most likely to emerge out of them and reduce the effectiveness of the program (Arulpragasam et al., 2011). According to a report of MDS of Brazil (2012), the CCTs in Brazil did not have any consolidated MIS and various agencies responsible for the CCTs worked with isolated data and numerous eligibility criteria before the initiation of the BFP. Therefore, the programs were occasionally overlapped with a low coverage of the target population. In 2012, in a technical workshop on "Developing MISs for Social Protection" held in Bishkek Jamilya Ismailova⁸ said that a major problem of the Social Passport (the CCT program in Kyrgyzstan) was that it existed only on paper. The data of the program was processed and analyzed manually with the risk of distortion of information.

Consequently, it had adverse impact on the targeting process that resulted in massive exclusion and inclusion errors and biased policy decisions against further development of the social protection system. Therefore, the main problems with the effectiveness of the CCTs are targeting having inclusion and exclusion errors, registration having wrong and distorted information, ineffective compliance verification system, complicated payment systems and lack of proper monitoring

and evaluation. The modules of the MIS can be developed in such a way that they have the ability to handle the problems more or less by producing automated reports after verifying the information and updating the database accordingly in a computerized system. The MIS for Pantawid Pamilyang Pilipino Program (4Ps) of the Philippines is designed to include such six integrated modules (see Table 2.2).

Table 2.2: MIS Modules for the 4Ps

Module	Functions
Household Information	Stores information from the Household Assessment Form (HAF), PMT results processed by the targeting MIS, and information on eligible households provided by the 4Ps MIS. From the household information, this module produces cross tables or queries and helps check for duplicities of beneficiary households.
Registration	Validates the information provided by households at the assessment stage. As some eligible households may have reported false information, the registration of the beneficiaries' information is done at assemblies, where household information contained in the database is verified for accuracy. This module produces the final list of registered beneficiary households.
Updates	Gathers, validates, reports, and records the changes occurred on the status of a member of the beneficiary household under the program and all other relevant information that could change the eligibility of the household. This module has all the validation routines according to the rules in the Operations Manual of 4Ps as well as different levels of checking veracity of the updates presented.
Compliance Verification System (CVS)	Serves as a monitoring system for verifying compliance of conditionalities reported by schools and health centers nationwide, controlling payments to beneficiary households, and generating managerial reports and progress indicators. This module links payments of grants to compliance of conditions.
Payments	Controls and produces payments to beneficiaries based on reports of compliance and updated household information. The grants are paid directly from the government to the designated accounts of the beneficiaries through the Land Bank of the Philippines, a government depository bank. The grants can be withdrawn from ATM by card or over-the-counter transaction in the bank branches.
Grievance Redress System (GRS)	Captures, resolves, and analyzes grievances from beneficiaries and non-beneficiaries about the program. This module includes the process of filing and following-up complaints such as generating forms for complaints, updating and processing the information, assigning a tracking number to every complaint and the person responsible for solving it, and producing reports complaint resolution.

Source: Arulagasam et al. (2011)

Baldeon and Arribas-Banos (2008) has also identified various points of risks in the implementation process of the CCTs followed by the possible role of the MIS to mitigate them. Firstly, the risks of inclusion and exclusion errors in the beneficiary selection process may result from human errors like unchecked duplication and intentional manipulation but they are increased by the flawed information management process. However, an MIS can help greatly in detecting the errors and duplications through automatic and systematic cross-checking with official sources. Secondly, the monitoring of co-responsibilities has the risk of wrong payment of amounts, unreliable data, etc. that result from dishonesty, inconsistent management of information, and human errors. The MIS can reduce the incidence of misrepresentation and misreporting through automated checks for inconsistency and information management audits. Thirdly, the problems with cash payment originate mainly from inefficient management of beneficiary registry and from the untimely flow of information between the program administrator and the payment provider. Real-time alerts of errors and system audits in the MIS can help in this area. Fourthly, the institutions often run with risks of unclear roles and responsibilities, lack of capacity, lack of enforcement mechanisms, etc. The timely flow of information from

provider to consumers in the MIS is the key to a CCT's control and accountability effort to reduce chances for corruption. Fifthly, the management of the beneficiary registry has the risk of service interruption, unauthorized access and manipulation of information. Therefore, the integrity and quality of data is dependent on the management of the registry along with the integration with other processes and information systems that shape the program. Sixthly, categorization and organization of cases in an MIS allows for integration of information and helps process monitoring and decision making. The risks associated with paper-based processes are obviously higher and more difficult to detect. Seventhly, organized monitoring and evaluation of business processes can ensure the good functioning of the program. But monitoring and control efforts can be thwarted by lack of transparency and incomplete or untimely information. An MIS can help track indicators and integrate data to provide a timely and realistic picture of malfunctioning process. Thus, a good MIS allows the CCTs to ensure exact, current and uncompromised beneficiary information, supporting evidence for the information in the database, accurate program monitoring indicators and transparent information for oversight and accountability through the risk mitigation strategies (see Table 2. 3).

Table 2.3: MIS Risk Mitigation Strategies

MIS Risk Mitigation Strategies				
Process	Risks	Causes	MIS functions	Tools (example)
Beneficiary identification	Inclusion errors Exclusion errors	Ineffective eligibility criteria , Incoherent Registration process, Human errors , Fraud	Data quality, Data security, Data management	Cross-checks , Access control , Separation of functions , Audit trails, Archiving strategy
Monitoring of co-responsibilities	Wrong payment , Unreliable data, Misleading impact evaluations	Dishonesty, Inconsistent recording , Human errors , Complex data integration	Data Governance, Database management, Data Quality	Separation of functions, Spot checks, Audits, Inconsistencies alerts
Payment of benefits	Irregular/Inaccurate payments , Interruption of payments	Insufficient funds, Human errors, Dishonesty, Service disruption	Master data and Systems availability	Error/inconsistency alerts , Service level agreements
Institutional arrangement	Lack of coordination, Lack of enforcement, Political manipulation	Confusing roles and responsibilities, Weak Institutions, Lack of Political will	Data governance Organizational structure	publication of service level agreements and Information management
Beneficiary registry	Service interruption, Unauthorized access , manipulation of information	Environmental events ,System breakdown, Malicious act, Human errors	Disaster recovery, Security manage-ment, Data warehouse	Backup systems , Access control , Cross-checks
Complaints resolution and appeals	Misleading impact evaluations, Nor demand driven improvements	Inexistent feedback system, Feedback black-box, Broken process culture	Records management, Process monitoring	Case manage-ment, Service monitoring, Alert for systemic appeals
Monitoring and evaluation	Uninformed decision making Reputation Risks Political risks	Lack of reporting Lack of transparency	Records management , Data avail- ability, Data usability, Data warehouse	Reporting tool Management reports, Transparency Case management

Source: Reproduced from Baldeon and Arribas-Banos (2008)

4.6 The CCTs for Education in Bangladesh - A brief Introduction with Previous Findings and Propositions

The CCTs for education have been one of the policy interventions in Bangladesh for poverty reduction, reducing gender gap and developing human capital like those in many other countries of the developing world. In fact, PESP and SESP are two main CCTs for education in Bangladesh. PESP is a cash-based education incentive program started in 2002 in place of the Food for Education (FFE) program (1993-2002) which was terminated mainly for an increase in leakage (Ahmed and Babu, 2007). Under this program, now 40% of selected poor students receive stipend on meeting the attendance and examination criteria. The monthly stipend for a student is Tk.100 and for more than one student family is Tk.125.

SESP which was basically targeted at the girls and started in a single Upazila in 1982 as an experiment by a local NGO with USAID financial assistance has been launching countrywide from 1994 under different program and project titles⁹. At present, it provides stipend for 40% of poor students (30% female and 10% male) though it used to give stipend to 100% female students before 2009. The stipend is given on the basis of meeting attendance, examination and marriage criteria. In this program, the monthly benefit is Tk. 300 for the class VI, 360 for class VII, 420 for class VIII and 720 for class IX and class X (Raihan, 2009).

Various studies¹⁰ show that the stipend programs are the main catalyst for the remarkable progress in school enrolment and in achieving gender parity at both primary and secondary levels which are the first and foremost objectives of the programs (see Box 2.1). Between 1990 and 2011, enrolment rose from 60 % to 98.7 % and girls' enrolment began to overtake boys' enrollment by 2005 in the primary school while at the secondary level girls' school enrollment has increased at a rate of 13 % per year since

1994, while the rate of increase of boys has only been 2.5% per year (DPE, PPRC and UNICEF, 2013; Khandker, 2003).

Box 2.2: Objectives of the PESP and the SESP
Objectives of the PESP

The PESP is designed to provide cash assistance to the poor rural primary school pupils all over Bangladesh. The official objectives of the new PESP are:

- To increase the enrolment rate among primary school-aged children from poor families.
- To increase the attendance rate of primary school pupils.
- To reduce the dropout rate of primary school pupils.
- To increase the cycle completion rate of primary school pupils.
- To enhance the quality of primary education.
- To ensure equity in the provision of financial assistance to primary school-age children.
- To alleviate poverty.

Additional objectives (mentioned by MOPME officials) include:

- To eradicate the child labor.
- To empowerment the women.

Source: Tietjen (2003)

Objectives of the SESP

The specific objectives with respect to the provision of stipends to girls in secondary school can be summarized as:

- To increase girls' enrolment in secondary school and retain them in secondary education;
- To assist them in passing the SSC examination to enhance their employment opportunities as primary school teachers, extension workers, health and family planning workers and NGO workers;
- To delay the girls' marriage.

The stated objectives of the GoB FSSP project, in the language of the project document (FSSP at a Glance, Third Revision) are:

- To enhance and retain female students in the secondary stage and thereby promote female education;
- To reduce population growth by motivating the stipend clientele group to refrain from marriage till completion of the SSC examination or until the attainment of 18 years;
- To increase involvement of women in socio economic development activities;
- To increase women’s self-employment for poverty alleviation;
- To assist in improving the status of women in society; and
- To strengthen the Directorate of Secondary and Higher Education through implementation support and capacity building at Upazila level all over the country.

Source: Mahmud (2003)

Recent statistics related to net enrolment and removing gender inequality in the primary as well as secondary education also show their gradual improvement (See Table 2.4 and Table 2.5). However, the studies also show that the effectiveness of the programs are not quite satisfactory for inefficient management marked by weak targeting, leakages, errors, fraud, corruption and lack of proper monitoring and evaluation.

Table 2.4: Net Enrolment Rate in Primary Education 2005-2015

Year	NER (%)		
	Boys	Girls	Total
2005	84.6	90.1	87.2
2006	87.6	94.5	90.9
2007	87.8	94.7	91.1
2008	87.9	90.4	90.8
2009	89.1	99.1	93.9
2010	92.2	97.6	94.8
2011	92.7	97.3	94.9
2012	95.4	98.1	96.7
2013	96.2	98.4	97.3
2014	96.6	98.8	97.7
2015	97.1	98.8	97.7

Table 2.5: Secondary Enrolment by Gender 2005-2015

Year	Enrolment		
	Total	Girls	% of Girls
2005	7398552	3868014	52.28
2006	7419179	3876914	52.26
2007	-	-	-
2008	6819748	3661457	53.69
2009	7356793	3796538	51.61
2010	7465774	3979676	53.31
2011	7510218	4026374	53.61
2012	7937235	4229292	53.28
2013	8501442	4519091	53.16
2014	9160365	4875084	53.22
2015	9743072	5193962	53.31

Source: BANBEIS (2016)

Examining the PESP with the most important decisive factors of a CCT’s effectiveness, Tietjen (2003) finds that the program has some positive impacts on the enrollment of the children, decision-making authority of the mothers and poverty reduction but its management system is visibly inefficient. This is because all the factors are found to be fragile in the study (for details, see chapter 3).

As to the targeting and beneficiary selection, the study says that the present targeting mechanism does not seem to be

well defined and there are irregularities in the beneficiary selection process. On top of that, the systems in place to detect and correct the irregularities in these cases are weak. Then, the condition of school performance for ensuring the students’ minimum attendance rate of 85% and obtaining at least 40% marks in the exam galvanize the teachers into misreporting and inflating attendance or grade to avoid the probable suspension of the school from the PESP.

After that, the study finds leakages in the stipend disbursement process. It mentions that school authorities and local bank officials collude in this respect. Besides, it adds that an audit undertaken by NORAD of FESP uncovered a variety of leakage strategies devised by the teachers including two sets of books with ghost students and false attendance / marks given to some girls to charge for ensuring stipends.

Next, about management and monitoring, the study shows that the manpower for the implementation of the program is not sufficient and the Upazila level offices are subject to corruption which results in irregular and manipulated reports for lack of computerized data management, proper monitoring and audit system. However, the study says that the PESP is entirely financed by GoB out of its primary education development budget and the administrative and implementation costs of the PESP are remarkably low.

Thus, identifying the above-mentioned problems in the PESP, the study makes a number of recommendations to address them which mainly include introducing a detailed written guidance for the SMC about the selection process, developing a plan for auditing the disbursement process, exploring alternative options for managing PESP in Upazila and developing monitoring and evaluation plan.

Most of the other studies on the PESP find almost similar aspects so far about the positive impacts and the impediments in the way of making the program more effective. For instance, Al-Samarrai (2008) finds that the targeting and beneficiary selection process of the program is poor and the accountability mechanism of the program is not effective. Therefore, it puts forward that the targeting and accountability mechanism should be revised to improve the effectiveness of the program.

Baulch (2010) also shows that the program’s targeting is weak since only 48% of the program’s 2006 beneficiaries came from the poorest two-fifths of households, measured in terms of household expenditure. Furthermore, 27% of the households (an increase from 17% in 2003) receiving the stipend were not entitled to do so and 31% of the eligible household did not receive the stipend (see Table-2.6). In addition, 14.5% of the children receiving the stipend in 2003 and 35.3% of those receiving it in 2006 were more than 11 years old, the age at which children should complete primary school. Finally, it recommends as policy implications that the program’s targeting mechanism should be reviewed.

Table 2.6: Targeting of the PESP, 2006

Eligible for Program			
Program status	Yes	No	Total
2003			
Beneficiary	82.9	17.1	100
Non-beneficiary	55.4	44.6	100
Total	65.2	34.8	100
2006			
Beneficiary	72.6	27.4	100
Non-beneficiary	31.6	68.4	100
Total	40.1	59.9	100

Source: Baulch (2010)

DPE, PPRC and UNICEF (2013) suggests that while PESP is a successful program by many yardsticks, there are considerable opportunities to enhance outcomes through reviewing the experience of mobile banking pilots for stipend disbursement, addressing the issue of stipend-related paperwork burden on teachers either by reasonably enhancing compensation for teachers or arranging for administrative assistants in schools with large student population, etc. Regarding the SESP, most of the studies¹¹ agree on the point that the stipend program has played an important role in increasing the enrolment rate of the female students. At the same time it has also had positive impacts on reducing gender gap and delaying marriage (World Bank, 2002 cited in Schurmann, 2009), though the MIS data from most of the project offices are not available as it has not yet been computerized, or is not well organized enough to be accessible on the other hand (Khandker, 2003).

However, the efficiency and the effectiveness of the program is not satisfactory because a World Bank report of 2003 shows a lot of irregularities in the implementation process of the program. First, the study discovers that some schools overstate attendance and give inflated grades when the stipend recipients cannot comply with the conditions and some present fictitious stipend recipients and charge arbitrary fees to them. Besides, the study has mentioned that lack of manpower, special interest of the SMC, problematic disbursement system, limited power of the project implementation unit (PIU) are some other factors for making the program less effective.

Selecting only 30 percent female student and 10 percent male student of a class instead of 100 % female student since 2009 has also been added to them since a lot of students are poor. Khan (2014) finds that partiality and misuse of power by the SSC is low but providing the wrong information or hiding some information by parents sometimes misleads the SSC in the beneficiary selection process. Besides, in case of the students' failure to comply with the conditions relating to attendance and obtaining a certain percentage of marks, the stipend selection committee (SSC) gives them another chance. Then, on the basis of its findings, the study recommends that the selection criteria should be updated and followed strictly by the SSC. Ullah (2013) also shows almost similar findings about the positive impacts and the negative aspects of both the programs and makes a number of recommendations for both the PESP and the SESP policy considerations. The recommendations include revision of the targeting criteria and targeting mechanism, preserving more detailed information of the students in the schools, using modern technology for cash payments, addressing the non-

availability of the required information for framing policy, etc.

Hence, in the available literature, poor targeting and impractical beneficiary selection process along with the absence of monitoring and accountability mechanism has been highlighted as the main shortcomings of the programs, but there is limited guidance about how that can be improved by addressing the hidden reasons. Besides, most of the studies while recommending some way out do not seem to consider the present country context, the matter of the resource constraints and the utilization of Information and Communication Technology (ICT). Of course, Begum et al. (2015) recommends that the effectiveness of the SSNPs should be monitored through strong MIS mechanism. In addition, GoB has recently formulated a long term (from 2015 to 2026 and onwards) NSSS to improve the effectiveness of the SSNPs including the CCTs for education. In the strategy, the establishment of the program-specific digital MIS has been emphasized. Moreover, the creation of a single beneficiary database which is crucial for an effective MIS has also been planned in the NSSS.

At such a juncture, the present study wants to examine the CCTs for education juxtaposing them with similar types of comparatively successful programs of other countries which are using digital MISs. Then, it wants to make some evidence-based recommendations for policy makers to help design better programs through the implementation of a digital MIS by taking advantage of modern information technology in the present country context and within limited resources following the international evidence.

4.7 Conceptual Framework of the Study

The most important part of this study is to search for the details of the existing management system of the CCTs for education in Bangladesh and for the way an MIS can be implemented for improving the effectiveness of the CCTs. On the one hand, it will help pinpoint the loopholes in the management system found in different studies, which are actually the bottlenecks in the way of making the programs satisfactorily effective. Moreover, an analysis of the current situation will show how many of the independent variables indicating the effectiveness exists in the CCTs for education and how much they are functional. On the other hand, an in-depth analysis of the country context and the cases from other countries having implemented MISs for the CCTs will lead the author to the point - whether and how an MIS can be implemented for the CCTs for education in Bangladesh. Thus, the findings of the present situations of the programs will help to find the gap between the existing level of the program effectiveness and the best possible level of the program effectiveness in a certain country context, and the discovered gap will guide the author to suggest how the possible implementation of an MIS can improve the effectiveness of the programs to an optimum level.

Hence, congruent with the research problem, a conceptual framework (Figure-2.3) has been formulated with two different sets of independent variables extracted from the overall discussion of this chapter to examine them in the next chapters with a view to collating considerable findings

for justifying the implementation of an MIS for the CCTs for education in Bangladesh.

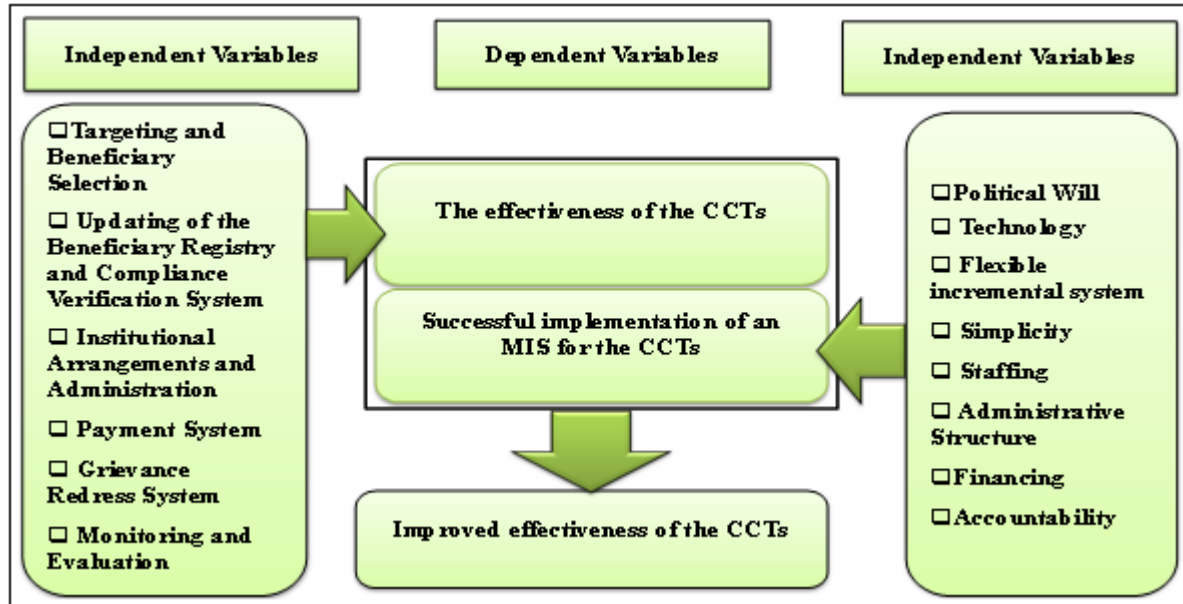


Figure 2.2: Conceptual Framework of the Study
Source: Author (based on the reviewed literature)

The first set of independent variables which affect the effectiveness of the CCTs in general will be examined in chapter 3. Since the chapter has been designed to deal with a thorough analysis of the current management system of the CCTs for education in Bangladesh, the inquiry of the variables in the management system will help to identify the hindrances in the way of making the programs more effective.

Then, the second set of independent variables influencing the successful implementation of an MIS for the CCTs will be scrutinized in chapter 5 which will have the analysis of the country context to implement an MIS for the CCTs for education in comparison with that in other countries. Prior to that, all the independent variables will be taken into consideration in the analyses of three different case studies presented in chapter 4 and the learning points from the cases will also be used to justify the country context to further carry out this study.

5. CCTS for Education in Bangladesh: A Thorough Analysis of the Current Management System

5.1 Introduction

Bangladesh has been operating the CCTs for education since the early 1990s when the cash transfer programs started to have importance in the policy discussions around the world. In chapter 2, it has been mentioned that there are basically two different CCTs - PESP and SESP - for two different levels of education in Bangladesh. However, different studies¹² show that there were some other government interventions for education in the 1990s (such as, making primary education compulsory for all and secondary education free for the girls) but it is the CCTs which have contributed most to increase school enrollment,

decrease the drop-out rate and eliminate gender gap in education (BANBEIS reports published between 2002-2016 say that the girls' enrolment was increasing by degrees between 1975-1990 but the enrolment became more than double in 1995 in comparison with that in 1990. Besides, though the girls' enrolment was almost half of that of the boys' in 1990, the former surpassed the latter in 1998 in secondary education and in 2005 in primary education). Moreover, the net enrollment has increased from 75.75% to 97.7% in the primary education and from 46.91% to 53.31% in the secondary education between 2005-2015. Also, the dropout rate has decreased from 47.2% to 20.4% in the primary education and from 61.38% to 40.29% in the secondary education between 2005-2015 (DPE and BANBEIS, 2016). On the contrary, Ahmad¹³ (2016) mentions that with 100% enrolment in the primary school, only 38% are entering the higher secondary level of education in spite of huge government spending for stipends. Moreover, Ullah (2013) finds that the overall performance of the programs is not still satisfactory basically owing to inefficient management system, which is substantiated by most of other studies¹⁴ on the programs. Therefore, this chapter will look into the current management system to understand the level of effectiveness of the decisive factors that affect the performance of the programs.

5.2 Targeting and the Beneficiary Selection

5.2.1 Targeting and Beneficiary Selection in the PESP

At present, about 13 million students (Pre-primary - Class VIII) of schools situated at 486 Upazilas, excluding those in City Corporation and municipal areas, are entitled to the stipend (Alamgir¹⁴, 2016). However, when FFE was replaced by PESP in 2003, the beneficiaries of the former program were automatically selected for the latter. The

eligibility of the beneficiaries was not reconsidered and from the second year of the PESP operation, other beneficiaries were selected by the School Management Committee from a list of students prepared by the head teacher (Tietjen, 2003). Now the committee identifies the students from the poor families on the basis of the following criteria (Barakat et al., 2013, p. 152):

- 1) Distressed female headed families (widowed, separated from husband or divorced);
- 2) Day laborers, insolvent employees and professionals (such as fishermen, weavers, potters, carpenters, cobblers and blacksmiths);
- 3) Tribal and special need children family;
- 4) Families of insolvent tribal students;
- 5) Families of poor urban working children.

After that, the following points/eligibility criteria are considered for stipend.

- 1) Poor students should be selected by the School Management Committee;
- 2) Attendance of beneficiaries should not be less than 85% if there are no reasonable causes; in case of handicapped students and hill area it is 75%.
- 3) Students of all classes (except class-I) must obtain 33% marks in annual examination;
- 4) Average attendance of the school should be over 60%, holding exams regularly;
- 5) Participation in the examination by the beneficiary students is a must if there is no reasonable cause; otherwise the stipend will be held up to until next examination.
- 6) Total students should be at least 100 in an Ebtedayee Madrassah.

However, though the beneficiaries were supposed to be from among the first graders in principle, it was not always followed accordingly. In some cases, the higher graders were selected. Besides, there are no clear policy guidelines for making decisions about a beneficiary who repeats the class or change schools (Tietjen, 2003).

On the whole, there is a chance of not selecting the actually poorest students since bias against selecting beneficiaries from the poorest households is practically introduced by the following points (Tietjen, 2003, p. 14):

- 1) The beneficiary selection approach assumes an equal distribution of poverty and other background variables at all eligible school areas since each school proposes 40 % of its enrollment. This approach indicates that some very poor families go unsupported in the regions of extreme poverty, while in the comparatively prosperous areas, some less-poor families receive support.
- 2) The limitation of the stipend eligibility to some particular types of schools¹⁶ and non-availability of the eligible type in some other areas (for example, in the Chittagong Hill Tracts) has the possibility to exclude some of the students from the poorest families.
- 3) Corruption in admission to school is also a problem for the poor families as Bangladesh Urban Service Delivery: A Score Card report of 2002 says that 20 percent of the

very poor had difficulty with school admission and mentions, for example, 18 percent of households had to pay a bribe to school officials in Khulna.

In addition, the study shows that in terms of the selection process, potential weaknesses which can prevent selection of students from the poorest households include the following points:

- 1) The SMCs are not capable enough to ensure that PESP “guidelines are adhered to and that fake students are not enlisted...and that deserving poor students are not left out”,. This is because almost all schools have SMCs but only 15 percent of them are active. They organize only occasional meetings and do not seem to be capable of selecting the most deserving students, without committed membership.
- 2) There is neither any official register of the poor families nor any selection guidance available to the SMCs and head teachers. Therefore, selection decisions are taken based on their knowledge about the community at best and at worst out of self-interest.
- 3) As the SMC members belong to the local elite in general, they may have a tendency to favor their own acquaintances or be subject to outside pressure. Besides, the advocacy for female student recipients in the SMCs is insignificant and households may also try to increase their chances of selection through some dishonest means such as double enrollment.

However, as a matter of fact, the weaknesses of the targeting and the irregularities in the beneficiary selection process are substantiated by different studies including Rahman and Choudhury (2012), Ullah (2013), Al-Samarrai (2008) and Baulch (2010) as shown in chapter 2. Again, these common findings have been exacerbated by the point mentioned in Ullah (2013) that statistics estimated from the HIES, 2005 and the HIES, 2010 show that only around 25% of all enrolled students (poor and non-poor) received the primary stipend. The share of the poor of this 25% was nearly 50%; the remaining 50% of the poor students were excluded.

5.2.2 Targeting and Beneficiary Selection in the SESP

The SESP was launched nation-wide in 1994 apparently to make the girls attend the schools having some implied objectives (see Box 2.1). However, since 2003 various changes have been made to improve the management of the stipend projects which have resulted in remarkable decreases in the number of beneficiaries (Hunt et al., 2005). With a view targeting the poor students instead of all the female students, the SESP has been selecting 30% of female and 10% of male students from each class on the basis of their merit and socio-economic conditions since 2009 (Barakat et al. 2013).

Therefore, under the new initiative, 40 % of the secondary students receive stipend. However, stipend recipients in the SESP are also selected depending on some basic criteria. According to Stipend Operation Manual, as Khan (2014) mentions, the following criteria are considered for selecting beneficiaries.

- a) The beneficiary student's parents should have land below 50 decimal,
- b) The parents' yearly income should be below 30,000 taka,
- c) The student should be a child of vulnerable groups (such as orphan), of insolvent freedom fighter, of disable parents (e.g., deaf, dumb and physically disabled), or of parents without income ability.
- d) The student should be a child of the victim of river erosion, of homeless and insolvent families, of low income labor (such as rickshaw puller, day labor, etc.) guardian.
- e) The student should be a chronic disabled student.

Along with the above mentioned criteria, the following eligibility factors are also considered for getting stipends.

- a) The students should have 75 percent attendance rate in the academic year.
- b) They have to secure at least 33 % marks in their exams at grade VI and VII or 40 % marks /GPA 2.00 at final exam of grade VIII or IX and pass the final exam in grade X.
- c) They have to remain unmarried up to SSC/ Dakhil examination.

However, Stipend Selection Committee¹⁷ (SSC) is exclusively responsible and empowered to select students for stipend. According to Khan (2014), the SSC members are influential in the locality. Therefore, it is not easy for the project officials to give them directives to follow the guideline properly to select students for stipend. As for example, sometimes parents provide wrong information about their yearly income on which the SSC is to emphasize for selection. However, when this information is disclosed, corrective measures taken by the SSC are very much questionable. Although the target of the SESP was to reach all (100%) enrolled rural girls before 2009, it was only 59% in 2005 (Ullah, 2013).

5.3 Beneficiary Registry Updating and Compliance Verification System

PESP started with the beneficiary list of the previous FFE program without reassessing the eligibility of the beneficiaries and new beneficiaries were selected later on by the SMC from a list of the students prepared by the head teacher (Tietjen, 2003). Since the beneficiary registry is not maintained throughout the program, it is usually updated by the SMC while making the lists of eligible beneficiaries for payment to meet the demand of the time, which are actually supposed to be prepared following the compliance verification. The system of maintaining beneficiary registry and verifying compliance to the conditions is also the same in the SESP. As to the update and verification, a 2003 World Bank study mentions a shocking figure of overwriting attendance and grades of the students along with the presentation of fictitious stipend recipients and charging arbitrary fees and commission to the students in the SESP and refers to a financial audit which found that "the percentage of overwriting in attendance registers ranged from 5 percent to 88 percent in nine of the 20 schools visited."

According to Hunt et al. (2005), a survey shows that at least 17 percent of Class 7 and 34 percent of Class 8 students identified as eligible for a stipend, had actually failed to meet one of the two principal eligibility criteria, and that schools had reported the relevant information incorrectly so that the students would be included. Furthermore, when a student's attendance becomes less than 75 %, the selection committee member do not usually cut their name instantly from the stipend list, rather they make available extra chance to makeup (Khan, 2014). Hunt et al. (2005) again mentions that the task of tracking whether payments are made to the correct students is hampered by the fact that neither project offices nor schools are obliged to keep a list of students who were actually paid.

5.4 Institutional Arrangements and Administration of the programs

The PESP under the supervision of Ministry of Primary and Mass education (MoPME) is executed by the Directorate of Primary Education (DPE) through Project Implementation and Management Unit (PIMU) and the SESP under the supervision of Ministry of Education (MOE) is implemented by the Directorate of Secondary and Higher Education (DSHE) through the Project Implementation Unit (PIU). In case of the PESP, the PIMU is mainly responsible for administration and management at the central level and the Upazila Primary Education Office (UPEO) along with some supervising role of the District Primary Education Officer (DPEO) and Divisional Deputy Director of Primary Education (DDDPE) is responsible for the implementation of the program at the field level. Of course, there are district monitoring officers at the district level and divisional monitoring officers at the divisional level who are basically the staff of the PIMU to assist and supervise the UPEOs.

Like the PESP, the SESP is administered and managed by the Project Implementation Unit (PIU) of DSHE at the central level and the Upazila Secondary Education Office (USEO) having a particular Stipend Section at every Upazila is responsible for the implementation of the program at the field level.

The beneficiaries of the PESP are selected by the SMC. It is supposed that the SMC selects the beneficiaries following the selection criteria and other instructions given in the Program Guidelines and other circulars. Then, the Assistant Upazila Primary Education Officer (AUPEO) verifies the list of beneficiaries. Prior to that, the AUPEOs are to verify the school reports on students' attendance, appearance at exams and the exam results. According to Tietjen (2003), an AUPEO is in charge for 20-30 schools and is likely to visit 10-12 schools per month. The UPEO is also supposed to take on sudden inspection visits to find out whether the school is complying with the PESP conditions of attendance and exam performance. Moreover, the district monitoring officers are supposed to make some random visits to schools and make efforts to verify the beneficiary lists by visiting students' homes and report to the DPEO and divisional monitoring officer. However, Ahmed (2005) finds that upon verification of the list, the Assistant Upazila Primary Education Officer prepares a bill for the stipend which is submitted to the PIMU and the responsible bank with

approval of UPEO and the Upazila Nirbahi officer (UNO). School-specific beneficiary list is submitted to the District Primary Education Officer, the Divisional Deputy Director (Primary Education), and the Directorate of Primary Education. The stipend Monitoring Officer in consultation with Upazila Education Officer and bank manager establishes a date for the distribution of stipend.

Unlike the PESP, the beneficiaries of the SESP are selected by a selection committee consisting of five members as determined by the program guidelines. It is expected that the selection committee selects student for stipend on the basis of criteria fixed by the authority (Khan, 2014). The Result Agreement¹⁸ between SEQAEP and USEO suggests that upon completion of the beneficiary selection scheme, the USEO is to collect, certify and forward institutional information/data to the central project office. The USEO is also entrusted with the distribution of the Award Confirmation Forms (ACFs) to the respective Bank Branches.

The USEO office is expected not only to monitor disbursement activities but also to ensure timely preparation of documents and statements which can be sent to the Principal Branch for reconciliation of financial transactions and statements.

However, the current institutional and administrative capacity does not seem to be compatible with the present management system as in case of the PESP, there is no separate entity at the Upazila level and each AUPEO is responsible for up to 30 schools for making regular visits without available transport support. To fill in for the shortcomings of the AUPEOs, there is one district monitoring officer in each district who is responsible for more than 1000

schools for making visits along with home visits and auditing beneficiary lists with the similar type of transport support. Therefore, the lack of manpower makes the situations more complicated through corruption and insufficient audits which results in irregular and incorrect reporting (Tietjen, 2003). Lack of administrative capacity is also manifested through the recommendation to address the issue of stipend-related paperwork burden on teachers either by reasonably enhancing compensation for teachers or arranging for administrative assistant in schools with a large student population (DPE, PPRC and UNICEF, 2013). With an Upazila level Stipend Project Office the SESP presents almost the same management scenario as different studies show (see chapter 2).

5.5 Payment and the Grievance Redressal System (GRS)

The PESP stipends are disbursed by the designated national banks every three months of the year. The local branches of the banks pay the stipends to the beneficiary students' parents or the authorized guardians from the bank offices or at distribution camps established within 5 kilometers of every three schools on a specified date on presentation and verification of bank-issued identity cards (Tietjen, 2003; Baulch, 2010). When the stipend money is released from the PIMU to the head office of the authorized bank on the basis of the allocation order, the head office of the bank transfers the money to the local bank branch account of the parent or guardian of the beneficiary student. This transfer of cash benefit is based upon the approved bill and the list of beneficiaries from the UNO.

Generally, the disbursement procedure of the stipend money starts with the UPEOs and ends with the local branches of the designated banks (See Figure 3.1).

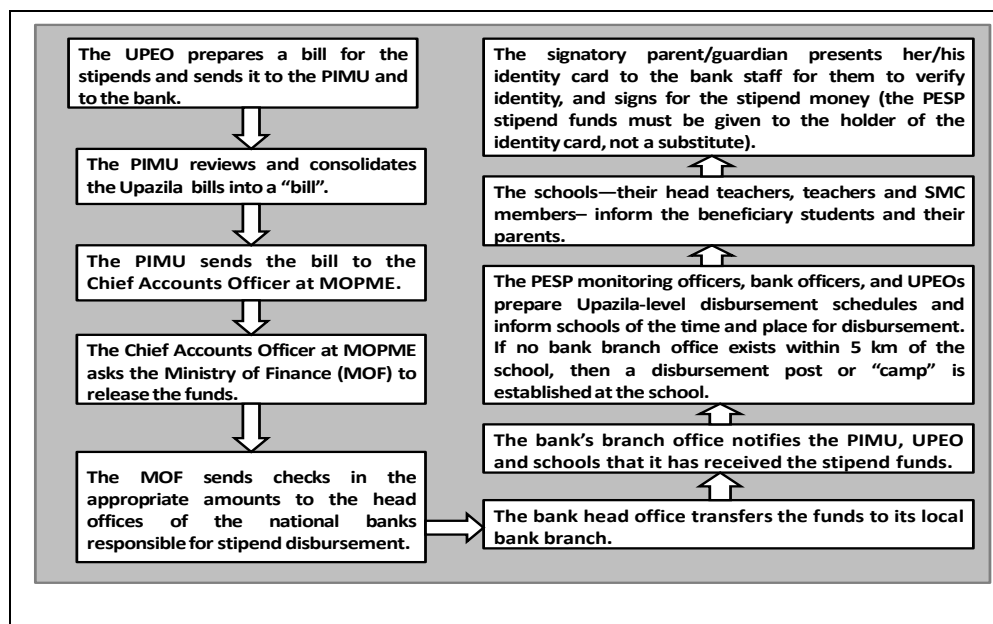


Figure 3.1: The Procedure of the PESP Disbursement

Source: Prepared by Author on the basis of Tietjen (2003) and Ahmed (2005)

The stipend money of SESP is channeled almost in the same process which starts with USEOs and ends with the local branch of the Agrani Bank Limited¹⁸ (Akhter n.d.). However, in the SESP the stipend is deposited directly in the

beneficiary students' bank accounts every six months (Holsinger and Jacob, 2008). Although in both the programs, the banks rather than the school staff are employed to distribute the stipends, Tietjen (2003) suggests that

sometimes the school authorities and the local bank officials collude in collecting 5-10 taka from each stipend recipient to help the “officials” purchase lunch. Besides, it is reported that about 13 million primary students from rural schools are not getting stipend for about one year owing to delay in the disbursement of the PESP fund (Alamgir, 2016).

Regarding the Grievance Redress System (GRS), if it is compared to the same in the programs of other countries such as 4Ps¹⁹ of the Philippines, it is evident that the system in the PESP is not effective since the system is not well organized.

During survey period, Tietjen (2003) found that the central Monitoring and Evaluation Office of the MOPME had received only six complaints and they were in the process of investigation. Mostly filed by parents and communities, the complaints were about distributing less amount of stipend to the recipients, inflating the enrolment and the attendance of the students, etc. Furthermore, no information about GRS in the SESP is found in the available literature.

5.6 Monitoring and Evaluation System in the Programs

With regard to the PESP monitoring, the UPEO is to verify the school reports on students’ attendance and PESP conditions but the UPEOs are busy with many other projects and somehow carry out their responsibility in the PESP. According to Tietjen (2003), the UPEOs who reportedly view the PESP as an additional burden are considered to be the most corrupted in the education sector.

Besides, the PESP district monitoring officers engage themselves in persuading the UPEO to schedule dates for disbursement and develop their implementation plans though they are assigned to visit schools on a random basis and check the beneficiary lists by visiting students’ homes. Moreover, they are to report to the DPEO and DMO who supervise their activities and require sending monthly progress report to the PIMU.

However, Tietjen (2003) further mentions that the sending of reports is not regular in the PESP and this program has not planned any audit reports yet. While the PIMU is responsible for monitoring and status reports, overall evaluation and official assessment of progress and impact of the program is the responsibility of the Monitoring and Evaluation Office (MEO) under DPE.

Nevertheless, the MEO has not yet developed any evaluation plan for the PESP but it looks forward to reporting on the major student indicators, such as the GER/NER, the completion rate, the repetition rate, the drop-out rate, the attendance rate, and the exam performance.

According to DSHE (2016), the objectives of the current projects²⁰ providing support for the SESP include strengthening the capacity of the educational institutions and the SMCs and Upazila office personnel to institutionalize proper monitoring and evaluation activities, which indicates that an effective monitoring and evaluation system is yet to be in place.

The existing monitoring system does not seem to be efficient and effective since in a Project Performance Assessment Report published by the World Bank in 2003, it is perceived that the problems with the educational institutions are failure to enforce preconditions for students receiving stipends, the ineligible recipients, incorrect information to the project authority, two sets of attendance, registers and result sheets, irresponsibility of the SMCs, etc.

The report added that the problems with the USEOs are weak monitoring and supervision, absence of inspection format, unavailability of the information for timely processing and absence of some officers and staff. The DEOs also have the problems like lack of control over the USEOs and lack of supervision. Even with the central authority the reports of financial irregularities has been perceived as problem for possible solutions.

As to the irregularities, corruption and leakages in the disbursement of the stipends, the PESP has initiated plans for a bank audit but audits of school enrollment, attendance and marks records are necessary, if “ghost” students are to be avoided and the performance conditions are to be considered an integral part of the PESP (Tietjen, 2003).

5.7 The Main Point Extracted from the Discussion

The literature discussed above indicates that with statistically significant achievements in increasing enrollment and reducing gender gap , the CCTs for education have a lot of points to address and improve (see Table 3.1) through a better management system which can enhance the effectiveness of the programs to achieve the ultimate goals of reducing poverty, empowering women and developing human capital.

Table 3.1: Problems with the independent variables of the CCTs for Education

Independent Variables	Problems Identified with them	Source
Targeting and Beneficiary Selection	Impractical targeting criteria, Distortion of information by schools, Hiding information by parents, No mechanism for verification of information, Negligence and Corruption, Absence of supervision and monitoring	Tietjen (2003) Baulch (2010) Rahman and Choudhury (2012)
Compliance Verification System and Registry update	No beneficiary registry is maintained throughout the program, No comprehensive source of beneficiary information, Lack of manpower, Extra burden for being paper-based, Negligence and Corruption	Ullah (2013) Al-Samarrai (2008)
Institutional Arrangement and Administration	Lack of manpower, Poor capacity, Irregular and manipulated reporting ,Lack of coordination, No controlling mechanism, No mechanism for monitoring and oversight, No incentives	Khan (2014) Barakat et al. (2013) Hunt et al. (2005)
Payment System	Delay in disbursement of the payment, Corruption, Not cost effective, Lack of records	The World Bank (2003) DPE (2013) Schurmann (2009)
Grievance Redress	Ineffective process, Lack of awareness among the beneficiaries, Information and	

System	Communication gap, No mechanism for quick response	Begum et al.(2015)
Monitoring and Evaluation	Not systematic and institutionalized, Inappropriate reporting system, No effective mechanism for central monitoring, No efficient evaluation system	Ahmad (2016)

Source: Author on the basis of the studied literature

5.8 Conclusion

Although the targeting criteria seem to be outdated and sometimes impractical along with improper or ineffective targeting method having a high rate of inclusion and exclusion errors (Barakat et al., 2013 and Ullah, 2013), it is evident that the lack of information and its distortion, the absence of mechanism for verifying it, dysfunctional or malfunctioning selection committees, hiding information by the parents of the students or the inflation of the students' results and attendance by the school teachers or the committee members are at the root of the problems associated with the variables which are to make the CCTs for education of Bangladesh effective. Consequently, starting from the targeting and beneficiary selection of the programs, at all levels of the implementation process including payment, grievance redressing, monitoring and evaluation, the need of modern technology based updated information system as suggested by Jaramillo and Miranti (2015) is felt to address all the concerns regarding information, which is also a guiding concept of the present study.

6. MIS for improving the effectiveness of the CCTS: Case Studies

6.1 Introduction

The existing management system of the CCTs for education in Bangladesh has been discussed in the previous chapter with every detail including the targeting and beneficiary selection, payment procedure, grievance redressal and monitoring and evaluation system. This chapter focuses mainly on three different case studies about the use of MIS for the CCTs in Brazil, Chile and Indonesia respectively. While the first case has demonstrated that the efficient management of the information can result in the improvement of the effectiveness through a better management of the program, the latter two cases have presented an example of efficient data and information management, and the prospects and challenges in the way to consolidate and integrate data and information management for the CCTs successively. The main objective of analyzing the case studies is to extract some lessons with the purpose of suggesting an MIS based management system for the CCTs for education in Bangladesh in its own socio-economic context.

6.2 Efficient management of the programs' information leads to a better management of the CCTS: The case of Brazil

Brazil's Bolsa Familia Program (BFP) has evolved from a long tradition of the CCTs in Brazil. Basically, the BFP was created in 2003 by merging four pre-existing cash transfer programs in an effort to improve efficiency and coherence of the SSNPs and to scale up assistance to provide universal coverage of Brazil's poor. With this end in view, Brazil has

been extensively using ICT for service improvements in its own socio-economic context and has been able to set impressive examples by international standards (Lindert *et al.*, 2007; Cavaleiro *et al.*, 2011). The study, Hellmann (2015), under the title "*How does Bolsa Familia Work?: Best Practices in the Implementation of Conditional Cash Transfer Programs in Latin America and the Caribbean*" presents a paradigm shift of the management system of the CCT (BFP) in which MIS has a leading role among all managerial aspects.

The case study has been analytically described in brief below.

6.2.1 Background

Bolsa Família is the CCT of Brazil introduced in 2003 to unify the management and execution procedures of various overlapping CCTs started earlier for the poor and extremely poor families but with low coverage and many administrative limitations. Since the inception of the program, the operational and policy related issues had been addressed on the one hand between 2003-2010. On the other hand, initiatives had been taken to update and expand the program registries, to determine the quality of information of registries, to create the Bolsa Família Management System (SIGPBF). Also, Brazil has come up with a new ICT-based management approach to bring positive outcomes.

6.2.2 Institutional Framework in BFP

The National Secretariat for Citizen Incomes (Senarc) of the Ministry of Social Development and Fight against Hunger (MDS) is mainly responsible for BFP. The charge of determining the amount and criteria for receiving, suspending or cutting off the benefits lies with Senarc. Senarc works in association with the states and other entities of the federal government to monitor the program throughout its execution and to evaluate it on a regular basis. It is also responsible for coordinating, monitoring, and supervising the establishment and execution of the Cadastro Único and evaluates the quality of its information for improvement. Besides, Senarc searches for the families to register for the programs on the basis of the criteria.

Then, the Federal Economic Fund (Caixa) is responsible for developing the Cadastro Único System; processing inscribed data and assigning social identification numbers (NIS) to each person registered. Caixa is also responsible for generating the list of Bolsa Família beneficiaries and for managing payments. In addition, it is responsible for the Benefits Management System. Obviously, the implementation of Bolsa Família is carried out in a shared manner as the Ministry of Education (MEC) monitors compliance with conditions in the area of education.

The municipality is responsible for putting together the registry of the low-income population and updating the Cadastro Único. It also manages the benefits and compliance

with the conditions; and coordinates relations between municipal secretariats for social assistance, health, and education. The state is responsible for supporting municipal management of the conditions for Bolsa Família. It also systematizes and analyzes information. Besides, it mobilizes the state network to make available information on educational assistance and helps in monitoring health and social assistance among other areas. The MDS promotes the enhancement of decentralized management. However, the role of the Single System for Social Assistance (SUAS) should be noted in terms of an institutional environment for implementation of the Cadastro Único at the local level, such as a direct interface with beneficiary families.

6.2.3 Project Cycle

6.2.3.1 Identification of the Beneficiaries

Per capita family income²¹ is the eligibility criterion for the BFP where family²² is defined in the law that created the program. All families living in poverty²³ and extreme poverty²⁴ are eligible for the BFP. An estimate of the number of families living in these situations was established for each municipality, calculated based on data from the Demographic Census and the National Household Survey, both conducted by the Brazilian Institute for Geography and Statistics (IBGE). The responsible people of the family units themselves declare their incomes for official handling by the

municipality. In the case of irregularities, Senarc coordinates auditing activities to clarify the fraudulent conduct by the public official responsible for the organization and maintenance of the Cadastro Único or by the beneficiary who improperly received benefits (Articles 14 and 14-A of Law No. 10.836 of 2004). However, the verification of the qualification followed by the selection and granting of benefits is carried out in an automated and impersonal manner by the Benefits Management System, administered by Caixa based on the criteria established by the MDS.

4.2.3.2 Enrollment of the Beneficiaries

A family must comply with income criteria and be enrolled in the Cadastro Único to be a Bolsa Família beneficiary. The registration of such families is carried out by the municipality in three stages - the identification and localization of the families, interviewing the responsible member of the family and the digitalization of the information gathered in the Cadastro Unico System. Once the information is fed into the system, the family receives an automatically generated NIS. However, the municipality uploads the information and updates data on the registered families every 24 months, and verifies if there has been any inconsistency. In this way, recertification is required for continuing benefits. Figure 4.1 presents a flowchart of the registration process.

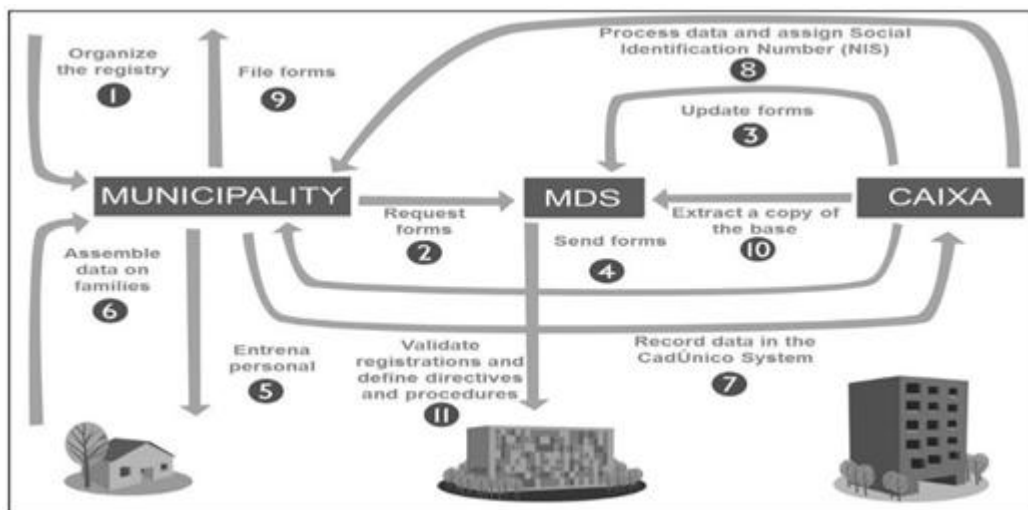


Figure 4.1: Registration flowchart for Bolsa Família

Source: Senarc/MDS cited in Hellmann (2015)

6.2.3.3 Payments

Caixa handles the list of families receiving the benefits, the payment of the benefits, and the administration of the Benefits Management System based on the criteria established by the MDS. The payment page identifies the beneficiaries and the types and amounts of benefits to be paid each month. The benefit can be accessed at Caixa offices, lottery offices, authorized bank branches, automatic teller machines, and post offices. It needs to be withdrawn within 90 days; otherwise it is returned to the MDS by Caixa (Brazil, 2010c).

However, Caixa sends a representative or a mobile team to the localities without payment channels in coordination with the municipal manager on a regular basis. It also puts in place a payment channel in a neighboring municipality

within 30 kilometers or coordinates other measures with the municipal BFP manager. The BFP Banking Inclusion for Beneficiaries Project was launched in October 2009 to enable beneficiaries to open a simplified bank account in Caixa called a “Caixa Easy Account.” This mechanism was developed particularly for the persons like BFP users who make a limited number of financial transactions. Beneficiaries receive the benefit directly in the account and can make maximum four withdrawals per month on their chosen dates but without a check stub. The card also allows for accessing financial services such as microcredit, savings, and insurance. The account is also exempt from banking fees and can be opened on the spot. After the benefit is withdrawn, a payment receipt is automatically generated (see Figure 4.2). This receipt is not only a proof of payment but also an instrument of communication between Senarc

and program beneficiaries about the status of the family's benefit, the need to update data in the Registry, etc. through

messages given on the receipt.



Message on the receipt: "You need to update your registration before 19 September to maintain your Bolsa Família benefit. Please contact the agency responsible for Bolsa Família in your city to update your registration. Do not leave this until the last minute. Bring the documents for your entire family as well as an electricity bill, if you have one. If you have any questions call 08007072003; Reason – Revision of Registration with 2014 data"

Figure 4.2: Extract from a Bolsa Família receipt
Source: MDS cited in Hellmann (2015).

The bank reconciliation is simply the verification of the bank accounts with internal financial controls. In this way, Senarc supervises the payment of the Bolsa Família benefit every month through information updated by Caixa. The follow-up to this information allows for monitoring the access of families to the benefit and facilitates the minimization of the factors that might complicate effective payment.

6.2.3.4 Verification of the Conditions

The BFP has conditions to be met in education and health (see Table 4.1).

Table 4.1: Conditions of the Bolsa Família Program

Area	Commitments/Conditions	Public Affected
Education	School enrollment and minimum monthly attendance of 85%.	All children and adolescents between 6 and 15 years old.
	School enrollment and minimum monthly attendance of 75%.	Adolescents ages 16 and 17 who receive the BVJ benefit.
Health	Verification of calendars for vaccinations and growth and development of children.	Children under 7 years of age.
	Prenatal care for pregnant women and lactating mothers.	Women who are pregnant or lactating.

Source: Brazil (2014a cited in Hellmann, 2015).

Regarding the process of monitoring conditions for education, Sicon creates a database with the information in the Cadastro Único and the list of Bolsa Família beneficiaries that the MDS sends to the MEC. This provides the information needed for the Attendance System, the MEC's own system for monitoring Bolsa Família conditions. Through this system the municipalities have access to the lists of beneficiaries that need follow-up. Municipal administrations send the list of BFP beneficiary students to the schools. In the attendance list, beneficiary students are indicated with an asterisk next to the name so that the teacher can be aware of them.

By using the lists, school secretaries can provide information in two ways to support the monitoring of the students. Firstly, they can manually fill out the School Attendance Sheet if the schools do not have internet access. In this case, the completed form is sent to the municipal administration or to the states which forward the information for the

Attendance System. Secondly, they directly enter the data in the Attendance System. In this case, the school secretary provides the information to the system, without using the attendance sheet. Through the Attendance System each municipality sends the data to the MEC which transfers the information to the MDS. The MDS provides the Sicon with the information from the Attendance System. This process helps to identify families in noncompliance with conditions and initiate sanctions for it.

6.2.3.5 The Updating of the Beneficiary Registry

The process of recertifying BFP beneficiaries is carried out in two ways - revising registries and updating them. The revision of registries is an annual procedure designed to update information on beneficiary families. In the process of reviewing the information, the same registration form as was used for the first registration is used. However, all of the information needs to be provided anew. It is the responsibility of the municipal manager to obtain the lists of revisions of registrations and disseminate them as widely as possible to inform families about the importance of updating their registration and to update the registrations in the management system (Brazil, 2014a cited in Hellmann, 2015).

6.2.3.6 Client Services for the Beneficiaries

The MDS Main Service Center is the main point of contact for Bolsa Família beneficiaries to ask questions and obtain information about the functioning of the program. Client services at the center are available by telephone, email, or through the form entitled "Speak with the MDS" available on the ministry website. Another important way for the beneficiary to obtain information is through the Bolsa Família website. However, the most frequent topics are verification and updating of information, withdrawals and amounts of benefits, blockage and cancellation of cards, inclusion in the Cadastro Único, and registration location. To help address any questions, operators at the Main Service Center are equipped with 448 pre-prepared responses to the most frequent questions.

6.2.3.7 Coordination with other Social Programs and Services

BFP works in coordination with other cash transfer programs in the states and with social assistance services.

Bolsa Verde, for instance, is a cash transfer program that provides benefit on a quarterly basis to families in extreme poverty that live in what are considered priority areas for environmental conservation. Bolsa Família beneficiaries are given preference to receive this benefit. The payment of the Bolsa Verde benefit is made through the BFP card.

Besides this, the Pro-Adolescent Project is an example of more consolidated coordination between social protection services and BFP. The project focuses on strengthening family and community life and on getting adolescents back into the education system on a permanent basis through activities that promote the social link, citizen participation, and general worker training. Two-thirds of the slots for participants for the project are set aside for BFP beneficiaries.

6.2.4 Management Information System of Bolsa Familia

The Bolsa Família Management Information System (SIGPBF) is a portal accessible via the internet that stores the main managerial information about the program. The system is administered by Senarc together with the MDS Technology Department. It can be used with a password by managers to access information about beneficiaries. From the base of the Cadastro Único, Bolsa Família automatically and impersonally selects families with the profile for the program. Questions related to the management of benefits including payments, blockages, suspensions, cancellations are handled by the Sibec, a system comprised exclusively of families enrolled in the Cadastro Único that were selected to receive the benefit. It also facilitates the generation and review of financial and operational reports on Bolsa Família beneficiaries in municipalities.

Then, Sicon integrates the information on the monitoring of conditions in health and education. The system consolidates the information from the associated systems where information on the monitoring of conditions is stored. After that, the System for Consultation, Selection and Extraction of Information from the Cadastro Único is used as a tool to support actions by managers in the states and municipalities to plan and implement public policies directed toward low-income families. Besides, this system is an important instrument to support management as it makes information available that allows for identifying the social needs of families enrolled in the Cadastro Único and for planning the provision of public equipment and services based on a dynamic socio-territorial diagnosis.

For monitoring, Sagi designed a set of informative tools that allows for accessing data on the progress of social programs implemented by the MDS. These data are largely gathered from administrative records and through research conducted by Sagi or other government research organizations and systematized into indicators.

Moreover, there is the system of audit to investigate and prevent unwarranted payments to beneficiaries. These irregularities can result from bad faith of beneficiaries or program managers. The first case can be due to the presentation of false information or the use of illicit means to qualify as the program's target population. The second case can be a result of entering false information in the

Cadastro Único system. To address the issues, the audit process was designed to be decentralized, and currently involves joint work among BFP management in each municipality, the MDS through Senarc's General Bureau for Monitoring and Auditing (CGAF), and agencies designated as Social Monitoring Entities (ICS).

6.2.5 Impact of the Current MIS-based Management System of the Program

Since the inception of Bolsa Família, 23 research evaluations have been carried out by the MDS. The comparison between the results in 2005 and 2009 showed significant improvements in the lives of the families interviewed. Bolsa Família has improved the education of the low - income population. The program keeps 16 million children and adolescents in school. In secondary schools, the dropout rate among Bolsa Família beneficiaries was 2.8% compared with 3.2% among non beneficiaries. In other words, compliance with Bolsa Família's school attendance condition not only keeps children going to school, it also results in better indicators than those for poor children from non-beneficiary families.

In addition, Bolsa Família has reduced child labor. The program helped reduce the number of domestic hours worked among children and adolescents between 5 and 17 years old by 4.5 hours overall and by 5 hours for boys. It slowed entry into the labor market for boys and adolescents by 10 months.

After that, Bolsa Família has contributed to the empowerment of women. Bolsa Família payments are made directly to the woman responsible for the family. It has led to the empowerment of women in their households. With control over the family's expenditures, the beneficiaries have greater decision-making power in the family. With the given financial security, women feel less dependent on their husbands. Besides, it protects them from abuse by the husbands and gives them more power in the event of a final separation. Furthermore, the beneficiaries have increased their use of contraception by 9.8% strengthening their autonomy and the exercise of their reproductive rights as women.

6.2.6 The Gist of the Case Study and its Importance for the Present Study

From the above case study, it is evident that necessary policy and operational guidelines with well defined operational terms, specific roles and responsibilities, and a good coordination create a strong basis for the management of the CCTs; which Brazil was lacking before 2003. Then, a good institutional framework having necessary coordination and a planned management of information through active participation of all the stakeholders, that Brazil started to have with the launching of Bolsa Família and the renovation of the Cadastro Unico in 2003, improves the overall performance of the programs.

Though the CCTs for education in Bangladesh has also some noticeable achievements such as an increase in the enrolment rate, a reduction of the dropout rate and the empowerment of women like those of Brazil, the absence of proper operational guidelines, good institutional framework

with coordination and an organized management of information have made them less effective. Since GoB has recently formulated a comprehensive social security strategy to gradually address the problems, similar reforms are likely to take place in case of the CCTs for education in Bangladesh. Hence, the points learned from this case study will help the author to develop an outline of MIS for the CCTs for education under the present study.

6.3 Integrated System for Social Information (SIIS) –An example of efficient data and information management: The case of Chile

The SIIS of Chile is an example of the most advanced integrated data management in the social protection sector. The SIIS is the key to Chile's social protection strategy because all the information of the beneficiary households is contained in it and it is the mechanism by which coordination across ministries and levels of government is maintained. The details of this well-established system which have been explored in the study by Barca and Chirchir (2014) under the title "Single registries and integrated MISs: De-mystifying data and information management concepts" has been described from an analytical point of view in brief below.

6.3.1 Background

Chile's economic prosperity in the 1990s made the government reach out to the poor citizens in a more systemic way which led to the present *Ficha de Proteccion Social* (FPS) (a survey used to identify poor households for social assistance). The survey, administered at municipal levels, has resulted in a Single Registry of the potential beneficiaries and has become the main source of information for the SIIS. Since the concept of all risks linked with lifecycle poverty such as precarious jobs, weak health, low levels of education, etc. shapes the system's framework and technical architecture, sectoral and cross-sectoral integration becomes the core of the system.

6.3.2 Programs supported by the SIIS

The main programs supported by the SIIS are *Chile Solidario* and *Chile Crece Contigo*. The first one is an innovative cash transfer program launched in 2002 which aims at extremely poor households and the second one which started in 2006 offers various education and health

related supports and services for the socio-economically most vulnerable children. Besides these, the programs which provide basic health services and universal access to education for under-12 children are integrated into the overall social protection plan through the SIIS.

6.3.3 Objective and Institutional Arrangements for SIIS

The SIIS was established in 2008 through the Decreto Supremo N.160 to guide the protection of the personal data of potential and actual beneficiaries and the regulation of inter-institutional agreements. According to MIDEPLAN (2007), the decree particularly dictates the institutions to exchange data in order to assign and rationalize social benefits distributed by the State. It also emphasizes the conducting of research in order to design policies, plans, programs, etc. based on the needs of the managers of such benefits to promote the correct targeting of resources and the incorporation of beneficiaries in existing Social Safety Nets for ensuring access to better life conditions. However, MIDEPLAN's Social Division determines the standards for data collection, storage, security and transmission and performs the key management and coordination of the SIIS. It has underwritten legal agreements with 15 state institutions to formalize exchange of data and signed agreements with 345 municipalities whose responsibility is to collect data through the FPS form.

6.3.4 Data Security and Privacy

There is a law on data privacy in Chile which mainly regulates the personal information integrated by SIIS and has a provision that individuals must allow the state institutions to make use of their personal data or transfer it to third parties.

6.3.5 How SIIS is structured in Practice

The SIIS is a software application linking many databases of the public entities through the Internet. It links to the Single Registry, the *Registro de Información Social*. In the SIIS, Chile's Single Registry, *Chile Solidario* and *Chile Crece Contigo* MISs, Chile's Civil Registry and database of the state entities and municipalities including information on payments are used as the data sources though SIIS data is basically collected through a census conducted every two years using the FPS survey and continuous access to benefits or updated information handled on request at municipality offices. Figure-4.3 shows how the SIIS is structured.

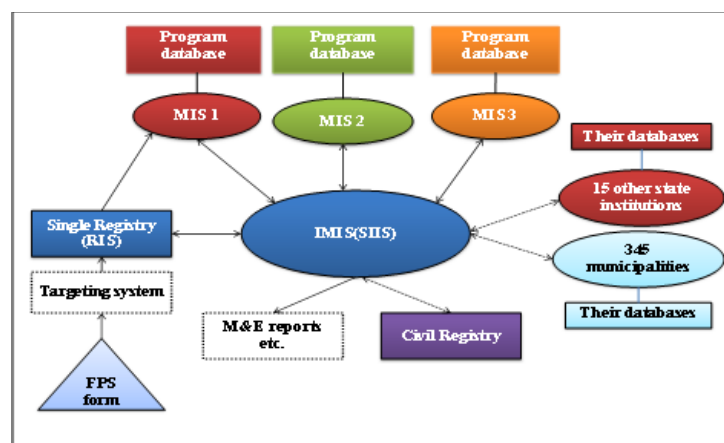


Figure 4.3: Overall structure of the SIIS

Source: Covarrubias et al, 2011 and Irrazaval, 2004 cited in Barca and Chirchir (2014)

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However, data is used to target by central level in the process after it is entered and validated. It is analyzed using a targeting formula that calculates an overall score for each household, based on pre-set criteria. This score, recorded in the Single Registry with all relevant household information, determines program eligibility though it is based on specific objectives such as, some focusing on the most vulnerable 40 per cent and some on factors of vulnerability such as housing.

As to the access, use and transfer of the data, web service enables remote access by institutions with legal agreements with SIIS, without the need for common software. Data is transferred using XML language and HTTP protocol. Institutions can consult integrated data and SIIS can access institution databases to update data. Batch processes involve contacting MIDEPLAN through a designed website and sharing information. On an average, the SIIS is consulted 9800 times a day (online). The SIIS also has potential uses for beneficiaries. For example, municipalities can generate a document showing a household's FPS targeting score which can be used to request public services. Beneficiaries can also ask for assistance from the 15 institutions that have legal arrangements with the SIIS without further proving eligibility.

6.3.6 Advantages and Challenges of the IMIS

To conclude, the case study tries to extract the challenges along with some good messages as to the use of the Integrated Management Information System (IMIS). Firstly, in the current management information system, data is actualized daily by comparing it to the Civil Registry to keep information updated though variables used to calculate eligibility scores are only updated every two years. Households are asked to inform municipalities of updates, but if their situation improves, it is unlikely they do so for fear of losing benefits. Nevertheless, Chile's combination of census and on-demand application approaches helps capture changes in household conditions for the worse as this is not the case in many other countries. Secondly, the risk of excluding categories of individuals pertains to the targeting algorithm, not to the SIIS. However, an integrated system can lead to integrated exclusion. Thirdly, while an online system has many advantages for facilitating instantaneous data exchange, municipalities are often not modern enough to fully integrate for want of adequate equipment, Internet access in remote areas and staff capacity. Though the SIIS succeeds in targeting resources and identifying programs that can help vulnerable households, its full potential of becoming a databank for social researchers and institutions to plan social interventions is yet to be realized.

6.3.7 The Importance the Case for the Present Study

Since the SIIS of Chile is regarded as the most advanced example of IMIS having all possible features of the type across the social protection sector, its overall structure (see Figure 4.3) and the data management system with some underlying challenges described in the study can be a good example for any country that wants to establish and implement MIS or IMIS for its social security programs. GoB has planned to set up program-specific MISs for the SSNPs under the NSSS and the present study also has the objective of developing an outline of the MIS for the CCTs

for education in Bangladesh. Therefore, this case study can help the author to develop the intended outline of the MIS for the present study and widen the scope of discussions related to every aspect of the MIS data and their utilization along with the associated challenges in the system.

6.4 Prospects and challenges in the way to consolidate and integrate data and information management: The case of Indonesia

One of the case studies described in Barca and Chirchir (2014) focuses on the recent creation of a database that unifies information for poverty targeting across Indonesia's largest social assistance programs. Although work is underway, it has been an example of the challenges that countries face while attempting to consolidate and integrate data and information management. The case study has been analytically described in brief below.

6.4.1 Background

Indonesia's Midterm Development Plan 2009–14 stipulated and President Instruction No. 1/2010, National Development Priority, set out a target to reduce poverty by 8 to 10 per cent by 2014. With that end in view, Unified Data Base (UDB) was created to improve the targeting system of Indonesia's main poverty alleviation programs with minimum data error and maximum benefit by using the updated data since an analysis of national socio-economic survey data indicates that many poor families have been excluded from the social assistance. The UDB is also expected to ensure better coordination among the programs. However, it has become one of the largest databases of its kind in the world covering 24 million households.

6.4.2 Program supported by the United Data Base

UDB data is used by five national programs namely *Jaminan Kesehatan Masyarakat*-the national health insurance program, *Bantuan Siswa Miskin* which provides transfers from central education agencies to students or schools upon verification of enrolment, attendance and other criteria, *Program Keluarga Harapan* - a CCT related to health and education services, *Beras untuk Rumah Tangga Miskin*-rice subsidy program and *Bantuan Langsung Sementara Masyarakat*-a temporary UCT to compensate for the increase in fuel prices. About 350 local governments have so far requested UDB data from TNP2K for improving their targeting system of local poverty reduction programs.

6.4.3 Institutional Arrangements for the Unified Data Base

Within TNP2K, the UDB is managed by a special unit called UPSPK for targeting poverty reduction which has 20 staff members divided into three groups: MIS/IT, to maintain data; Operational, to provide technical assistance to the data users including ministries and local governments; and Research, to focus on the analysis of data and the monitoring and evaluation. Data is collected and updated by Statistics Indonesia every 3 years since 2005.

Nonetheless, according to a World Bank report of 2012, to prevent households from giving false responses to surveys and the population census conducted by Statistics Indonesia, the necessity of building in-house capacity for data

collection is being discussed. Besides, the UPSPK often mentions the lack of 'formal' institutional arrangement for its management, staffing, funding, data collection, use and data update as one of the UDB limitations. It undermines the UDB's legitimacy, systematic use and sustainability.

However, the creation of a basis for each implementing agency to formalize the use of the UDB is being pursued through some ongoing initiatives and upcoming ministerial decrees. Moreover, an important institutional arrangement of integrating the UDB with the NIK (citizen identity number) managed by the Ministry of Home Affairs is in progress and about 74 per cent of UDB data has so far been integrated with the NIK. It has facilitated designing the social security card.

6.4.4 Data Security and Privacy

TNP2K uses existing laws and regulations on Information and Electronic Transaction and Public Information Disclosure to regulate security and privacy of data. For example, sensitive data is shared only with other government institutions on request. From the UDB website, the general people can download roughly 16 of the 40 indicators about socioeconomic and demographic characteristics of the households in aggregate form.

6.4.5 How the Unified Data Base is structured in Practice

Though UDB is not yet connected with any other government database except NIK, it has become the only source of data for targeting poverty in the country. Basically, UDB has replaced different criteria and data sources used for selecting beneficiaries by poverty reduction programs which used to run inconsistently with the duplication of efforts. Statistics Indonesia is basically the main source of statistical data in the country. It regularly collects basic statistical data through the Census, Susenas national surveys and Village Potential Surveys.

However, the Statistics Indonesia was assigned first with systematic development of a 'census' of poor households (*Pendataan Sosial Ekonomi*) in 2005 with the introduction of Bantuan Langsung Tunai (BLT), a temporary unconditional cash transfer program and then it conducted another large-scale survey (*Pendataan Program Perlindungan Sosial—PPLS*) to update the data while the Government planned to implement a second round of BLT in 2008.

However, the current UDB is based on new wider scale data collected in 2011 to reduce the exclusion and inclusion errors which occurred in the 2005 and the 2008 data collection rounds. UDB focuses first on the poor and vulnerable households based on the 2010 Census and then data was triangulated with other sources including the Village Potential Statistics 2010, Susenas 2010, the 2008 PPLS database, program listings and local knowledge from communities about the poorest households. Different government agencies that are linked with the social programs were consulted to make the collected information meet their needs. After an extensive validations and consistency checks, Statistics Indonesia transfers the dataset to TNP2K's National Targeting Unit to process it using a proxy means test targeting index. Here households are divided into four categories to fuse it with the targeting criteria of the programs. As for example, Raskin corroborates lists within communities, while PKH only targets households in extreme poverty with elementary school age children or pregnant mothers.

As to the access, transfer and use of data, UDB is not linked to other servers or web services for remote access though data is stored using a Microsoft SQL server. Transfer of data between TNP2K with other government institutions continues to be done manually. Ministries or local governments send written requests detailing the type of the required data. UPSPK retrieves it and sends it in excel format by email or on disk. Updated data at program level is usually transferred manually to TNP2K, but not incorporated into the central database because it is inconsistent and incomplete. The UDB cannot be updated online because of infrastructural problems such as inconsistent internet connection.

Though data and information available in the UDB is mostly used to find out the beneficiaries of social protection programs at national and local levels, a few initiatives have been taken up to use the UDB as the basis for monitoring and evaluation and grievance mechanisms. The use of an online complaint handling website called LAPOR since 2013 is an example of that. Similarly, the research division of TNP2K's National Targeting Unit evaluates the UDB's performance and carries out other analyses related to poverty, social protection policies and targeting methodologies. Figure 4.4 summarizes the key inputs and outputs of the UDB.

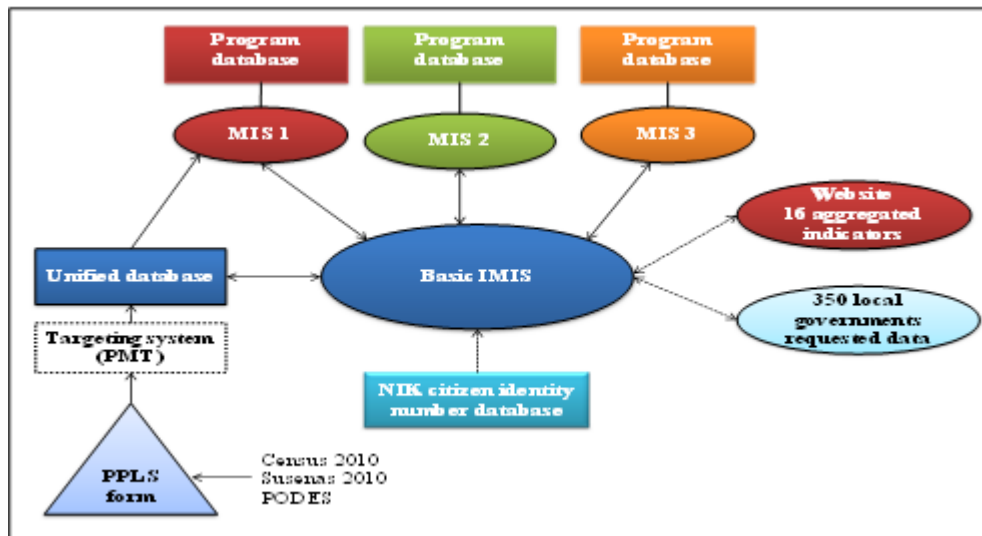


Figure 4.4: Overall Unified Data Base structure

Source: Barca and Chirchir (2014)

6.4.6 Challenges to overcome for successful Information Management

Although efforts to improve the data and MIS for poverty reduction programs in Indonesia have brought some positive changes including the provision for triangulating the census data with community validations and other data sources used to select households for interview, there are still a number of challenges to overcome. Capacity is the main constraint of Statistics Indonesia when compared to international standards. Data updating is another major challenge particularly for the programs such as PKH which focuses on school-aged children and pregnant women. Even when implementing agencies at program level update their beneficiary data, these changes are not fed back into the UDB. Lack of formal institutional arrangements and MoUs with individual program implementers and other government bodies indicate that data exchange is impromptu. The main challenge within the UPSPK lies in the number of staff. With limited staff, the TNP2K cannot undertake outreach and dissemination, providing assistance to local governments on how to use data and monitor its use.

6.4.7 The Gist of the Case Study and its Importance for the Present Study

The case of Indonesia is a practical example of the challenges in the way to consolidate and integrate data and information management since the work was still underway during the study. With the ultimate objective of information management UDB has been created to improve the targeting system of Indonesia's main poverty alleviation programs and Statistics Indonesia has been given the responsibility to collect and update data.

In the NSSS, Bangladesh has also decided to create a unified database as a part of its plan to improve the targeting system of SSNPs and the responsibility to collect and update data has been put on the Statistics and Information Division of GoB. Since the handling of data by the Statistics Indonesia has already raised questions along with many other imminent challenges, the overall analysis of the case will help the author develop an outline for the CCTs for education and make some substantiated recommendations related to the establishment and the institutional arrangement

of the MIS along with other challenges for its implementation.

6.5 Lessons Learned from the Case Studies

The most remarkable point in the case studies discussed above is the management of information at different levels of implementation of the CCTs. This is also the most significant issue of the present study. Therefore, the lessons learned from the case studies may guide the author to formulate an outline of MIS for the CCTs for education in Bangladesh in the existing country context. Hence, some important lessons learned from three different case studies can be pointed out as follows.

- Formulating necessary policy and regulations for data use, cross-check, exchange, etc. and data security require political will from the part of the government.
- Updating of beneficiary information and generation of reports through electronic management system improve efficiency and accuracy and thereby ensure improved targeting and administration but data updating is a big challenge.
- The needs of the programs may change in course of time and the flexibility in their management is required for making them effective and efficient.
- The system of monitoring compliance with conditions, sanctions for non-compliance, appeals, etc. should be simple to make the MIS more effective.
- Providing necessary training to build up technical capacity of the staff is crucial to manage the database of the program.
- A combination of centralized and decentralized management with defined roles and responsibilities may make the implementation of the program easier.
- For resource constraints in the developing countries, financing is a key factor for enhanced implementation of the CCTs.
- Good coordination and accountability measures along with the openness of the program information increase the fairness and accuracy in the management system.

- A storehouse of the beneficiary information like the Cadastro Unico of Brazil or Unified Data Base (UDB) of Indonesia can be crucial to the MIS for the CCTs.
- Setting M&E mechanism in the management system and implementing them properly appear to be the important criteria to improve the effectiveness of the CCTs.
- The handling of data from its collection to transfer and then the data security and privacy is of utmost importance for an MIS.
- Developing an integrated MIS requires an enormous work and extensive technical, administrative and financial capacity, which may not always be available and feasible in a developing country.

7 Country Context to Implement an MIS for the CCTS for Education in Bangladesh

7.1 Introduction

The implementation of an MIS requires strong political will (Barca and Chirchir, 2014) and it goes without saying that technological infrastructure is a precondition to develop and maintain a digital MIS. Besides these, the most important points extracted from an overview of the CCTs and the analyses of three different case studies indicate that some other criteria are also required for the implementation and management of the MIS. They include smooth financing, the flexibility and simplicity in the management system to make timely changes and decisions, necessary staffing and administrative structure, proper accountability measures and monitoring and evaluations. Moreover, a comprehensive beneficiary database is crucial to the establishment of an MIS. Now, compared to the contexts of other countries where MISs have already been used for the CCTs, this chapter will focus on the contextual aspects for implementing an MIS for the CCTs for education in Bangladesh.

7.2 Political Will

In Brazil, a strong political will²⁵ is marked in the country's efforts to improve the effectiveness of the CCTs by reforming the management system. It is the political will that has made the country work hard to ensure that the beneficiaries of the largest conditional cash transfer program in the world are from among the poorest in the society. As for example, the Cadastro Unico which was developed in 2001 to enhance efficiency and improve targeting of the social assistance programs was further strengthened in 2003 with the introduction of Bolsa Familia and the system continued to develop even after the latest online version Cadunico had been introduced to increase the understanding of the poor population to facilitate the targeted policies.

Though the heads of the governments in Brazil have changed several times over the years, the efforts of the government to achieve the goals of the programs have been reinforced by addressing the policy related and operational issues. They have assigned the implementing agencies with defined roles and ensured a good coordination to finally make the Cadastro Unico a crucial tool of the BFP that has been recognized as the best targeted CCT scheme in Latin

America (Hall, 2008). Needless to say that the World Bank has played an important role in the process.

In the same way, the political will in Bangladesh for operating the CCTs for education has been manifested in the continuation of the programs for more than two decades. Since the outset of the programs, the government has kept trying to expand the coverage of the program to reach the ultimate goal of poverty reduction and human capital development. With a view to improving the management system and thereby the effectiveness of the programs, the government has published different guidelines and circulars at different times which are exclusively related with the CCTs for education and brought a number of changes over the years in the overall management of the programs in consultation with the development partners, particularly the World Bank. Moreover, in all the development plans, policies and perspectives including Sixth Five Year Plan (2011-2015), Seventh Five Year Plan (2016-2020), Revised Poverty Reduction Strategy Paper (PRSP)-II (FY 2009-2011), Perspective Plan of Bangladesh (2010-2021) and Vision 2021, the government has put particular importance on the realization of the goals of the social safety net programs including the CCTs for education. Recently, the government has formulated National Social Security Strategy (NSSS) in order to improve the performance of the programs and achieve the goals.

7.3 Technological Infrastructure

According to Villalobos *et al.* (2010), electronic technologies can reduce errors, time, and cost, while improving the quality of the data in the MIS. The study mentions the case of Oportunidades in Mexico for instance in which electronic forms have always been used for data collection in high schools (using school laptops or public internet cafes).

Based on the success of this approach, the program moved toward using electronic forms in primary schools and health centers in places with sufficient infrastructure. This shift required that Oportunidades invest in technology and training of program staff and service providers at the local level. Currently data is still collected using both formats, but the use of electronic formats is increasing. In the planned expansion of the program, data will be entered using mobile devices, which have built-in controls to prevent errors. Obviously, modern technology is appropriate if it is reliably available in all program localities and all program staff have access and are trained in its use.

However, the infrastructural facility is not yet 100% even in BFP of Brazil. Though in BFP, school attendance is verified through an internet based online system, some schools do not have internet access and they have to still fill out the School Attendance Sheet manually (Hellmann, 2015) and Indonesia is facing the problem of reliable internet connection and lack of staff (Barca and Chirchir, 2014). Since 2009, the development of Bangladesh has become synonymous with Digital Bangladesh in which emphasis is given on the application of digital technologies to realize the goal to be a middle income country by 2021 and a developed country by 2041. Since then, the government of Bangladesh

has been implementing a large number of projects related to digital technologies (Rahman, 2015). To facilitate, expedite and make the projects sustainable different Acts and Policies including ICT Policy 2009, Right to Information Act 2009, ICT Act 2013 (amended), Cyber Security Policy 2010, etc. have been formulated.

Now all the government offices are inter and intra connected through the national web portal of Bangladesh (<http://www.bangladesh.gov.bd>) and are providing e-services to the citizens (Karim, 2015). According to Zaman and Rokonzaman (2015), Bangladesh has been making important strides in utilizing technology in every sector including education. The government is making the education system more familiar with the modern technology by providing e-learning infrastructure. Besides, registration to educational institutions and publication of the examination results are now done online.

In addition to that, online banking systems, the introduction of mobile money order and postal cash cards, turning 8000 village post offices and about 500 Upazila post offices into e-centers and setting up of nearly five thousand Union (the lowest tier of the Local Government in Bangladesh) Digital Centers²⁶ (UDC) for delivering e-services in the rural areas are significant achievements with regard to the use of technology (Rahman, 2015). They underlie the possibility of establishing an MIS for the CCTs for education since they all can be utilized for the purpose as the cases of other countries suggest (see Table 2.1). Moreover, more than 80% of the primary and secondary schools have computer facilities now (Table-5.1) and the number is on the increase (DPE, 2016).

Table 5.1: Number of Schools Having Computer Facility, 2015

Type of School	Management	Number of Institution (surveyed)	Institutions Having Computer	
			Number	%
Junior Secondary School	Private	2394	867	36.22
	Total	2394	867	36.22
Secondary School	Private	16102	14353	89.14
	Public	322	319	99.07
	Total	16424	14672	89.33
School and College (School Section)	Private	997	985	98.80
	Public	11	11	100.00
	Total	1008	996	98.81
Govt. Primary School	Public	471	152	32.27
All	Private	19493	16205	83.13
	Public	804	482	59.95
	Total	20297	16687	82.21

Source: BANBEIS (2016)

Besides, Bangladesh has more than 61 million Internet subscribers by March, 2016 which is around 38% of its total population (BTRC, 2016) while some 29 % of the population are Internet subscribers in Indonesia (The Jakarta Post, 2015). Moreover, the yearly increase of the internet users in Bangladesh (10.4%) is higher than some other countries²⁷ having MIS for CCTs including Indonesia (6.4%) and Philippines (4.4%).

7.4 Financing of the Social Safety Net Programs and the CCTs

There is no denying the fact that all the developing countries have resource limitations. As a result, they have to take financial assistance along with consultation about technical and policy related issues from the World Bank or some other institutions to complement their own spending from the national budgets for implementing the SSNPs. It is no exception in the case of Bangladesh. The overall SSNP spending of GoB currently stands at almost 2.2 percent of GDP which is equivalent to approximately 13 percent of the total budgetary allocations (MoF, 2016). As to the CCTs for education, the government has so far managed to finance the PESP and SESP both with its own fund and financial assistance from the development partners. Though assistance from the development partners including World Bank, ADB, DFID, JICA, IDB, EU, UNICEF and WFP is still taken for the education sector's development, dependence on them for the CCTs is decreasing over time. As for example, though the PESP has previously been funded by GoB itself, the SESP has been jointly funded by some international NGOs, development partners and GoB (see Box 5.1); but when the number of stipend-recipients has increased to 130 million from 78 million at the primary level, both the PESP and SESP have been approved in the Annual Development Program (ADP) investment plan for the fiscal year 2016-2017 to be financed from the government's own fund (MoP, 2016; MoF, 2016). However, development partners are providing fund for some other projects such as, ROSC, SEQAEP, SESIP, PEDP, etc. related to education sector's development²⁸.

The total cost of Female Secondary School Assistance Program (FSSAP) phase 1 (1994-2001) was \$85.8 million (stipend component 77% of total cost) of which GoB contributed 26% (WB 2002a). Phase 2 (June 2002 - Dec 2007) cost \$144.62 of which Bangladesh government proposed share is 16%. SESIP (Dec 1999 - April 2006) cost \$ 86 million (stipend component 20% of total cost) of which GoB contributes 30%. Earlier, in 1998-99 the total amount allocated for stipend and tuition in that year was Tk 2847.6 million of which GoB funded FSSP accounted for 59 percent indicating the government's strong commitment to increasing girls' access to secondary education. Besides, it is estimated that the female stipend projects would require US\$ 539 million (or taka 30.794 billion) during the six fiscal years from 2001 to 2007 of which IDA funded FSSAP would provide 26% (WB 2002). PESP started with the full financing from the government's own fund. (Mahmud, 2003 ; Tietjen, 2003)

Box 5.1: Sources of fund for the SESP and the PESP in the early years

Therefore, since the inception of the programs, financing has been satisfactorily smooth and the development partners along with the GoB have so far become consistent to give financial assistance for the education sector's development in Bangladesh. Moreover, the CCTs for education are not depending on the foreign loans and grants now.

7.5 A Single Database of the Beneficiaries

Brazil's Cadastro Unico has set an example for other countries as a very effective tool of the MIS for the

successful running of the CCTs. Therefore, the countries including Chile and Indonesia which have good MIS for the CCT programs have developed a single database of the beneficiaries. A single database ensures that the same data is available to everyone, even if it is used differently to meet each stakeholder's interests and needs. For example, MIS reforms in the Dominican Republic have consolidated separate databases and registries into a unique beneficiary registry system, so that various institutions can use the same database to provide different benefits (Villalobos et al., 2010). Among other countries, Kenya has developed a single database of the beneficiaries. Kenya's Single Registry has been created as an electronic solution for social accountability and to assist the social protection sector with planning, coordination and monitoring of the country's four main CCTs. The registry aims to consolidate and coordinate the country's current range of fragmented schemes and in future it will expand its scope to include data on health insurance and social security (UNDP, 2016). With regard to Bangladesh, the government has not only formulated the NSSS but also taken measures to create National Household Database which is being implemented by the BBS and it is expected that it will be finished by 2017.

7.6 Flexibility and Simplicity in the Management System of the Programs

It is evident from the previous discussion of the present study that the major CCTs of the developing countries including those of Brazil, Mexico, Chile, Indonesia, Kenya and the Philippines have become flexible and simple enough to adapt to necessary changes for better management and making the programs more effective over time.

Likewise, the CCTs for education in Bangladesh have undergone different changes in their functions and management in course of time. Before 2002, the PESP was known as FFE program because at that time the beneficiaries were given food grains instead of the cash. However, the high level of leakage and the high cost of the subsidy led the government to end the program (Shovakul, 2012). Therefore, the program was changed into a cash transfer program to control the corruption and improve the effectiveness. In case of SESP, various changes have been brought into the program at different times which include redesigning the beneficiary selection process, reshaping the coverage, providing cash to a certain percentage of the male students side by side with the female ones, promoting the program up to higher secondary education, using new methods for the payment of the cash, etc. This type of modification in the programs proves their flexibility.

The simplicity of the programs is also indicated by two different aspects. Firstly, administrative simplicity lies in the fact that each program is managed by individual ministry and line offices. Secondly, simplicity in the system is indicated by the fact that most of the program's criteria, as far as they are concerned with the beneficiaries, are not very difficult for them to understand and they do not require specialized technical knowledge for the changes, for instance, the new method of payment through bank account in the SESP and the proposed method of mobile payment in the PESP.

7.7 Combination of the Central and Decentralized Management

Many middle and low-income countries are taking advantage of new technologies to develop advanced MISs, bridge local areas with the centre and enable different government schemes to share information (Barrett and Kidd, 2015). The case studies (in chapter-4) show that combination of the central and decentralized management is important for running the CCTs effectively and more importantly if it is to manage through an MIS or IMIS. The roles of the local government units along with the target institutions are found to be very important to manage the MIS and run the program smoothly.

Though there is a combination of centralized and decentralized management in some SSNPs of Bangladesh such as Food For Work (FFW), Cash For Work (CFW), 100 days employment scheme and Vulnerable Group Development (VGD), the local government has no involvement in the CCTs for education. Nevertheless, there are SMCs and other committees in the bottom level to play some important roles in the programs but many of them are basically neither active nor well aware of their roles. Moreover, they tend to become unfair in case of beneficiary selection (Khan, 2014). Sometimes the teachers and the SMCs inflate the students' results and attendance (10.8% of the students in the survey said that their results and grades were falsified and attendance was also found to be overwritten) (World Bank, 2003; Tietjen, 2003). They have enough time and space to do so because there is no regular and direct flow of information from the field level to the center of the management and vice versa.

7.8 Updating Information and Generation of the Reports

The cases of Brazil, Chile, Indonesia and some other countries indicate that regular updating of the beneficiary information and generation of timely reports are the main challenges in the management of the CCTs but they are very important factors to improve the effectiveness of the programs. However, keeping the beneficiary information up to date and the generation of reports are neither regular nor systematic in the CCTs for education in Bangladesh. The UPEO is in charge to authenticate the school reports on students' attendance and PESP conditions but they consider the PESP as an extra burden without any incentives (Tietjen, 2003). The study also found that the PESP district monitoring officers made the most efforts in negotiating the UPEO to fix up dates for disbursement and develop implementation plans for disbursement though they are assigned to visit schools on a random basis and verify the beneficiary lists by visiting students' homes. Besides, they are to report to the DPEO and divisional monitoring officer who supervise their activities and require sending monthly progress report to the PIMU. In fact, PESP reports are not given regularly and audit plans are yet to be made by the PESP (Tietjen, 2003).

Hence, the people concerned with these activities manage to make a show of the updated information and creation of some reports which are actually of little use to improve the effectiveness of the programs and to ensure better targeting

and administration. Since the system is manual, providing necessary training to build up technical capacity of the staff to manage the database of the program is not practical yet.

7.9 Monitoring and Evaluations

The cases of other countries show that monitoring and evaluations are very important criteria to maintain and improve the efficiency and the effectiveness of the CCTs. Regular monitoring makes the agencies and the people concerned in the programs accountable while proper evaluations facilitate evidence-based decision making for further improvement of the programs. However, it is suggested in the previous chapters (chapter 2 and chapter 3) that though there are some guidelines for monitoring compliance with conditions, sanctions for non-compliance, appeals, etc., they are not followed by the people concerned in the CCTs for education in Bangladesh. A lot of manipulation of information and negligence are found in these activities.

The current monitoring system is not considered to be efficient and effective since it is assumed in a 2003 World Bank report that the problems with the educational institutions are failure to enforce preconditions for students receiving stipends, the ineligible recipients, incorrect information to the project authority, two sets of attendance, registers and result sheets, irresponsibility of the SMCs, etc. Moreover, since the system is manual, it is easy for them to distort the information according to their whims. The problems with the USEOs are weak monitoring and supervision, absence of inspection format, unavailability of the information for timely processing and absence of some officers and staff. The DEOs also have the problems such as lack of control over the USEOs and lack of supervision. Even with the central authority the reports of financial irregularities has been perceived as problem for possible solutions.

7.10 Conclusion

hand, the combination of top level and local level management is not well functioning where as the current trends of centralized and decentralized management with defined roles and responsibilities as in other countries is absent in the CCTs for education in Bangladesh. Conspicuously, updating of the beneficiary information and generation of reports are done both manually and cursorily while staffing and administrative system is not compatible with the manual system of program management in general and the information management in particular. Besides, accountability measures are not effectual and though there is some system of monitoring compliance with conditions, sanctions for non-compliance, appeals etc., they are not seriously dealt with. After all, the monitoring and evaluation mechanism in the management system is neither pragmatic nor effective. The free flow and the openness of the information are absent and the data used in the programs are not of good quality, well checked and well managed. Thus, the current management system which has a manually run MIS in name only is missing some integral parts and cannot improve the effectiveness of the programs. Therefore, the next chapter will particularly focus on the way how to

overcome the obstacles in the process of implementing a digital MIS by utilizing the existing positive aspects and thereby develop an outline to show how a digital MIS is likely to improve the effectiveness of the CCTs for education in the present context of Bangladesh.

8 Findings and Discussions and an Outline Of The MIS for the CCTS for Education in Bangladesh

8.1 Introduction

In relation to the objectives and research questions of the study, the current management system of the CCTs for education in Bangladesh and three different case studies on the use of MIS for the CCTs in other countries have been critically analyzed in chapter 3 and chapter 4 respectively. These analyses have been preceded by an overview of the CCTs and followed by an examination of the country context. Therefore, the remarkable points found in the analyses and the lessons learned from the case studies have been collated by the author in this chapter to show how an MIS can be implemented for the management of the CCTs for education in Bangladesh with existing facilities and visible challenges. Hence, this chapter has concentrated on successive discussions on the key findings and the different issues contained in them. They include government readiness required for reforms of the CCTs, problems with current management of the CCTs for education, specific problem-minimization process of the MIS and a detailed outline of the MIS with challenges and advantages as to its implementation for the CCTs for education in Bangladesh.

8.2 Findings of the Research

The most important findings about the present management system of the CCTs for education in Bangladesh, the lessons learned from the case studies and the most important points found in the analysis of the country context have been the grounds for suggesting an outline of the MIS to improve the effectiveness of the CCTs for education in Bangladesh. Hence, one of the most important findings of the study includes the necessity of the government readiness²⁹ for reforms of the SSNPs and particularly the CCTs. They also include some clearly marked aspects of the CCTs for education that can be improved through the MIS and the challenges and advantages with regard to the implementation of the MIS for the CCTs for education in the current context of Bangladesh (see Table 6.1).

Therefore, this part of the study is going to dilate upon how the effectiveness of the CCTs for education can be improved through the implementation of a modern technology based MIS which is supposed to minimize the existing management problems despite the associated challenges in the process. With that end in view, a detailed outline of the MIS for the CCTs for education has been delineated and described in this chapter corresponding to the main objective of the present study.

Table 6.1: Key findings with the issues contained in them

Key Findings	Issues Contained
The readiness of the government is a must for reforms of the SSNPs and the CCTs.	<ul style="list-style-type: none"> ▪ Political Will ▪ Promotion of Technology ▪ Formulation of the Necessary Policies
There are some clearly marked aspects of the CCTs for education in Bangladesh that can be improved through the MIS.	<ul style="list-style-type: none"> ▪ Targeting and Beneficiary Selection ▪ Updating of the Beneficiary Registry and Verification of the Conditionalities ▪ Payment System ▪ Grievance Redress System ▪ Institutional Arrangement ▪ Monitoring and Evaluation
Though a number of challenges are to be overcome for implementing the MIS for the CCTs for education, there are also some advantages in the current context of Bangladesh.	<ul style="list-style-type: none"> ▪ Challenges ▪ Ensuring Technological Infrastructure ▪ Creating a Unified Beneficiary Database ▪ Ensuring Sustainable Source of Funding ▪ Employing Sufficient Manpower ▪ Ensuring Security of the Data ▪ Ensuring Uninterrupted Power Supply ▪ Internet Connectivity ▪ Capacity Building ▪ Advantages ▪ Fast Promotion of Technology in the Public Sector ▪ Creation of NHD underway ▪ Formulation of National Social Security Framework ▪ New Source of Funding ▪ Introduction of Solar Power

Source: Author

8.3 The Readiness of the Government for Reforms of the SSNPs

The international evidence shows that the first and foremost criterion for establishing an MIS is the political will which will be followed by the other criteria. As it is discussed in chapter 5, Bangladesh has noticeable political will and the country is committed to ensure technology based public service delivery in every sector. GoB has very recently framed out a long-term (2015-2026 and onwards) comprehensive strategic plan to improve the effectiveness of the social safety net programs including the CCTs for education.

With a view to making administrative reforms for strengthening the management of the programs, defining the roles of the implementing agencies, recruiting sufficient staff and establishing a strong coordination mechanism have been emphasized in the strategy to address the existing problems. In addition, the importances of the central beneficiary database and the digital MIS have been pointed out in it (see Box 6.1).

More importantly, the full financing of the reforms plan of the SSNPs has been projected and with a potential increase in the share of budget for the SSNPs, possible funding from

the private sectors has also been planned in the NSSS³⁰. Under the NSSS, it is also proposed that first the program-specific MIS has to be developed; then they will be linked together to make an integrated MIS.

Hence, with the given readiness of the government a detailed presentation of how an MIS can be established and implemented to help the CCTs for education in Bangladesh to improve their effectiveness seems to be well grounded.

For the SSNPs of Bangladesh, there is no formal coordination mechanism. The administrative systems are relatively weak. As programs are spread across a range of Ministries, there is no Ministry that has a clear specialization in the delivery of the programs. In reality, much of the administration is done by the implementing ministries using paper-based MIS. There are no central beneficiary databases for programmes, and no advanced digital MISs linking local areas with the centre. As a result, the Government is unable to effectively manage and monitor the performance of its Social Security programmes. The Government understands that there are a number of areas that need to be reformed for improving the effectiveness of the SSNPs.

The key priorities to address are:

- An institutional arrangement reinforcing and ensuring proper planning, implementation and M&E of the proposed NSSS.
- The professionalization of staff so that there are trained public servants who are experts in the delivery of Social Security schemes at both national and local levels.
- Effectiveness in identifying recipients for Social Security Programmes.
- Up-grading the MISs so that they are able to underpin the effective and efficient delivery of transfers and promote cross-governmental coordination and monitoring of performance.
- Strengthening payment mechanisms to minimize corruption and to use the Social Security system to promote financial inclusion, in particular among poor and vulnerable families.
- Establishing an effective grievance redress so that all citizens have recourse to appeal decisions on selection and can notify the competent authorities about instances of misconduct and failures in the delivery of the promised benefit.

(NSSS, 2015)

Box 6.1: Reforms Ideas Evident for the SSNPs on the part of the GoB.

8.4 Improvable Aspects of the CCTs for education and the MIS

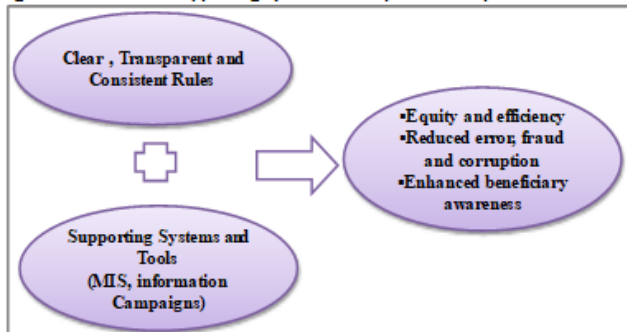
8.4.1 Targeting and the Beneficiary Selection

Since the best targeting mechanism for a social security program depends on the local context, including organizational structure, information availability, extent of inequality, governance issues and the demographic profile, and its design has some clear links to the program's objectives, Bangladesh has been using different targeting methods for the CCTs for education such as gender-based and PMT method for the SESP and Uniform Coverage of 40% and Geographic Targeting combined with Community Assessment for the PESP over the years (Domelen, 2007; Fiszbein et al., 2009; DPE, PPRC and UNICEF, 2013). However, in the PESP, the exclusion and inclusion errors are still high and on the rise in some cases because the beneficiaries are not selected by using any authentic source

of information and more importantly the information is neither updated nor cross-checked by using any particular mechanism (Tietjen, 2003; Baulch, 2010).

Likewise, in the SESP, the exclusion and inclusion errors are also high though the number of stipend recipients has been reduced since 2009. Like PESP, the beneficiaries for the SESP are also sometimes selected on the basis of misleading and false information or in the way the selection committee likes. This is because the committee is not provided with any comprehensive beneficiary database or there is no entity or the mechanism to check the information about the beneficiaries. Therefore, only the changes of targeting method cannot reduce the errors. Rather, it largely depends on how well and consciously the target group is covered, and how precise, fair and informative the beneficiary selection process is. Obviously, as the international experience suggests, it is the authentic and updated beneficiary database along with the mechanism to cross-check it that can deal with such issues well (see Box 6.2). Bangladesh has recently started to make NHD and planned to make a single Registry by 2018. Also, it conducts HIES every five years on a regular basis. Hence, the CCTs for education can utilize the data from these sources to improve targeting and beneficiary selection by using and cross-checking relevant beneficiary information when the MIS will be in place in line with international experiences. According to Bassett et al. (2012), when transparent and consistent eligibility rules have a supporting system with tools; the error, fraud and corruption in the system are reduced and the beneficiary awareness is enhanced (see Figure 6.1).

Figure 6.1: Rules and supporting systems can improve social protection outcomes



Source: Bassett et al. (2012)

Moreover, the loopholes in the targeting and beneficiary selection process of the CCTs for education in Bangladesh are overt. All about the system is that the highest implementing agency sets the selecting criteria and the lowest local level agency selects the beneficiaries with a dysfunctional system of cross-checking information by the former or monitoring by the immediate higher level agency and that is final. Therefore, the gaps which are clear in the total process are likely to be bridged by establishing an MIS as done by other countries.

The introduction of a single registry system for all of the NSNP programmes in Kenya has made it possible check that potential beneficiaries of one cash transfer are not already benefitting from another. Through its links to the Integrated Population Registration System, the Single Registry makes it possible to confirm the validity of any national ID information submitted by prospective beneficiaries, thus reducing the possibility of error or fraud. (World Bank, 2016)

In Indonesia, targeting approaches were characterized by a heavy reliance on local-level officials and service providers to fine-tune the process of identifying beneficiaries. Potentially eligible households were registered in the PSE 2005 and PPLS 2008 based on subjective consultations between enumerators and community leaders. There was evidence of elite capture in the process (SMERU, 2006) and both surveys had insufficient coverage to adequately reflect the regional distribution of poverty. This led to a substantial number of poor households being excluded (exclusion errors) and non-poor households being included (inclusion errors). To address the targeting issues that continued to undermine the effectiveness of these poverty reduction programmes, the Government of Indonesia decided to establish a single registry to identify beneficiaries for social assistance programmes. Accordingly, the establishment of a single source to identify beneficiaries reduces overall administrative costs, leads to a better targeting outcomes and the incidence of benefits have improved. Now the UDB has become the main source of information for running the MIS and IMIS for the social safety net programs of Indonesia. (Bah et al., 2014; IPCIG, 2015; Barca and Chirchir, 2014)

As to the 4Ps of the Philippines, it is recommended by Reyes and Tabuga (2012) that it would also be helpful if the NHTS updates its proxy means test model for its targeting system by using the most recent Family Income and Expenditure Survey data and adopting the revised estimates of poverty thresholds. This would likely address the seemingly too large number of eligible beneficiaries being identified by the current system. It is critical that an impact monitoring and evaluation be done at this stage to improve the mechanisms of identifying the beneficiaries to minimize leakages and exclusion, address loopholes in the system to avoid wastage of scarce resources, and address the supply-side deficiencies. Fernandez (2012) found NHTS-PR with monitoring and oversight mechanisms to ensure transparency, enhance credibility, and minimize fraud under the MIS of the program.

Box 6.2: Approaches by different countries for improving targeting and beneficiary selection process.

8.4.2 The Updating of the Beneficiary Registry and the Verification of the Conditionality

It is evident that beneficiary registry is very significant for the CCTs in many respects. However, there is no thoroughgoing beneficiary registries for the CCTs for education and the beneficiary registries that exist in name only are updated by the beneficiary selection committees if and when they think it necessary. Hence, there are no effective beneficiary registries and their updating system for the CCTs for education in Bangladesh. On the other hand, the verification of the conditionality is very important for the CCTs because it makes the beneficiaries conscious about their co-responsibilities and helps to keep the programs on the right track. On realizing this, Brazil has set up an effective monitoring system for the compliance of conditionality in 2006, which had not been so effective before (Soares, 2012). In addition to that, in one of the most

successful CCTs of the world, the Progres a of Mexico, approximately 18 percent of administrative costs and two percent of the total cost are used to verify if the conditions are being followed (Amaral et al, 2014). Thus, it has become an important part of the MIS in both the Bolsa Familia and the Progres a (for example, see Box 6.3).

However, in the CCTs for education in Bangladesh there is the provision of verifying the conditionalities but they are not dealt with seriously. As to the payment of benefits, the lists of eligible beneficiaries are prepared by the head teachers in most cases or SMCs in some cases on the basis of school attendance, results of the examination and other relevant criteria. AUPEOs and DMOs are to physically check it whether the criteria stated in the Stipend Operations Manual are being followed properly or not and report to their immediate higher authority accordingly. Nevertheless, as it is discussed in chapter 3, they neither visit the schools or homes regularly nor check it for correction. They do it cursorily because they lack logistic support and more importantly they are not held accountable for anything by the higher authority. Thus, the list of eligible beneficiaries goes unchecked from the first stage to the final stage for not having any effective channel of communication and verification of information.

Like PESP, the beneficiary lists of the SESP are also produced by the schools or SSCs. Though this list contains a lot of anomalies and wrong information (see chapter 3), there is no instrument to check it but to pass it to the higher authorities for approval though there is a unit of the project office at the Upazila level. In fact, in principle, principals (head teachers) and some other people almost like those of BFP are to verify the conditionalities in the CCTs for education in Bangladesh but there is no mechanism to make them effective and hold the defaulters accountable. Therefore, an MIS based monitoring system like that of Brazil can make the verification system effective and produce some good outcomes for the programs.

Since 2006, conditionality monitoring has become a successful effort in Brazil. The educational conditionality is monitored by municipal and state educational secretariats and consolidated by MEC. MDS receives the data and gives the beneficiaries feedback. The Single Registry is used to generate a list of children, indexed by their Social Information Number and school code. Then, MEC distributes this list to municipal and state education secretariats to pass them onto school principals. Principals with online access receive a login to pass the information directly to the Ministry. Schools without internet access provide the information on paper forms, which are consolidated by their education secretariats and then sent to MEC, which then consolidates the information and passes it to MDS every two months. The federal government is successfully monitoring the attendance of about 14 million 6-15 year old children. This is about 40 per cent of the 33.7 million children in Brazil.

Importance of this information lies in the fact that for further action, the MDS can come to know why the conditionality is not being met. If the reason for absence is acceptable, no action is taken. But if the reason is not acceptable or unknown, the municipal Bolsa Família agent and the family are both informed of the situation. MDS attempts to inform the family through a letter and a message displayed at the bank while withdrawing their benefit.

However, if, after the first warning, attendance continues below 85 per cent and no acceptable justification is given, two months later a second letter is sent and the benefit is temporarily blocked. When the family attempts to withdraw the money, they will get a message telling them this time that their benefit is blocked. The benefit will be paid as soon as the attendance situation is resolved, but until then it remains blocked. If the child's attendance remains low for another two months, the benefit is suspended—meaning that it will not be paid even when the situation is rectified. Finally, after one year of noncompliance the benefit is permanently cancelled and passed on to another family. Conditionality monitoring may also be built to hold service providers accountable. For example, if the children miss school because the municipal school is closed or because the teacher is not showing up, the mayor may be held accountable for this.

(Soares, 2012)

Box 6.3: Education Conditionality Monitoring in Bolsa Familia

8.4.3 The Payment System

The key feature of social protection is to “successfully distribute the correct amount of benefits to the right people at the right time and frequency whilst minimizing costs to both the program and the beneficiary” (Grosh et al., 2008, p. 156). Most of the large CCTs of the world have tried to achieve the objective by outsourcing the system to a separate payment service providers like banks or mobile phone operators having specialist technology and distribution networks (see Box 6.4). Partnerships with specialized financial service providers can minimize the fiduciary risk, ensure benefits from existing infrastructure and technology, and facilitate financial inclusion of the beneficiaries. The uses of mainstream bank accounts to deliver cash can also reduce costs. In Brazil, the move from limited purpose to mainstream accounts has reduced costs from US\$0.88 to US\$0.60 per payment while, in South Africa, the reduction has been much more significant, from US\$4.46 to US\$2.03 (Bankable Frontier Associates, 2012; Barrett and Kidd, 2015).

Regarding the payment mechanism, Bangladesh started with manual payment delivery strategy in the SESP and a card based PESP delivery through six designated national banks. However, to control corruption and leakages in the payment system, the SESP has changed the system and the stipend money is now deposited to individual bank account of the beneficiaries. Very recently, the government has decided to change the delivery mechanism of the PESP in which payment will be made to the mobile banking account of the mothers of the beneficiaries to make the delivery process reduce costs and associated risks for the demand side by ensuring service at door-steps and making it more transparent and quite free from corruption. In this regard, the Ministry of Primary and Mass Education signed an agreement with the Rupali Bank Limited and its Syorcash Service (mobile banking system of the bank) for the distribution of the stipend of the PESP in June, 2016. This will ensure the financial inclusion of the beneficiary families as the mothers will be able to make other financial transactions through the mobile bank accounts.

The state-owned mobile operator Teletalk is participating in the implementation of the program and providing mobile phone SIM cards free for the mothers who do not have mobile phone. In addition to that, it will provide TK.20 free talk time for a beneficiary every month. The necessary digital infrastructure including program software is already in place and program has gone far in the implementation process (Hossain²⁸, 2016). Thus, the problems with payment mechanism is expected to be solved to an optimum level with the use of advanced technology but the problem lies with the production of recipients list which has a link with the compliance verification system at one end and with the complaints and grievance redress system at the other end. Needless to say that, the automated execution of these operational functions is typically supported by the MIS (Barrett and KIDD, 2015). Therefore, when an MIS will be in place, the introduction of technology based delivery system will be more efficient and effective.

In recent years, some countries have made good progress in enhancing the financial inclusivity of their payment systems. Between 2009 and 2011, Brazil increased its payments through main-stream bank accounts from 2% to 15% of beneficiaries of the *Bolsa Familia* program and, in South Africa, the expansion was from 28% to 59% between 2007 and 2011. At present, 99% of payments in Brazil and all payments in South Africa are made to bank accounts. TMC is the first ever government-led cash transfer program in Haiti, reaching 75,000 mothers of school children after one year of operation and funded by the Petro Caribe Fund of the Government of Venezuela. From its start in 2012, the program transferred cash to recipients, conditional on their children's continued enrollment in school, using mobile money through mobile network operator (MNO) Digicel's TchoTcho Mobile product. Digicel was a close partner in both the design and early implementation of the payment scheme, which is led by FAES (Government of Haiti's Social and Economic Assistance Fund) within the Haitian government.

SAGE is the Government of Uganda's first major cash transfer initiative, targeting senior citizens and vulnerable families. The Expanding Social Protection agency under the Ministry of Gender, Labor, and Social Development, with funding from various international donors, designed the unconditional SAGE payment scheme with several core objectives in mind: transparency, scalability, and financial inclusion. Currently being piloted in 14 districts around Uganda from 2011 to 2015, the government led program pays recipients through the MNO MTN. Though working with MTN's Mobile Money Unit, the program does not use MTN's commercial mobile money product. Given MTN's limited network coverage in SAGE target areas, it provides either electronic or manual payments, depending on network availability. The e-payment is through a SIM-embedded card that recipients present to MTN agents to insert into portable pay phones.

Source: Barrett and Kidd (2015) ; Bankable Frontier Associates (2014)

Box 6.4: Examples of using technology for payment

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Source: Barrett and Kidd (2015) ; Bankable Frontier Associates (2014)

8.4.4 Grievance Redress System (GRS)

Accountability mechanisms are critical for making CCTs successful. As a part of the accountability, the GRS is not only important for ensuring the right amount of money paid to right people regularly but also for the identification of systemic weaknesses which could undermine a program's reputation. Different countries have developed different mechanisms to address the complaints and grievances (see Box 6.5) but they are not without challenges. Management by independent authority can be expensive and inaccessible whereas management by the program implementing agencies is over-burdening for them. With a high exclusion error and weak administrative structure, sometimes it is highly challenging to deal with the matters as it happened in Nicaragua, "Informants protested vehemently that the sanctions had been unjust, the result of lying or errors on the part of teachers, or of refusal to acknowledge medical excuse letters (*constancias médicas*). For example, a beneficiary from La Gloria complained: 'One time I lost my benefits because of the teacher. He marked my daughter Erica as if she had been absent three times...it's true that she didn't go to class, but I gave him a medical excuse letter that said that she hadn't been to class because she was sick. That time he just reported that she didn't go to class and that was a lie.'" (Kidd and Calder, 2011)

Grievance Redress mechanism varies significantly in different countries. In South Africa, appellants can lodge a final appeal with the Department for Social Development, a separate legal entity to the South African Social Security Agency (SASSA). In Argentina, the *Jefes y Jefas* unemployment program established an independent ombudsman in addition to the Ministry of Labour's Complaints Commission. A conditional cash transfer program in Turkey established provincial-level Boards of Trustees to provide independent oversight and deal with complaints and appeals. Membership includes locally elected representatives, provincial social service directors, NGOs and police.

In Uganda, where payment service providers and their local contractors lack the capacity to manage reliable complaints procedures, local government offices are largely inaccessible to the rural people, and no independent agency exists with the capacity to receive individual complaints about the delivery of social services – the Social Assistance Grant for Empowerment program (SAGE) has developed a grievance strategy based on:

- A robust complaint submission procedure at pay points managed by SAGE staff.
- Strong payment monitoring mechanisms linked to incentives and liquidated damages provisions in the payment service provider's contract.
- A proactive audit function, which investigates dubious transactions on beneficiary accounts.
- Structured engagement with local elected officials who are often the first port of call for aggrieved members of the public. [Source: Barrett and Kidd (2015)]

Box 6.5: Examples of the Grievance Redress mechanisms in different countries

With the perceivable reality Kenya's CT-OVC program decided not to operationalize its grievance mechanism (Ward *et al.* 2010 cited in Barrett and Kidd, 2015) and Bolsa Familia of Brazil or the 4Ps of the Philippines have introduced ICT based grievance redress system where clients services for the beneficiaries are provided through a point of contact where they can communicate through email, telephone or online forms in the BFP and The GRS design of the 4Ps, as a module of the MIS of the program, features a grievance database which tracks the nature, origin, location, and status of complaints such as targeting errors, payment irregularities, fraud, and corruption. The GRS developed an application that is currently being tested by the regions. The Pantawid Pamilya NPMO has set up complaint reporting mechanisms, including Text Hotline using the DSWD SMS platform, email, Facebook, GoogleSite, and Twitter (Fernandez and Olfindo, 2011). Since the CCTs for education of Bangladesh have also the problems of inclusion and exclusion errors, administrative weakness and overburdening responsibilities for the staff and the existing GRS is not effective on the one hand (see chapter 3 for detail) and on the other hand the management system is on the way to be digitalized in due course, it would be better for Bangladesh to introduce the GRS system as a part of the MIS like that of the 4Ps or the client services for the beneficiaries as it is in the BFP.

8.4.5 Institutional Arrangement

The institutional arrangement for the CCTs for education in Bangladesh has a seemingly good structure but a number of

problems occur when it is compared with that of other countries. Firstly, the manpower is insufficient and there is no specialized staff or agency like that in South Africa and Brazil. Then, the level of coordination is quite disappointing. Therefore, to improve the present situation, the problems have to be addressed while introducing a new system. In some countries, the involvement of the local government (LG) with the core responsibilities have been devised out as the possible solution but as the case of Uzbekistan suggests (see Box. 6.6), it is not feasible in the country where the local governments does not have sufficient manpower and infrastructural facilities as with that of Bangladesh (Chowdhury and Deb, 2012).

Moreover, the LGs of Bangladesh are already involved in a good number of SSNPs except the CCTs for education where the personnel are found to be corrupted (Hassan et al, 2013). Barrett and Kidd (2015) observes that separating service delivery from policy functions enhances accountability in service delivery, facilitates result oriented organizational systems like IT and HR systems to ensure delivery performance, and enables the recruitment of the people with specialized skills like MIS management, not readily available in the civil service . The study also mentions South Africa as an example that has built a specialized service delivery system. While the Ministry of Social Development is responsible for the social protection system and policy in general, the actual delivery of schemes is passed on to a semi-autonomous South African Social Security Agency (SASSA). Professional staff have been appointed at all positions of the SASSA including the local offices which deal with the applicants and beneficiaries. Under NSSS, Bangladesh has planned to restructure the institutional arrangement with necessary components to strengthen the service delivery system having a coordinating agency (see Box 6.1). Therefore, the new institutional arrangement can facilitate the establishment of an MIS for the CCTs for education.

Box 6.6: Challenges of implementing social transfers through Local Governments with weak management capacity: A case study from Uzbekistan

In the early 1990s, following independence from the Soviet Union, Uzbekistan took the decision to give responsibility for the local level implementation of its child benefits to the lowest level of local government – the Mahallas – instead of the Ministry of Labour and Social Security (MoLSS). This was a sensible decision given the challenges faced by the state during the early years of independence. At present, though the MoLSS provides oversight and supervision of Mahallas from its local offices, Mahalla officials are responsible for core processes, such as the selection and registration of recipients. However, UNICEF (2012) reports that Mahallas do not have enough time to manage their work (30 tasks at community level). Therefore, their involvement in implementation can slow down processes. (17% of households claim to have experienced delays in payments of up to 3 months on an average). Moreover, many Mahallas do not have sufficient resources such as stationary, computers, photocopiers, reliable electricity to carry out their tasks. Mahallas are meant to visit house-holds before allowing them on to a child benefit, but some are unable to do these visits for the lack of transport, money for incidentals and available time. As one advisor to a Mahalla Committee chairman reported: “It does not matter whether we want or do not want, we have nothing left but to break the rules” (UNICEF 2009). This absence of resources appears to have resulted in some Mahallas retaining a proportion of each allowance to cover the cost of their administration (UNICEF 2012).

[Reproduced from Barrett and Kidd (2015)]

8.4.6 Monitoring and Evaluation

While monitoring and evaluations have become very important for improving the efficiency and effectiveness of the programs by ensuring accountability and evidence-based decision making for the CCTs of different well-performing countries like Brazil, Mexico and the Philippines, the system is yet to be effectual in the CCTs for education in Bangladesh. Since generation of monitoring data is important for making the system effectual, day-to-day operational management information and regular business process re-engineering is necessary for this. According to Barrett and Kidd (2015), it can be systematized through regular structured operations, coordination mechanisms, action-oriented reporting, schedules for support and supervision, check-list-based quality assurance, and internal and external audit. Moreover, programs need the flexibility and power to implement timely changes to business processes while undertaking periodic program-specific reviews. Furthermore, post-payment beneficiary feedback systems, such as those used in the Ugandan SAGE scheme, can be of particular use to generate monitoring data to help operational and strategic decision-making. Many countries are utilizing new technology based advanced MISs for more efficient management and more effective monitoring (see Box 6.6).

South Africa has an advanced MIS that enables data to be entered at local levels and immediately transmitted to its Social Security Agency. South Africa has a range of schemes but the MISs can communicate with each other, as well as with the tax record system (Chirchir and Kidd, 2011). Therefore, the performance of schemes can be monitored and fraud can be minimized. However, a number of low income countries are introducing advanced MISs and taking advantage of mobile phone networks to transmit information from local communities and districts to national offices. Kenya has recently developed an integrated national MIS that uses common software across the MISs of each of its social protection schemes and provides monitoring data to a central social protection Secretariat located in its Ministry of Labor, Social Security and Social Services. The MISs are web-based and data can be accessed and entered at local level, although stringent security protocols are in place to ensure data protection. [Reproduced from Barrett and Kidd (2015)]

Box 6.7: Examples of MISs based monitoring in the developing countries

It is evident from the literature that the CCTs for education in Bangladesh are missing a number of the above-mentioned mechanisms for monitoring and evaluations. Therefore, an MIS based monitoring and evaluation system can be the most practicable one to bring an effective monitoring and evaluation system in place to improve the effectiveness of the programs. The establishment of an MIS for this purpose is also one of the most important points of the present study.

8.4.7 Minimization of particular problems with the program variables through MIS

All the improvable aspects in the current management system of the CCTs for Education in Bangladesh as mentioned above are likely to improve through a digital MIS since it is evident from the above discussion that the MIS management factors have the capacity to address the problems specifically by using MIS tools (as shown in Table 2.3). Table 6.2 shows the problem minimization approach of the MIS for the CCTs as to the variables affecting the programs' effectiveness.

Table 6.2: Minimization of problems by the MIS for the CCTs for Education

Variables	Problem-generating aspects	Problems minimization process of the MIS
Targeting and Beneficiary selection	-No central beneficiary registry -Information hiding -Information distortion -Information unverified	-Linking the process with the central database and survey data -Ensuring data security and cross-checking of information
Compliance verification and Registry Update	-Irregular and manipulated compliance reports -Lack of manpower for auditing	Ensuring regular compliance reports and technology-based monitoring and verification system
Payment system	-Manipulation of the recipients' list and inaccurate payment -Lack of records -Inconvenient delivery system -Non-integrated monitoring	-Ensuring automated execution of the operational functions -Facilitating technology-based delivery system -Providing for real-time monitoring

Grievance Redress System	-Complicated complaint reporting mechanism - No mechanism for quick response - No feedback system	- Having, for example, technology-based complaint reporting mechanism -Ensuring feedback and quick response system
Institutional arrangement	-Confusing roles and responsibilities -Lack of coordination -Lack of enforcement	Providing support for addressing the problems through transparent management and free flow of information
Monitoring and Evaluation	-Lack of reporting -Lack of transparency -Lack of accountability -Uninformed decision making	-Having necessary tools for reporting and monitoring omissions -Making day-to-day operational management information available

Source: Author

8.5 Challenges and Advantages for implementing an MIS for the CCTs for Education in Bangladesh

From the discussions in the previous chapters of the study, it is evident that there are a number of challenges to overcome in the way to implement an MIS for the CCTs for education in Bangladesh. Though the electronic equipment is being provided for the education institutions, the assurance of the supply of electricity in the educational institutions which is at present around 85% on an average with only about 69% in the government primary schools (see Table 6.2) and internet connectivity which is now around 73% on an average with only about 21% in the government primary schools (see Table 6.3) still remains a big question.

Ensuring sufficient skilled manpower is another important issue to address (around 61% Junior Secondary and Secondary Schools have one computer teacher each who may help to perform the function of data entry as much as it is related to the school for the system but no such arrangement for the Primary Schools yet). This is because MISs ultimately depend on the quality of the staff engaged with the system to fulfill all the necessary roles from data capture and data entry to system supervision and management. Therefore, having the required number of manpower also needs broader capacity building through MIS training. Though recruiting new manpower for the programs poses a question of financial capacity, the digital system of management requires fewer staff than that of a paper-based one.

Furthermore, providing electronic equipment like computers is not everything for MIS, ensuring quality hardware and suitable program software is highly important as a digital MIS cannot be implemented without them. Besides these, security should be built into the design of the social protection MIS systems for safeguarding the confidentiality and integrity of information; protecting information from theft, abuse and any form of damage; and establishing responsibilities and accountability for information security by setting up clearly defined roles in the management of resources (Chirchir and Kidd, 2011).

Moreover, though the government has realized the importance of the Single Registry and planned it to be in place by 2018, no progress about the initiative is yet visible.

More importantly, the government has planned to include the private sectors and the NGOs along with the development partners in the financing efforts for implementing National Social Security Framework; but no information about the initiative is available yet.

Table 6.2: Number of Institutions having Electricity Connection

Type of School	Management	No. of Institution (surveyed)	Institutions having electricity connections	
			No.	%
Junior Secondary School	Private	2394	1264	52.80
	Total	2394	1264	52.80
Secondary School	Private	16102	14427	89.60
	Public	322	320	99.38
	Total	16424	14747	89.79
School and College, School section	Private	997	981	98.40
	Public	11	11	100
	Total	1008	992	98.41
Govt. Primary School	Public	471	326	69.21
All	Private	19493	16672	85.53
	Public	804	657	81.72
	Total	20297	17329	85.38

Source: BANBEIS, 2016

Table 6.3: Institutions having Internet Facility

Type of School	No. of Institution (surveyed)	Institutions having Internet Facility	
		No.	%
Junior Secondary School	2394	594	24.81
Secondary School	16424	13153	80.08
School and College, school section	1008	965	95.73
Govt. Primary School	471	100	21.23
All	20297	14812	72.98

Source: BANBEIS, 2016

Though there are a number of challenges to overcome, some advantages are also there at the same time. Along with the fast promotion of technology, the use of internet in the public sector and at the individual level is increasing rapidly. Then, in spite of having insufficient electricity supply and heavy load shedding particularly in the summer, solar power can solve the problem of power to a great extent (Hossain et al, 2017). In the meantime, about 18% of the secondary and primary schools have started using solar panel as the source of power (see Table 6.4).

Table 6.5: Number of Institutions Having Solar Panel

Type of School	Number of Institution (surveyed)	Institution Having Solar Panel	
		Number	%
Junior Secondary School	2394	277	11.57
Secondary School	16424	3243	19.75
School and College (School section)	1008	196	19.44
Govt. Primary School	471	75	15.92
All	20297	3791	18.68

Source: BANBEIS, 2016

After that, though no progress of the Single Registry has officially been reported yet, the creation of NHD is underway (BBS, 2016) and The HIES which is the major source of socio-economic information at the household level in Bangladesh is being conducted on a regular basis since

1972/73 (HIES,2010 published in 2011 is the latest). It provides valuable data on household expenditure, income, consumption, savings, housing conditions, education, employment, health, sanitation, water supply, electricity usage, etc.

GoB regards the HIES as a major guide for policy decisions. It provides information that allows the GoB to enhance evidence-based policies, and enables better results-based monitoring of the five-year planning process. Finally, the formulation of the NSSS and the framework under it is a good indicator of comprehensive efforts for improving the effectiveness of the social safety net programs and the CCTs by utilizing the modern technology and multiple financial sources. All these set a ground for developing an outline of an MIS for improving the effectiveness of the CCTs for education which is the main objective of the present study.

8.6 An Outline of the MIS for the CCTs for Education

The main problem with the current management system of the PESP and SESP identified in the present study so far is that the flow of information from the center to the local is basically one way and there is hardly any supporting system for the verification of the information. In addition to that, as there is no mechanism of instant and direct access to the individual database or information of different implementing agencies and authorities, reporting has become impractical and monitoring and evaluation is neither timely nor effective. Moreover, there are neither any specialized or independent evaluation agencies nor the involvement of the beneficiaries in the monitoring and evaluation system (see Figure 6.2). The weak institutional arrangement and the lack of manpower have been added to them.

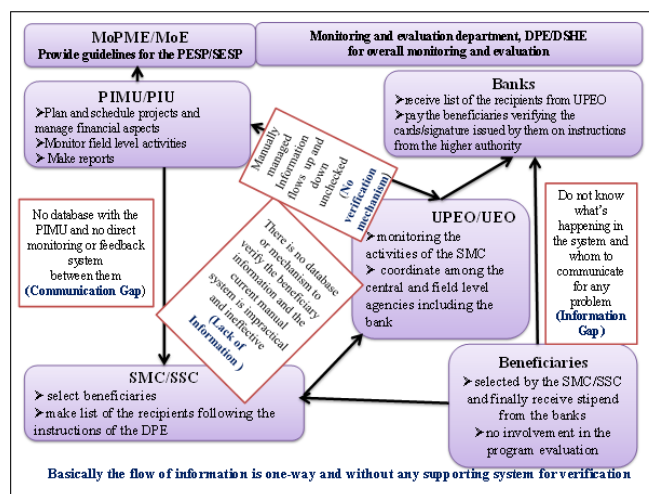


Figure 6.2: Agencies involved and their roles and link in the current management system

Source: Author

However, in line with the international experiences analyzed in the study, the future plan of the GoB enunciated in the NSSS, and the overall socio-economic and socio-political conditions of the country, the present study intends to outline an MIS based management system for the PESP and the SESP collectively (see Figure 6.3) to address the problems with the agencies involved and their roles and link in the current management system. In the proposed system,

MoPME will play the role of overall coordination and management. DPE under MoPME and DSHE under MoE will have the responsibility of the central monitoring and evaluation, and the flow of information from the center to the local will be two-way and there will be a supporting system for the verification of the information. Moreover,

there will be some specialized or independent evaluation agencies and the involvement of the beneficiaries in the monitoring and evaluation system will be ensured. The institutional arrangement and capacity will also be strengthened.

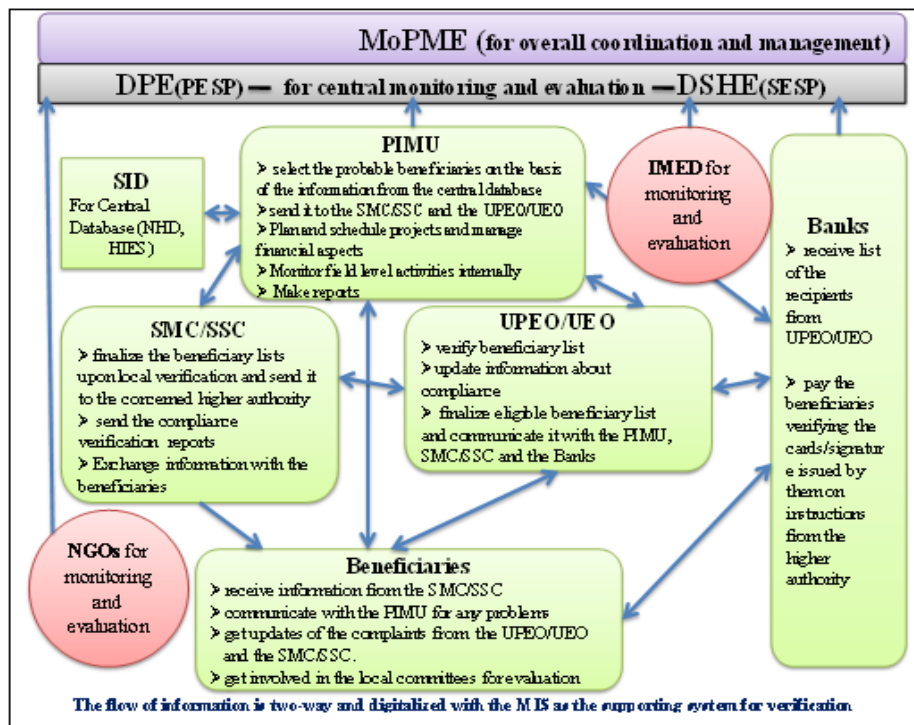


Figure 6.3: Agencies involved and their roles and link in the proposed Outline of the MIS

Source: Author

Most importantly, the PIMU and the UPEOs/UEOs have to be strengthened enough with necessary infrastructure and manpower to play the most important role for both the PESP and SESP. PIMU will select the beneficiaries primarily on the basis of the central database developed, updated and managed by the SID. Then it will provide the probable beneficiary lists to the SMC/SSC for local verification. It will also communicate the same information with the other line offices under its supervision, particularly the UPEOs/UEOs. Next, after local verification, the SMC/SSC will finalize the beneficiary lists and send it to the UPEOs/UEOs. On receiving the final list the UPEOs/UEOs will verify whether any change occurs in the lists sent by the PIMU. If they find any change, they will communicate with the SMC/SSC and settle the issue after proper investigation and inform the PIMU about the matter with sufficient evidence.

After that, with the consent of the PIMU, the UPEOs/UEOs will finalize the beneficiary lists and communicate them with the relevant educational institutions which will be responsible for regular compliance reports. The lists will be uploaded on the websites of the Ministry, Directorates, PIMU and the UPEOs/UEOs for making the information available for the beneficiaries and other stakeholders. The UPEOs/UEOs will send the compliance reports to the higher line authorities including the PIMU regularly as they receive it from the educational institutions. Sometimes, the UPEOs/UEOs and also the DMOs will visit the institutions to check whether the compliance reports sent by the

educational institutions are authentic or not. On the basis of the compliance reports, the UPEOs/UEOs will prepare the lists of the eligible beneficiaries for payment and it will also be displayed on the websites. If any person has anything to complain about beneficiary selection, eligible beneficiary lists or any fraud or corruption, he/she will make a complaint with the PIMU through email, mobile SMS or phone call. When PIMU will receive such complaints, they will deal with them through the UPEOs/UEOs and the SMCs/SSCs and inform the complainants after addressing the complaints accordingly. Lastly, the final lists of the eligible beneficiaries will be sent to the designated bank and to the PIMU.

When financial issues will be accomplished and fund will be released, the banks will provide the stipends to the beneficiaries and report it to the relevant higher authorities. In the whole process, the flow of information will be two-way which will be supported by the digitalized MIS. It will ensure an easy access to the program's information for all the stakeholders.

For effective monitoring and evaluation, the IMED³¹ and the NGOs will be assigned with particular roles for monitoring and evaluation side by side with the internal monitoring by PIMU. In addition to that, side by side with the SMC, there will be a local committee consisting of the beneficiary guardians for every eligible school for evaluating the overall performance and service delivery at the local level. All of them will report regularly to the central monitoring and

evaluation authorities. Finally, the MoPME as the overall coordination and management authority will take evidence-based decisions for making further improvements and redesigning the programs.

8.7 Conclusion

This chapter has set up the most important objective of the study. In this chapter, basically the outline of an MIS for the CCTs for education has been developed in line with the future plans of the government regarding the social security programs following the international experiences. The roles and responsibilities of the implementing agencies at every stage have been discussed in detail. How the existing problems with the CCTs for education can be addressed through an MIS has been discussed categorically with reference to the similar cases of other countries having implemented MIS for the CCTs and the current context of Bangladesh in the earlier part of this chapter. Thus, the findings have been brought together in this chapter to achieve the objectives carried out through the research and to make corroborated recommendations in the next chapter.

9 Conclusion and Recommendations

9.1 Introduction

As a final point, this chapter will present a brief snapshot of everything discussed throughout the research in line with the research objectives and research questions. More importantly, for policy implications, it will concentrate on making recommendations derived from what has been pursued and perceived in the study. Concurrently, a set of recommendations have been proposed on the basis of the research findings from the analyses of the present management system of the CCTs for education in Bangladesh, three different case studies on the CCTs in Brazil, Chile and Indonesia and the documents of many other similar programs around the world dealing with the MIS for the CCTs. Prior to drawing conclusions, suggestions for further research have been made by the author in consideration of the limitations of the present study.

9.2 Summary of the Research

The main objective of the present study is to suggest an outline of MIS for the management of the CCTs for education in Bangladesh. To achieve that objective, the study deals with four research sub-questions. i) What are the management criteria on which the effectiveness of the CCTs depend? ii) What are the present conditions of the criteria in the CCTs for education – PESP and SESP of Bangladesh? iii) What can the MIS do in the management of the CCTs like PESP and SESP? iv) How can the MIS be utilized to improve the effectiveness of the CCTs for education in Bangladesh? From the main research objective, it can be assumed that suggesting an outline of the MIS for the CCTs for education requires the author to know five important factors. The first one is the criteria of making CCTs effective, the second is the existing management system of the CCTs, the third is how an MIS can play an important role to make the management of the CCTs efficient and effective, the fourth is to know whether it is possible to

establish an MIS in the current context of Bangladesh and the final is how the CCTs for education can be managed through an MIS if it is possible to establish.

From the existing available literature, the best criteria for the effectiveness of the CCTs have been identified in chapter 2. In chapter 3, the author has tried to make a thorough analysis of the existing management system of the CCTs for education. For the study, it has been important to know whether the MIS can improve the management of the CCTs or not. Therefore, this point has been pursued in chapter 4 through different case studies. More importantly, the study requires knowing the country context to establish an MIS for suggesting an outline of the MIS for the management of the CCTs for education. That's why, the author has discussed this point in detail in chapter 5. Then, based on the important points of all the previous discussions and comparing the experiences of other countries categorically with different criteria required for the improvement of the CCTs through MIS, an outline of the MIS for the CCTs for education has been developed in chapter 6.

9.2.1 Criteria for Making the CCTs Effective

(Answer to the research sub-question 1)

The most important and common criteria for making the CCTs efficient and effective have been identified along with the success factors of a social protection MIS in chapter 2 after an overview of the CCTs with their past and present performance related aspects. Different authors and different cases have shown different criteria for making the CCTs effective in general and through MIS in particular. Among them, the most common criteria for making the CCTs effective are targeting and beneficiary selection, updating of the beneficiary registry and compliance verification system, institutional arrangement and administration, payment system, grievance redress system and monitoring and evaluation. And the most common criteria for the successful implementation of an MIS for the CCTs are political will, technology, flexibility and simplicity in the system, staffing, administrative structure, financing and accountability. It is evident in literature that if and when these criteria remain present in the system, the CCTs can be efficient and effective through MIS. Based on these criteria, the existing management system of the CCTs for education in Bangladesh has been evaluated in chapter 3 and the country context has been scrutinized in chapter 5.

9.2.2 Existing Management System of the CCTs for Education in Bangladesh

(Answer to the sub-question 2)

Chapter 3 describes that Bangladesh has been operating the CCTs for education since the early 1990s and the programs have made significant achievements, most remarkably in school enrollment and elimination of the gender gap but the results have not been satisfactory. However, different studies show that the CCTs for education have almost all the criteria like the CCTs of other countries but they are not functional and efficient enough to bring the expected results.

As to the targeting and beneficiary selection, the CCTs for education have adapted different targeting methods over the years and assigned the local committees (consisting of the head teachers of the educational institutions, members of the

management committee and important persons of the locality but not the local government) with the responsibility of beneficiary selection since the inception of the programs. Though there are some particular guidelines and instruction for selecting beneficiaries, literature has shown that they are not followed properly by the committees and the selection process succumbs to negligence and corruption where information gets hid and distorted, and remains unverified by the people concerned in the selection process. Regarding the update of the beneficiary registry and compliance verification system, as there is no thorough program beneficiary registry for the CCTs for education and the beneficiary registry that exists in name only is updated by the selection committees. Therefore, the registry is updated at the will of the committees if and when they think it necessary. The compliance verification is done by the educational institutions themselves similar to programs of other countries but unlike those in other countries there is no actual monitoring by the higher authorities which makes it vulnerable to the distortion of information and adoption to corruption. About the institutional arrangement and administration, there are agencies for policy support, approval and disbursement of budget, beneficiary selection and updating beneficiary registry, grievance redress, and for other implementing issues including monitoring and evaluation for both PESP and SESP.

Despite that, the overall arrangement and administration faces lack of manpower and a number of other problems like poor capacity, practice of irregular and manipulated reporting, absence of mechanism for monitoring and oversight, lack of coordination, no comprehensive source of information and auditing mechanism, etc. All these cause a huge communication and information gap in the management resulting in the poor performance of the programs and leaving little space for the improvement of the programs.

Though there occur some irregularities in the payment system of the CCTs for education towards the beginning of the programs, currently the systems have been made much reliable and effective in line with the programs of other countries but the problem lies with the disbursement of the payment and the lists of the eligible beneficiaries. For the absence of useful grievance redress system and for weak monitoring of the compliance verification system along with the delay in the disbursement of the payment, sometimes payments are not made to the right people at the right time. The grievance redress system in the CCTs for education is ineffective. In the PESP, as Tietjen (2003) found during the survey period of the study, the central monitoring and evaluation office had received only six complaints about the inflation of the enrollment and improper distribution of the stipend which were in the process of investigation. Here again, the information gap is clear because the beneficiaries lack awareness about the process and the authorities have no mechanism for quick response.

About the monitoring and evaluation system of the programs, though there is some entity to monitor and evaluate the programs in black and white, the literature suggests that it is not necessarily systematic and institutionalized. Both the reporting and the evaluation

systems are ineffective because there is hardly any accountability mechanism and mechanism for monitoring and oversight in comparison with that of other countries as these are in Brazil, Mexico and the Philippines where all the stakeholders can have an instant and easy access to the necessary information of the program through an effective MIS.

9.2.3 MIS for Improving the Effectiveness of the CCTs: Case Studies and the Lessons Learned (*Answer to the sub-question 3*)

Three cases from Brazil, Chile and Indonesia have been analyzed in chapter 4. Of them, the case of Brazil presents a paradigm shift from the less effective programs to more effective ones through the adaptation of an ICT-based management system led by a digital MIS having a comprehensive beneficiary database. The other two cases have described the way MIS and IMIS can be used for the CCTs and what the positive aspects and the inherent challenges they have. The lessons learned from the case studies have guided the author to formulate an outline of the MIS in detail for the CCTs for education in Bangladesh and to make some corroborated recommendations.

9.2.4 Looking into the Country Context and Developing an Outline of the MIS for the CCTs for Education (*Answer to the sub-question 4*)

From the detailed study of the current management system for the CCTs for education in Bangladesh in chapter 3 and an analysis of the country context juxtaposing the relevant issues with those of other countries implementing the MIS for the CCTs in chapter 5, it is found that the management of the CCTs for education in Bangladesh are not efficient and functional enough to improve the effectiveness of the programs as per the expectation of all the stakeholders and there are some aspects which can be improved through a digital MIS based management system as the international experiences suggest.

Moreover, the current context of Bangladesh is viable enough to establish a digital MIS for the CCTs for education if the identified challenges can be overcome. Considering these points and other socio-economic and socio-political conditions along with the subsequent lessons learned from the case studies, an outline of the MIS for the CCTs for education has been developed in chapter 6. It can be expected that if the management of the CCTs for education is run on the basis of the suggested outline of MIS, the effectiveness of both the PESP and the SESP will obviously be improved.

9.3 Recommendations

It is evident from the study that an MIS has the ability to improve the efficiency and effectiveness of the CCTs for education with respect to all the yardsticks of the programs' success. Accordingly, an outline of an MIS has also been developed. However, having an MIS in place for the programs is not something abstract. It has to be had practically. Therefore, the present study makes some recommendations based on the research findings. The study proposes two kinds of recommendations for the policy makers. They are-

- 1) General recommendations
- 2) Specific recommendations

9.3.1 General Recommendations

Based on the analyses of the current management system of the CCTs for education along with the country context of Bangladesh and the lessons learned from the case studies and other relevant literature discussed therewith, the present study has the following recommendations that can be applicable for any CCTs of Bangladesh.

1) Formulation of the Policy and Guidelines

For making the CCTs a success, the program guidelines and operation manuals should be formulated and updated to make them compatible with changing socio-economic conditions of the country and a new policy should be adopted for formal coordination among the implementing agencies.

2) Developing Beneficiary Database and the Single Registry

Developing Beneficiary Database and the Single Registry is a must to implement an MIS efficiently for improving the effectiveness of the CCTs. Therefore, there should be a strong and updated beneficiary database and a mechanism to cross-check the data under the MIS if it wants to operate the CCTs to achieve the desired objectives.

3) Coordination among the Implementing Agencies and with other Parties

The government should take necessary steps to ensure an effective coordination among the implementing agencies for the smooth management of the system. On top of that, successful coordination among different government departments, development partners and other stakeholders must be ensured for making the MIS based management system happen. For this, a strong coordination body has to be in place for the overall system.

4) Ensuring Technological Infrastructure and Sufficient Skilled Manpower

High quality program software followed by the necessary hardware must be ensured for implementing MIS for the CCTs because a digital MIS cannot exist without them. Therefore, the development of software can be outsourced by technical expertise. Since MISs ultimately depend on the quality of the staff engaged with the system to fulfill all the necessary roles from data capture and data entry to system supervision and management. Therefore, having sufficient manpower also needs broader capacity building through MIS training.

5) Ensuring the Security of the MIS

Necessary measures have to be taken to safeguard the confidentiality and integrity of information, to protect the information from theft, abuse and any form of damage, and to establish responsibilities and accountability for information security for the MIS.

6) Uninterrupted power and Internet Connectivity

Though some functions of the MIS can be done offline, it cannot be implemented fully without power supply and internet connection. Therefore, the source of power with uninterrupted internet connectivity has to be ensured for the smooth implementation of the MIS.

7) Monitoring and Accountability Mechanism

Since CCTs can hardly be effective and produce expected outcomes without proper monitoring and accountability mechanism, both the internal and the external monitoring and oversight mechanism must be developed and accountability has to be ensured in the management system.

8) Reporting and Evaluation

Steps must be taken for proper and timely reporting along with regular program evaluation for making evidence based decisions. Both the internal and external reports should be dealt with seriously for the improvement of the programs. Even the overall coordinating agency can use information from an MIS to report to policy makers.

9) Access to the Program Information

With necessary security, access to the program information has to be ensured for all the stakeholders. It will increase the transparency, reliability and accountability in the whole system. MIS can be used as a very effective mechanism for ensuring the availability of information to all concerned.

9.3.2 Specific Recommendations

The general recommendations made under the study lead to some specific recommendations for implementing the proposed MIS for the CCTs for education in line with the MIS outline sketched by the author in chapter 6 and the government plans to improve the effectiveness of the SSNPs. Table 7.1 presents some specific recommendations for the purpose.

Table 7.1: Specific recommendations of the study

Themes	Recommendations	Actions to be taken	By whom
Formulation of Policy and Guidelines	New policies and guidelines must be formulated and updated to match with the current socio-economic condition and strengthen coordination among the implementing agencies	Formulating compatible program guidelines, adopting new policies for formal coordination among the existing implementing agencies and the new agencies needed for implementing the MIS	MoPME, MoE, ICT Division, IMED, SID, Banks, NGOs
Developing Beneficiary Database and the Single Registry	Program-specific beneficiary database and a Single Registry must be developed to make program-specific MIS first and then the integrated MIS.	Conducting HIES on a regular basis, development of the NHD and the Single Registry in the stipulated time, development of program specific database	SID, MoPME, MoE
Technological infrastructure and Technical Support	Infrastructural and technical support must be ensured for all the implementing	Providing computers, developing common application	MoPME, MoE and ICT Division

	agencies.	software for use in the MIS	
Power Supply and Internet Connectivity	Power supply and internet connectivity have to be ensured to make MIS functional.	Providing power connection or setting up solar panels and setting up LAN and WAN	MPEMR and ICT Division
Necessary Human Resource	Sufficient number of staff has to be placed or employed to fulfill all the roles in the MIS.	Recruiting new staff and reassigning the existing human resource	MoPME, MoE and ICT Division
Capacity Building	Necessary management training, the MIS training in particular must be ensured for the staff.	Contracting local information technology company, specialized IT institutions or broader government IT services	MoPME, MoE and ICT Division
Security of the MIS	All the security elements of the MIS should be in place.	Formulating security guidelines, providing security training and ensuring backup and recovery procedures	ICT Division
Monitoring and Evaluation	Proper monitoring and evaluation mechanism has to be established	Allowing the monitoring agencies timely access to the programs' information at all levels, and introducing internal and external evaluation system	MoPME, MoE, PIMU, IMED, NGOs
Overall Coordination	Overall coordination must be ensured for taking evidence based decisions.	Regular communication with the concerned agencies and reporting to the policy makers	MoPME

Source: Author

9.4 Limitations of the Study

The study is mainly based on the analyses of various types of documents related to social safety net programs; the conditional cash transfer programs in particular. They cover policy documents, program documents, circulars, research articles, case studies and safety net related data from government and other sources. As documents or data of this kind might have their own objectives or intentions and also have some error level, they are likely to indicate the limitations in this study so far as the reliability and validity of the data are concerned. Though attempts have been made to keep these limitations within reliable level by a combination of cross checking of different documents of the same nature, they cannot be

eliminated totally. Lack of survey data is another shortcoming of this study. However, this study is rich in an in-depth content analysis of the available secondary sources.

9.5 Suggestion for Further Research

The present study is mainly based on the literature review, document analysis and analysis of some case studies from different countries. The main focus of the study is the management of the CCTs for education in Bangladesh through a digital MIIS. Therefore, the study revolves around two dependent variables. Firstly, the study considers programs' effectiveness as a dependent variable and evaluates it based on six independent variables (i.e., Targeting and Beneficiary selection, Updating of the Beneficiary Registry and Compliance Verification System, Institutional Arrangements and Administration, Payment System and Monitoring and Evaluation) which can be impacted by an MIS as mentioned earlier in this chapter. Secondly, the successful implementation of an MIS for the CCTs as another dependent variable of the study has been weighed up on the basis of eight independent variables (i.e., Political Will, Technology, Flexible Incremental System, Simplicity, Staffing, Administrative Structure, Financing and Accountability) which can make the implementation of a digital MIS a success. However, there might be some other independent variables unexamined in the study which may affect the effectiveness of the CCTs or the successful implementation of the MIS.

For example, the role of the community and the involvement of the local government, sustainable financing and technological support, the more inclusive and wider role of the banks in the CCTs, etc. They can be considered in future studies. Also, research can be conducted in the similar field in Bangladesh with very recent primary data for acquiring more practical insights of the subjects left or dealt with in this study.

9.6 Conclusion

The implementation of a digital MIS can be considered an important stride in improving the efficiency of the management system of the CCTs for education in Bangladesh. As the MIS can play a significant role in increasing the effectiveness of the programs, it makes a way forward in achieving their ultimate goals. However, though GoB has different strategies and plans for improving the effectiveness of the SSNPs as a whole, it does not have any specific strategy for the CCTs for education. On top of that, though the government has mentioned its plan to make program-specific digital MISs, the idea of establishing a digital MIS for the management of CCTs is not yet homegrown. Therefore, there is no internalization of this approach in the management of the SSNPs in Bangladesh.

Although most of the independent variables indicative of the effectiveness are somehow present in the current management system of the CCTs for education, they are not functional to an optimum level for the inefficiency of the system. Therefore, the present study has suggested an outline of MIS for the management of the CCTs for education where the roles and responsibilities of different implementing agencies have been determined and explained

in detail so that they can work efficiently as complementary partners of each other. Hence, the implementation of the proposed outline of MIS is expected to increase the efficiency of the management system and improve the effectiveness of the programs. Finally, it is conceived that the improved effectiveness of the CCTs for education is likely to have a positive impact on the management of other SSNPs and the implementation of the MIS for the CCTs for education in a developing country like Bangladesh can become a model for other countries as well.

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11 Dedication

To my parents who are the sources of my existence and constant inspiration on the earth

Khawas Fakir and Mst. Sofura Khatun

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