The Impact of Private Sector Investment in Rural Bangladesh: A Comparative Analysis of Two Sub-districts

By

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A thesis submitted to the Department of Economics and Social Sciences in partial fulfillment of the requirements for the degree of Master of Science in Applied Economics

Department of Economics and Social Sciences
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Declaration

It is hereby declared that

1. The thesis submitted is my own original work while completing degree at Brac University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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Abstract

In recent years investment in urban areas have been increasing, but this is not the case for rural areas. This thesis studies the impact of private investment on rural areas of Bangladesh. It firstly gives the reader a theoretical insight on topics of development, and then later on highlights what other researchers have observed empirically. Afterwards, it reports existing literature of the two chosen sub-districts, and puts forward a case study presenting the favorable turn of events that have occurred in the sub-district receiving investment. From there, it assesses the socio-economic standing of each sub-district using five development indicators. Further, it develops a concept denoted as the concept of “holistic investment”, where a complete investment package has been detailed. This thesis concludes with the notion that private investment in rural areas can be profitable and instrumental at the same time.

Keywords: Private investment; Socio-economic; Development indicators; Holistic investment

Dedication

For my father, who has been and always will be my source of strength and inspiration.

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Chapter 1

Introduction

Bangladesh has had a strong and steady GDP growth over the years, yet large chunks of the population live in poverty and dire living conditions. It has also been observed that over the years investment in rural areas is quite limited, and it is because of this reason the government plays the investor role for the development of rural areas. However, this traditional way of investment has not proved to be the most effective.

This thesis examines to what extent can private investment help develop rural areas in Bangladesh. First of all, this study briefly looks into a few major theoretical aspects that indicate the position of a country or region in terms of growth and development. Next, it examines what other researchers and academicians have had to say on this topic. It then moves onto analyzing previous baseline data on the two selected Upazilas to get a preliminary understanding of where they were at in terms of development. Afterwards, it prepares a case study, and brings to light the fruitful outcomes of investment that had occurred in one of the Upazilas. Private sector investment is associated with impressive development outcomes. Next, an in depth analysis of the findings are presented in order to grasp the magnitude of development that had taken place due to private investment. Finally, different policies tailored to different prevailing economic conditions of the two Upazilas and other similar Upazilas have been recommended. To wrap it all of, this thesis ends with answering the research question, and emphasizing limitations of this report and possible suggestions for future work.

Chapter 2

Background

In this chapter, the reader is given a theoretical insight of what the rest of the paper holds. The concepts discussed in this section will later be used in comparison with real life data in an effort to recognize development in terms of private sector investment. These topics include basic indicators of development in terms of income, health and education, models of growth and development, and poverty measurements.

2.1 Income, Health & Education

Improvement in income, health, and education can be considered as one of the first steps towards development. Increases in investment leads to increased production capacity, which further leads to increases in output, employment, and income. Increased income is undoubtedly one of the major steps forward towards improving the lives of people, as it not only increases their purchasing power, but also widens their perspective and range of opportunities. Next, the concept of investment multiplier will be discussed as well as its connection with income, consumption, and savings.

Simply put, the investment multiplier shows the impact of change in investment on aggregate income. It measures the degree to which aggregate income will increase if investment increases. As such, it is described by the following equation:

$$K = \Delta Y / \Delta I,$$

where K= Investment multiplier, Y= Income, and I= Investment

The multiplier can also be shown with a different equation as shown below:

$$K= 1/ 1 – MPC,$$

Where K = multiplier, MPC= marginal propensity to consume

One important thing to note here is that $MPC = \Delta C/ \Delta Y$, and $MPS = \Delta S/ \Delta Y$, where MPC= marginal propensity to consume, MPS = marginal propensity to save, C = consumption, and S= saving. Marginal propensity to consume is the change in consumption arising from the change in income; similarly marginal propensity to save is the change in savings arising from the change in income. Finally, a person is either going to spend their income on consumption or savings, so $Y = C + S$. Manipulation of the equation by dividing the whole equation by Y allows us to get the following condition: $MPC + MPS = 1$.

Health and education are other major indicators of development. In an attempt to measure this, we will be looking at prevalence of underweight, source of clean drinking water, and public sanitation for health, and the literacy rate for education. The literacy rate is calculated by counting the number of literate people who are above 15 years, and dividing that number by the population. Although health and education are non-monetary and somewhat intangible aspects, good health and education are imperative to a nation’s growth and development.

2.2 Theories of Growth and Development

It is important to take the help of different growth and development models, as it will give a better insight of where Bangladesh is at, what the consequences are, and how much further it has to go. Primarily, linear stages of growth theory, structural change theories, and the “Big Push” theory will be discussed.

Rostow’s stages of growth is actually one of the earliest growth models, and falls under linear stages of growth theory. What Rostow argued was that a country goes through certain phases as they develop. It was through the identification of some of these stages with the help of empirical data of various countries that led to this model. One important thing to note here is that this model represents very linear stages of growth theory as to a country’s development. There are fives stages in his growth theory as shown below:

Stages

1) Traditional Society: The first stage is when a country takes on the characteristics of more of a traditional society. This stage is characterized by a predominantly agriculture economy with large pools of labor.

2) Preconditions for takeoff: In this stage, takeoff refers to a high level of growth, and preconditions refer to various preparation made by that country in terms of savings, investment, capital accumulation such that it could take a leap, and go from this traditional society to a more modern society with modern day growth rates.

3) Takeoff: This stage has been described as a period of dramatic growth, but over short periods of time. This is when industrialization begins to occur, and proper workers and institutions finally start to take form.

4) Drive to maturity: In contrast to the previous stage, this stage is over long periods of time. It typically entails improvements in standard of living, use of technology, and diversity and growth in the national economy.

5) Consumer society: This stage is what a developed country will look like. It will be a fully defined capitalist system with high mass consumption and production (Rostow, 1959).

The Lewis two-sector model is also an important model of growth and development, where Lewis primarily focuses on the concept of structural transformation. This model assumes two sectors; one that is agricultural, rural sector characterized by surplus labor and thus zero marginal productivity, and the other being a highly productive, modern, industrial sector, where all the labor from the rural sector is transferred to. A crucial assumption in this model is wages in urban industrial sector is constant and higher than rural agricultural sector, and that the supply curve of rural labor is horizontal i.e. perfectly elastic.

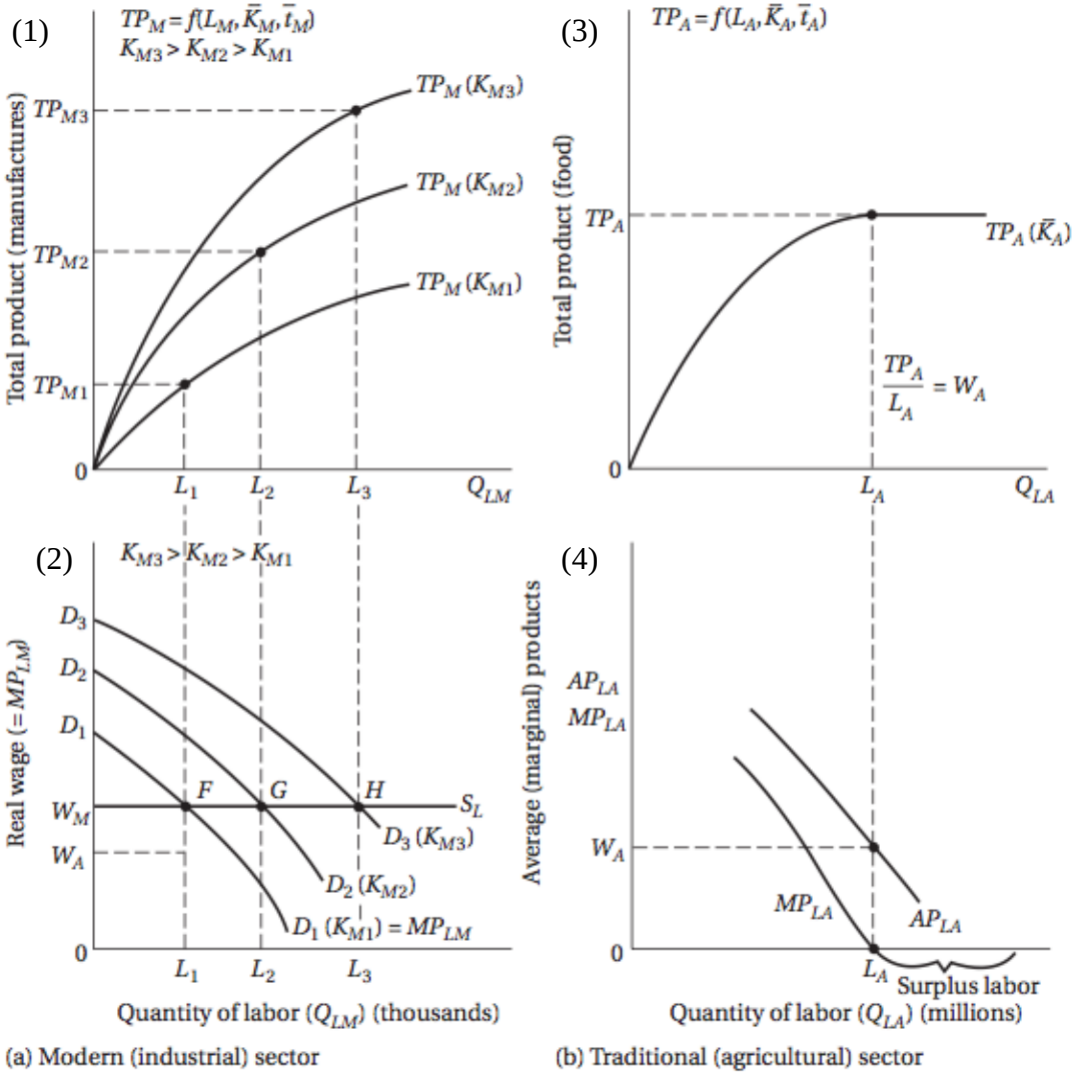


Figure 2.1: A graphical presentation of Lewis Two-Sector Model

The following notations are used in this graph:

* TP_M : Total product (manufacture)
* TP_A: Total product (agriculture)
* L_M: Labor (manufacture)
* L_A: Labor (agriculture)

- K_M: Capital (manufacture)
- t_M: Technology (manufacture)
- MP_{LA}: Marginal product of labor in agriculture
- AP_{LA}: Average product of labor in agriculture
- W_M: Wage (manufacture)
- W_A: Wage (agriculture)

Note: AP_{LA} and MP_{LA} curves have been derived from the TP_A curve.

Diagrams (1) and (2) represent the urban industrial sector, whilst diagrams (3) and (4) represent the rural agricultural sector. There is only one variable input, which is labor.

Lewis assumes urban wage, W_M, to be higher than average rural income, $W_{A,}$ as is depicted in diagram (2). Seeing this lucrative wage, the surplus rural agricultural labors migrate from rural to urban areas. As there is surplus labor with marginal productivity of agricultural labor being equal to zero, industrial sector employers can hire as many labors as they want without the fear of wages increasing. Diagram (1) shows increases in total product of manufacturing curves with increases in capital for manufacturing. The increase in capital is coming from the reinvestment of profits by entrepreneurs, and so with every increase in capital, total product curves are shifting upwards from TPm (Km1) to TPm (Km2) to TPm (Km3). Correspondingly, with every increase in capital and total

product, there is an increased demand for labor depicted in Diagram (2) by demand curves going from D1 (Km1) to D2 (Km2) to D3 (Km3).

So, what can be seen here is a self-sustaining growth and employment in the modern sector, and this will continue until all the surplus labor is absorbed. Afterwards, agricultural labor can only be hired at a higher wage level as their marginal productivity is no longer zero, and the supply curve for labor becomes upward sloping. This point is called the Lewis turning point (Todaro & Smith, 2015).

Lastly, the “Big Push” theory advocates for a minimum level of initial investment that is necessary to launch a country into self-sustaining growth. This initial investment can be thought of as the threshold that needs to be crossed to push the country into self-subsisting growth. It argues that investing “bit by bit” will not have the same effect cumulatively as one large amount of investment. This initial chunk of investment is said to be a necessary condition though not a sufficient one (Meier, 1985).

2.3 Poverty Measurements

Understanding poverty and knowing how to execute different poverty measurements is crucial, as it will give a better vision and awareness. The international poverty line stands at $1.90/day (“Ending Poverty,” n.d.), which roughly translates to 160 Tk/day. Four different poverty measurements have been listed below:

1) Headcount: This is where the number of people who fall below the poverty line is counted individually and recorded. However, the problem with this is that it is not population independent meaning if it is a big developing country with a bigger population, it will most likely reflect a higher headcount. Since there should not be any population bias, the headcount ratio is a better reflection.

2) Headcount ratio: Headcount ratio lists the number of people who are under the poverty line (which is essentially the Headcount), and divides that number by population. This gives the incidence of poverty i.e. the proportion of people who are poor. This measure is considered to be population independent because the proportion of people who are poor are considered, and not the actual number of people who are poor. However, the problem with both Headcount and Headcount ratio is that it does not take into account how far people are away from the poverty line. To solve this problem, the poverty gap is usually considered.

3) Poverty Gap: The poverty gap or the total poverty gap is simply taking each and every person who is part of the Headcount, and finding out how much would it take monetarily to bring each and every person up to the poverty line per day

4) Average Poverty Gap/ Normalized Poverty Gap: From the total poverty gap, the average poverty gap can be determined. The average poverty gap is calculated by taking the total poverty gap, and dividing it by the total number of people in the population. Intuitively, it shows how much on average each citizen would have to pay as taxpayers to bring each and every person up to the poverty line. This poverty gap can be normalized by dividing it by the poverty line, which will give an unit less number between 0 and 1. 1 would represent that the gap is 100% of the poverty line whereas 0 would represent that there is no gap.

Another important concept to address is the idea of a poverty trap. Poverty trap is best described with an example. Suppose there is a household, where they are earning very low wages. Because of the fact that they are not earning enough, it's intuitive that they are not able to purchase basic needs. So, it could very well be that low wages lead to poor nutrition, unclean water, and no education. Since they are not getting that minimum calorie requirement, and the necessary skills & capabilities, they are not able to work properly. This leads to low productivity, which again leads to low wages, and the process continues. This is an example of a vicious cycle of poverty. Poverty traps are very real and practical, and it is very easy to get stuck in a poverty trap. It is also cumulative meaning that the process continues, and is adding to it. This is actually very different

from a clear causality, which can be isolated through economic regression. But here there is a problem, a complex phenomenon of poverty traps that defy proving causality. When a cycle of poverty exists, proving what is causing what is indeed very difficult.

Understanding these concepts in terms of income, health and education, theories of growth and development, and poverty measurements are of utmost importance in attempting to discern the very first hints of development. These theories and models will be used later to figure out what is the case with the sub-districts of Bangladesh. Now that the theoretical aspect of comprehending and measuring development is covered, an analysis of what other scholars and researchers have investigated upon this topic will be presented.

Chapter 3

Literature Review

3.1 Definition of Development

Development can be defined as an ongoing series of actions that help generate growth, progress, tangible or intangible positive change. It can also be thought of as something that leads to the increase of physical, economical, environmental, and social components. The main outcome of development is to induce a rise in standards of living, create income and employment opportunities as well as preserve and maintain natural resources. Development typically embraces the concept of quality change, and the establishment of such conditions that will ensure continuity of that change.

The concept of development started receiving attention towards the latter half of the 20th century. It first started with the notion that economic growth alone cannot lead to an increase in standards of living and quality of life; a place was needed to allow the accommodation of policies that would direct resources, and enable social and economic mobility through various levels of the population.

Over the years, various researchers and academicians have developed different definitions and classifications for the term “development”. An example would include the “capabilities approach” by Amartya Sen, where he defined development as freedom of action in terms of economic, social, and family actions that would allow people to reach the highest level of their abilities. This approach was adopted by the UN Development Program (UNDP) in 1990, and had become the foundation for the formation of HDI

(Human Development Index), which was a tool used in measuring development. Another dimension to development was given by Martha Nussbaum, where she regarded the empowerment of women as a development tool.

From a different perspective, researchers like Jeffrey Sachs and Paul Collier focused on what did not look like development, and highlighted events that are used to prevent or suppress development. These include various poverty traps, civil wars, scarcity of resources, and poverty itself. The identification of such traps allows for reformations in the political, economical, and social conditions of a country in an attempt to initiate and progress development. One of the works of Jeffrey Sacks stresses on the importance of sustainable development, which entails growth and development as not only a tool to raise the standards of living for the population of the world today, but also relating to the needs of the environment to leave a better place for the population of the world in the future (Israel, 2018).

3.2 Sustainable Development Framework

Development had become a crucial topic around the world, and significant research has been done in order to understand and execute it. Previously, development was measured by explicitly focusing on economic and social dimensions alone whilst overlooking the environment. However, after the Earth Summit in Rio de Janeiro in 1992, perspectives on development have shifted, and the roles of social and environmental indicators were taken into account (Henderson, 1994). Rio’s Agenda 21 commits all member countries to include environmental costs, benefits, and values into their national accounts. This global

integrative effort to merge economic, social, and environmental components in measuring development is done in an attempt to push all countries towards sustainable development.

Sustainable development has been defined in many different ways, however, the most popular and widely accepted of sustainable development is from Brundtland report in 1987, where development is said to be sustainable if it “meets the needs of the present without compromising the ability of future generations to meet their own needs”. Here, sustainable development is viewed as a multidimensional and interdisciplinary concept where all three economic, social, and environmental dimensions are being embraced (Boggia & Cortina, 2010).

The main idea of sustainable development centers around considering long term consequences that may occur due to the socio-economic system, and making sure that advancements made in the short term do not have detrimental effects on the development potential of the system in the long run. From another perspective, Moffat (2008) describes sustainable development as reducing the use of depletable resources such as energy, water, land and air, or at least, ensuring that these resources are used appropriately, and the revenues obtained be distributed adequately across generations. According to Gilbert, Stevenson, Girardet, and Stren (1996), sustainable development is made up of three main components: economic, social, and environmental. Economic sustainability implies stability of financial and economic activities of a country when it moves towards social and environmental stability. Moreover, social sustainability

requires unity of the society and the ability to work together to meet basic human needs and other common goals. Lastly, environmental sustainability necessitates natural capital to remain intact i.e. activities that should not be detrimental to the environment.

Finally in 2005, German Council for Sustainable Development agreed to incorporate all economic, social, and environmental elements in the concept of sustainability. This implies that people today have to do their best to leave an intact ecological, social, and economic system for future generations. These descriptions indicate that meeting the needs of the future largely depends on how well we balance different economic, social, and environmental objectives today.

3.3 Rural economic development around the globe

Rural development refers to the improvement of economic well-being, job opportunities, and living standards of the people living in rural areas, which are often sparsely populated areas. Previously, main purpose behind rural development was to exploit land-intensive natural resources such as agriculture and forestry. However, with increased urbanization and a shift of perspectives, attitude towards rural development has taken a new form. Approaching development from a broader perspective had become a necessary condition for rural communities thus giving birth to a more focused, and extensive set of development goals. Factors like proper governance, education, entrepreneurship, physical, social, & environmental infrastructure all are crucial in the development of rural regions (“Economic Development in Rural Areas,” n.d.).

According to UN agriculture agency report, the UN Food and Agriculture Organization (FAO) argues that rural areas have an untapped labor pool of young people. It further states that instead of getting trapped in poverty traps, rural communities may instead attract and employ millions of youth and put their bright minds to use. Furthermore, the report claims that between 2015 and 2030, the population of the youth aged from 15 to 24 years old is expected to be around 1.3 billion. As many developing countries have slow growth in industry and services, it may not be able to absorb the massive amount of job seeker in their urban areas. To keep this large labor pool in rural areas, expansion and advancements of rural areas is a must in order to both create jobs and produce the output needed (“Rural Areas Key to Economic Growth”, 2017).

The urban poor are most likely to be comprised of rural people who have migrated to urban areas to seek employment and better living standards. Policies catered to investment in rural areas can help create agro – industries that can help in job creation, and reduce volatility of agricultural goods. This report claims that such investments will create the much-needed economic environments that will allow rural residents to stay, and thrive in agricultural areas. Finally, this report states these transformed rural economies may not necessarily be the remedy for urbanization pressures, but they will generate an adequate number of jobs, and contribute to making migration more of a choice, rather than a necessity (“What Works for the Urban Poor?”, 2016).

3.4 Rural economic development in Bangladesh

Bangladesh has had impressive GDP growth over the years, and much of this rapid growth is fuelled by increase in public investment. Overall investment stands at almost one third of total GDP. The government has built road, railways, power plants, and other infrastructure in rural areas that have significantly increased productivity in those. As such, the poor have been benefitted greatly. To a large extent, public investment is one of the main drivers behind economic growth in Bangladesh (Mujeri, 2018). Moreover, PM Hasina is encouraging development partners to invest in sustainable rural economies. This will allow them to be less susceptible to agricultural shocks as a rural transformation is what is very much needed to eradicate poverty and hunger(“PM Hasina urges development partners to invest in rural economies”, 2018).

In terms of data and statistics, a longitudinal data set has been kept since 1988 on the various aspects of rural economy. Over the years, the author has identified few drivers that have fuelled growth and development in these areas. The author has found that labor is abundant in rural economies, but the quality of these workers is very poor, as most of them have not received any education. On a brighter note, the school participation rate of children have improved dramatically, but the author believes that its effects as better qualified labor will take time some to surface since those people without education are still in the labor force. Better educated members of a household are involved in services sector whilst lower educated household members usually work in fields or are employed as day laborers. Agriculture was the predominant way of earning a living in these areas.

Furthermore, due to improvement in human capital, this has allowed workers to go from lower income agricultural work to some higher income non-farming jobs. Some of the main drivers of rural economy include public investment in rural infrastructure including the construction of roads, bridges, and electricity; adoption of rural agricultural technology thereby allowing greater production; growth of microcredit, and the improvement of quality of human capital (Hossain, 2015).

From a different perspective, proper use and execution of agriculture has been considered a powerful tool for poverty alleviation in rural areas of Bangladesh. 75% of most rural areas are agriculture based with employment of almost half of the rural population. Moreover, 87% of households rely on agriculture one way or the other for a part of their income. Impressive growth had been made by Bangladesh over the last 40 years in achieving food security despite the growing population and natural disasters. Bangladesh has one of the fastest rates of productivity growth in the world since 1995 with an average of 2.7 percent per year, securing a 2nd position in world ranking after China. Moreover, with substantial public investments in technology, rural infrastructure, and human capital, Bangladesh's agricultural sector has benefitted greatly. However, climate change is one of the weaknesses of Bangladesh, and Bangladesh remains vulnerable when it comes to climate change. This posits a threat to the country's agricultural sector in the long run, especially those areas that are vulnerable to flooding, drought etc.

Agricultural diversification needs to be embraced, which will give rise to faster and more inclusive rural growth and employment. Alongside this, rural non-farm enterprises need

to develop. Higher-value crops needs to replace some of the raw unprocessed rice production that are taking place as this will reduce poverty, increase income, and create better jobs on the farm and outside the farm. Livestock and fisheries also hold tremendous potentials in reducing poverty, job creation, and increasing income, but these areas have not been developed due to lack of support from the government. Thus, investment and the expansion of rural non-farm enterprises (RNFEs) are of the utmost importance as these establishments can help rural households become more tolerant to climate shocks, create jobs especially for women and the youth, and better add value to agricultural commodities ("Bangladesh: Growing the Economy through Advances in Agriculture", 2016).

Finally, Toufique (2017) highlights a few policies that can be implemented in order to improve existing rural conditions of Bangladesh. Rural areas tend to be homogenous in nature; as such, there is very little diversity in regards to occupation. Rural areas need to be cross-sectoral and multi-occupational in order to be more inclusive and present a vast array of employment opportunities for rural residents. Furthermore, investments should be made in sectors other than agriculture again in order to bring in diversity in occupation. However, it is important to keep in mind that agriculture cannot be neglected and should be allowed to grow, as it is the main source of food for a country of 160 million people.

Chapter 4

Research Methodology

In this chapter, we first give a little description on the two sub districts chosen, and what has led us to choose those specific sub districts. Then, we form our research hypothesis, which is used to form the backbone of our research design. Afterwards, we detail how data has been collected, and what kinds of analysis have been made.

4.1 Description of sub districts

To start off with, we have chosen Chaugachha Upazila and Maheshpur Upazila for our research. Chaugachha Upazila falls under Jashore District (Khulna Division), and has 11 unions under which there are 162 villages. It has a population of 231, 370 people. On the other hand, Maheshpur falls under Jhenaidah District (Khulna Division), and has 12 unions under which there are 196 villages. It has a population of 296, 248 people. Both sub districts are primarily agriculture-based economies as agriculture accounts for up to 72% - 75% of their economy. Next most important sector would be the service sector making up of about 19% - 23% of the economy, and typically consisting of schools, medical centres etc. The remaining 5% or even less goes to industries, which would mainly include cottage industries or micro enterprises (“BANGLADESH: Districts and Cities,” 2011).

The primary reason as to why we have decided to select two Upazilas that are in the same division is not only so that any biasedness in data is avoided, but also because these two

neighboring sub districts started off with similar features and characteristics. These similar characteristics have been reflected in the base line data analysis section of this report.

In our research, Chaugachha Upazila is the experimental group as it has received extensive private investment over the years as opposed to Maheshpur Upazila, which has received none, and is thus being held as the controlled group.

4.2 Research Hypothesis

Based on literature review and logical reasoning, we formulate the following hypothesis:

As private investment increases upon an area, it will start to show signs of development.

4.3 Research Questions

To direct our research, we form the following questions:

- What is the impact of private sector investment in rural areas of Bangladesh?
- To what extent can private sector investment develop an Upazila of Bangladesh?
- What policy suggestions can we make for rural areas in Bangladesh?

4.4 Objectives

Considering the research questions, the objective of this study is to understand what can be done to develop rural areas of Bangladesh, and to judge whether this development is sustainable or not.

4.5 General Objectives

The general objective of this research is to understand the nature and type of private investments that should be made in order to develop rural areas. Accomplishment of these objectives will enable constructing further studies and initiatives to carry out the same vision of development.

4.6 Aims

- Obtain a deeper understanding of the effects of private investment in rural areas of Bangladesh
- To be able to measure as best as possible the magnitude and potential of such investments
- Make appropriate policy suggestions
- To be able to deem the effectiveness of such policies

4.7 Scope of the Study

The definition of development is actually very broad and in fact varies from person to person. Nevertheless, in this study, 5 development indicators have been selected including income, health & education, women empowerment, standards of living, and quality of live, which will build the foundation of this research. Due to the lack of opportunities, the scope of this study has been confined within two sub districts of Bangladesh.

4.8 Research Design

First of all, we looked into few theories of growth and development in order to build our theoretical background, and get a preliminary idea of what development may look like. Next, numerous academic publications, textbooks, reports, and research papers have been analyzed to get a practical insight, and fully grasp what is happening around the world in terms of development. Subsequently, both these theoretical and practical aspects have been combined to give us the core ideas of this research: rural development, sustainable development, and priority to economic development rather than economic growth. From here onwards, the study is planned to have a mixture of both primary research and secondary research as have been detailed below. Overall, this study is meant to be an appropriate mix of qualitative and quantitative research as that is most suited to the nature of the topic we are dealing with.

4.9 Secondary Research

In our study, secondary research will primarily give us a picture of the previous state of the chosen sub districts. It must be mentioned that this is mainly before the private investments were effective. Moreover, a wide range of local research, papers, and data from the government were not available on this exact issue of rural development in Bangladesh, so the scope of development factors discussed are quite limited. Another matter of concern is that the information that has been obtained from secondary research regarding rural development in Bangladesh especially is actually quite dated; recent data is currently unavailable. Thus, it is of imperative importance that primary research design is thorough and effective in order to extract as much as possible regarding the conditions of these two sub districts and its people.

4.10 Primary Research

This part of the research entails taking and establishing a direct, personal connection with the relevant groups. Information gathered from the subject groups includes: local people of Maheshpur sub district, local people of Chaugachha sub district, private investors. The techniques used for data collection from these groups are:

- Interview
- Survey

It is of quintessential importance to check the competence and adequacy of our research objectives, research hypothesis, research questions etc. In our study, the validation of such core aspects has been made using the ideas and concepts of different scholars and academicians in the literature review. Our views were made clearer when we carried out an interview with one of the main private investors himself, who has contributed to almost half of the establishments taking place in Chaugachha. This event has been presented as a case study later in this report.

The surveys were executed with the intention of meeting the quantitative needs of this survey as well as getting a first-hand experience of the lives of these people in rural economies. Thus, these surveys gave a better understanding of many qualitative aspects that would otherwise have gone unnoticed. Given the multi-dimensional nature of the topic of this thesis, in some cases the information collected through these surveys pointed to different roads and indicators of development that were unaccounted of before. In order to do justice to the newly found information, it has been incorporated in the findings and discussion section of this report.

For this study, secondary research was done first, and afterwards primary research was executed. This added to the sequential nature of this study primarily because missing data in the secondary research gave us the foundation for the primary research thereby adding to its consistency and cohesion.

4.11 Data Requirement

Here, the sources and nature of data has been described and presented in the table below.

Table 4.11.1: Methods of Data Collection

Data Requirement	Source	Collection Method
Development Indicator 1: Income	Respondent Group – Local People	Survey
Development Indicator 2: Health & Education	Respondent Group – Local People	Survey
Development Indicator 3: Women Empowerment	Respondent Group – Local People	Survey
Development Indicator 4: Standards of Living	Respondent Group – Local People	Survey
Development Indicator 5: Quality of Life	Respondent Group – Local People	Survey
Nature and Type of Private Investment	Respondent Group – Private Investor	Personal Interview

We have not shown how secondary data and what type of secondary data has been collected in this table. But, it must be kept in mind that secondary data has helped set the groundwork for this research. However, most of the data was actually obtained during the primary data collection phase, and inferences made from the primary data were more important and valid in the writing of this thesis.

4.12 Research Instrument

First of all, the interview with the private investor was done with the intention of understanding the types of private investments that took place, and how it has helped benefit the area and its people. The interview consisted of mostly qualitative questions, and a few quantitative questions. Next, the survey was executed with specific objectives in mind as has been mentioned in the table above. The purpose of the survey was to get deep and personal with the respondents in order to capture every aspect of their lives in rural areas. A sample of the survey has been attached in Appendix A of this report. The survey consists of both quantitative and qualitative questions that have been divided in different sections, where each section serves a different purpose. There are mainly five sections in the survey each corresponding to the 5 different development indicators.

Measurement of Development Indicators

(1) Section A, which corresponds development indicator 1 (Income) mainly asks about amount of income earned, and whether it is sufficient enough to cover living costs. It is a well-known fact that one of the main ways to induce development is to increase the income of people. In this study, the income has been measured by direct and indirect ways. The direct way of understanding income across various categories was to simply ask and record. However, the indirect way that was considered was to ask about how satisfied they are with their work to judge if there were any other intangible effects.

(2) Section B contains questions development indicator 2 (Health & Education). In order to measure the health and educational status, this survey asks about the quality of healthcare and education that is present in the region. Since it is hard to quantify health and education, we asked our respondents to rate the amount of healthcare and education they are purchasing from 0 to 10 units. What these units denote are discussed later on in this thesis. Lastly, in order to assess the importance of education, we also ask about how important it is to our respondents to send their children to school.

(3) Section C is our third development indicator measuring women empowerment. In our survey, we are measuring women empowerment by tackling two main issues: i) the employment of women and ii) child marriage. We begin by asking women whether they are employed and what kind of work they do, then we ask both males and females on their views on women working, and whether they support it or not. Afterwards, we ask whether they have married of their daughter who is under 18, and try to understand the reasons behind it.

(4) Section D centers our fourth development indicator, which consists of questions regarding standards of living. Standards of living have been measured by inquiring if our respondents have access to gas, water, electricity, availability of public sanitation etc. In order to capture more intimate details, questions on bank loans and consequences of failure of repayment were also asked. Lastly, information on the competitiveness of the job market, and the informal sector was also collected.

(5) Section E provides details pertaining to the fifth development indicator that is quality of life. This section is primarily subjective, and consists of questions on whether these private investments have helped them or not, whether there are any disadvantages of these private investments, crime rates of the two regions, overall satisfaction with life etc.

4.13 Sampling Technique and Procedure

We have two main respondent groups, one is the private investor and the other is local people of Maheshpur and Chaugachha. Due to limited scope and accessibility, we only managed to interview one private investor. This is one reason why this study has adapted a case study approach. However, on a brighter note, this particular investor contributed to more than half of the investments made in Chaugachha. So, although the validity and reliability of our claims deduced from these interviews could have been made better with interviewing more number of private investors, this should suffice. Next, responses from our second respondent group including the local people of Chaugachha and Maheshpur were profiled. We did not have a specific target age group, occupation, or gender in our research because we wanted a complete and unbiased picture in its entirety. As such, a total sample size of 100 people was set for this survey, where 50 people from Chaugachha was surveyed and 50 people from Maheshpur was surveyed. We tried to maintain a balanced approach when we surveyed, and so people from a variety of different occupations and ages were included in our survey. Overall, it can be said that a meaningful sampling has been followed.

Sampling Method: Simple random sampling has been used as it gives each and every individual equal chance of getting selected.

Limitation of this sample: Although it does reflect the condition of the whole population, its representativeness is compromised by chance of the one who is selected as opposed to the one who is not. Different subgroups within the population may have been overlooked, and to deal with this issue we may have to turn to other sampling methods.

The following table gives a brief summary of the number of samples across different categories in our study.

Category	With Investment (Chaugaccha Upazila)		Without Investment (Maheshpur Upazila)	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Gender				
- Male	35	70.00	37	74.00
- Female	15	30.00	13	26.00
Age Group				
- Child (Aged 5 – 14)	0	0.00	7	14.00
- Working Age (Aged 15 – 64)	50	100.00	42	84.00
- Elderly (Aged 65+)	0	0.00	1	2.00
Educational Status				
Below Class 5	23	46.00	37	74.00
Class 5 – Class 10	21	42.00	9	18.00
Class 10 – Class 12	3	6.00	2	4.00
Honors	3	6.00	2	4.00
Masters	0	0.00	0	0.00
Occupation				
- Agriculture	20	40.00	20	40.00
- Industry Worker	10	20.00	10	20.00
- Services	10	20.00	10	20.00
- Others	10	20.00	10	20.00

Table 4.13.1: Personal, Educational, and Occupational Data of Respondents

The above table shows different personal information of the people chosen in our survey. The categories that we required were gender, age group, educational status, and occupational status. This helped us get a better understanding of their backgrounds and way of living.

Chapter 5

Base Line Data Analysis

In this chapter, an in depth analysis of secondary data is presented and a preliminary idea of the socioeconomic status of each sub district is formed. This chapter mainly includes information on the following topics: poverty rate, poverty headcount rate, prevalence of underweight, literacy rate, agricultural labor wage, improved public sanitation, electricity connection, and improved source of drinking water.

Table 5.1 presents data taken from various sources, and articulates it in one table. Data ranges from the years 2003 to 2012.

Table 5.1: Initial Conditions of the Two Studied Upazilas by Selected Socioeconomic Indicators

Socioeconomic Sub-indicator	Chaugachha Upazila	Maheshpur Upazila
Poverty Rate (%)	27.67 (Asian Development bank, 2010)	31.37 (Asian Development Bank, 2010)
Poverty Headcount Rate	0.443 (World Food Programme, 2010)	0.230 (World Food Programme, 2010)
Prevalence of underweight	0.32 (Bangladesh Bureau of Statistics, 2012)	0.34 (Bangladesh Bureau of Statistics, 2012)

Literacy Rate (%)	43.75 (Asian Development Bank, 2010)	42.58 (Asian Development Bank, 2010)
Agricultural Labor Wage (Tk per day)	79 (World Food Programme, 2010)	79 (World Food Programme, 2010)
Improved Public Sanitation (%)	53.99 (Bangladesh Bureau of Statistics, 2013)	38.02 (Bangladesh Bureau of Statistics, 2013)
Electricity Connection (%)	47.11 (Bangladesh Bureau of Statistics, 2013)	3.53 (Bangladesh Bureau of Statistics, 2013)
Improved Source of Drinking Water (%)	96.49 (Bangladesh Bureau of Statistics, 2013)	92.77 (Bangladesh Bureau of Statistics, 2013)

Source: Information in parenthesis denote data source

Overall, Chaugachha and Maheshpur stand on almost similar levels in terms of income and development. Comparing poverty rate of Chaugachha and Maheshpur, we see that Chaugachha has a lower poverty rate than Maheshpur by about 3.7%, however, the poverty headcount rate of Chaugachha is higher than Maheshpur by 0.213. This implies that the overall there may a greater number of poor people in Maheshpur, but the incidence of poverty is much higher in Chaugachha than in Maheshpur. Nevertheless, it is important to keep in mind that these figures are quite close in value, so no final

judgment can be deduced at this point. Likewise, the prevalence of underweight is also of a very similar value with Chaugachha scoring 0.32, Maheshpur scoring 0.34. A value of 0.3 means that out of every 10 people, there will be at least 3 people who will be underweight. Moving on, the literacy rate of both these sub districts is around 43 – 44%, which is well below the national average of 72.89% (Source: BBS). This suggests that when it comes to jobs, these candidates in rural areas will have the lower hand, and thus find themselves in a situation where a small percentage of them may actually get white-collar jobs, and the rest will either get blue collar jobs, or work in the informal sector. On top of all this, the agricultural labor wage is shockingly low and insufficient. Both Chaugachha and Maheshpur sub districts receive an agricultural wage of 79 Tk/day. This amount is not only lower than the international poverty line of $1.90 (160 Tk/day), but this sadly is what 3/4th of the working population earn in both these Upazilas.

Moving on, in terms of livability of these two sub districts, there is still room for improvement in public sanitation as Chaugachha has improved by 53.99%, and Maheshpur has improved by 38.02%. Public sanitation entails aspects like public toilets, sewage system, drainage system, wastewater system etc.; this is of imperative importance because damages to the environment ultimately backfires on human beings, and contrary to cultural belief it is not acceptable to treat the environment poorly. Although, this is one area that rural people are ignorant about, and degrading the environment is something that is common amongst poor people, but it is definitely something that should be not go unnoticed. Similarly, the electricity connection of these two sub districts are not up to the mark, but the difference between them is of utter shock with one being 47.11%

(Chaugachha), and the other being 3.53% (Maheshphur). This discrepancy may be due to the difference in economic activities taking place in these two Upazils. On a brighter note, both these Upazilas have an impressive record of improved source of drinking water with both of them being above 90%.

In the background portion of this report, we have touched on several different important concepts that are going to help us comprehend what is actually going on in these rural areas. One of the theories we have discussed is Lewis' two sector model, where Lewis predicted that only the surplus labor will migrate, and after that if labor migrates then wages will increase. This is exactly what has been happening over the past few years; if we look at the garments industry alone, the salary of garments workers have increased from BDT 5300 per month in 2018 to BDT 8000 per month in 2019. According to Daily Star (2019), 90 out of every 1000 people migrate to urban areas from rural areas, which is a 17% increase from the previous year. It further states that these people migrate in hopes for better income opportunities, and better standard of living. This is exactly what Lewis has predicted as wages have increased as well as rural to urban migration, and it also has an increasing tendency meaning it will continue to increase in the future. Needless to mention, these people often make up a large part of the informal sector in urban areas, which tends to give rise to several problems in itself.

Chapter 6

Case Study of the Private Investor

In this chapter, we present a case study based on the interview with the private investor. We come to know the depth and extent of investments that have taken place in Chaugachha Upazila.

Private Investment in Rural Bangladesh: The Case of Chaugachha Upazila

Over the years, Chaugachha Upazila has received extensive private investment. An impressive number of medium to large scale, (some of which are also export oriented) industries and services have emerged in Chaugachha, few of which include the following.

Type of Industry/ Service	Name of Establishment
Brick Industry	• Tanzila Auto Bricks Ltd • RK Bricks • RMB Bricks • Oyeshi Mallick Bricks • Sardar Bricks • Molla Bricks • Kashem Bricks • Dewan Bricks • MWUB • MS Bricks • HM Bricks • SMA Bricks • ASZ Bricks
Garments Industry	• Divine Garments Unit 1 Ltd • Divine Garments Unit 2 Ltd • Chowgacha Fashion Ltd
Agriculture Related Industry	• Divine Cold Storage Ltd • Divine Agro Tissue Culture Ltd • Divine Rice Processing Mill Ltd • A.B. Agro • Mini Auto Rice • Nozrul Agro Food • Padma Auto Rice Processing
Other Industries	• Divine Poly & Printing Ltd • Shabaz Auto
Services	• Dr. Anisuzzaman Hospital Ltd • Divine Centre Ltd (Café & Hotel) • Divine Social Welfare

Table 6.1: Types of industries and Services in Chaugachha Upazila

To understand the inspiration and get a more detailed account of the private investments that took place, one private investor who contributed to almost 50% of the private investments in Chaugachha has been interviewed. The interview discussion has been summarized below. To protect the privacy of this private investor, we will keep his name and identity anonymous.

The private investor had to travel a lot to developed countries due to his profession, from where he got his inspirations. Afterwards, he developed a concept; the concept that was based around the idea that Bangladesh cannot be an underdeveloped country because it contains a lot of natural resources and manpower. His vision centers the development of rural areas; he believes it would be possible to change the whole of Bangladesh if rural areas were developed.

He mostly started his work from 1998, and has claimed to see the fruits of his labor from the year 2016. In the beginning, he mainly started with different social work, after which he moved onto mass scale industrialization and services. Rural areas in our country have a lot of unemployed and underutilized labor, so this is where he first targeted. He himself was involved in the garments business, and also observed other countries develop through industrialization. So, instead of shifting the labor to Dhaka, he took the garments to the rural people. To make Chaugachha into an export-oriented place, he went as far as requesting permission from the government to make it into a bonded area. Next, he went into different types of services such as investments in healthcare, education etc. Altogether, permanent staff and worker make up of about 3000+ and temporary staff and worker make up of about 1500+. Besides industries and services, a lot of social welfare work is held, some of which are listed below:

1) Eye camp where 600 eye operations run per annum. This has been running for 9-10 years

2) Free checkup and treatment for diabetes
3) 2000+ scholarship granted to students, some of them who are studying in Dhaka University (DU), Bangladesh University of Engineering and Technology (BUET) etc.
4) Salary of full staff and teachers in non- MPO (non Monthly Pay Order) schools, colleges and madrasas. Altogether, there are approximately 30 such institutions.
5) A teacher provided for each government primary school (within Upazila) from the company to increase the quality of education
6) Hafezkhana where 24 Hafez studies, with free accommodation and tuition facilities. Every year, 5-6 Hafiz graduates, and are later admitted to regular schools
7) Funding for small scale enterprises
8) Giving grants to those hijras, old, and disabled people whose family has left them. There are around 450 of them in Chaugachha.
9) Making it into a beggar free area. There are 43 beggars, who comes twice a week, are fed 2 meals a day, and receives 250 tk per day. Altogether, their monthly income is 2000tk.
10) Spreading knowledge about hygiene and religion

When asked about what his outcomes, this is what he emphasized:

➢➢ Increase awareness

- Emphasis on education because education itself can develop an area. Even if one earns money, re-investing that money, creating an emergency fund, keeping savings all require the brainpower to do so. So, there is no alternative to education.
- Jobs need to be created for which huge investments are being made
- Health is imperative for the well functioning of not only a family or an individual, but for the whole economy as well
- Entertainment/ Recess is crucial because people need that break and refreshment in order to come back and focus better. When one's life is monotonous, there will be no satisfaction, and no motive to look for a better tomorrow. Hence, facilities catering towards entertainment are also under construction.

The private investor claims that every aspect of a human life has been targeted in terms of income, health, education, and quality of life, and this ultimately leads to the much-needed development. Furthermore, he claims that if one area can cross the poverty line once, it usually stays there, and doesn't fall back. So, the challenge is to cross that line together. Chaugachha is already very close to crossing the poverty line, and is moving upwards with an impressive motion.

When asked about help from the government, the private investor claimed that the government does not provide any subsidy, but government departments like the environment department, admin department are helping a lot. Government has given greater access to electricity, and increased road facilities. In terms of risk, he claimed that

being an entrepreneur, this did not seem like a huge risk. This is because the investment is not a one shot thing. First the investment takes place, and then its effects are evaluated. Afterwards if the benefits outweigh the costs, more similar investments are made, and if the costs outweigh the benefits, then other diversified investments are made. Even at this point, investment is going on, and both the company and local people are benefitted. Moreover, other entrepreneurs have been encouraged from these activities, and almost 8-10 entrepreneurs have come to this area to invest. The environment is good, and this actually might turn into an industrial zone.

Moreover, when asked about the motivation behind all this hard work, the private investor claimed that it is from religious beliefs and cultural roots that spurred this amount of investment. Further, he believes that it is his duty as a citizen of Bangladesh to give back to the country that has given him so much.

In his words, “Chaugachha Upazila was one of the darkest Upazilas. It was one of the lowest income Upazilas, it had theft and burglary, people were in dire poverty, and were struggling to make ends meet. Now, it is one of the highest income Upazilas in Bangladesh. The initiative that government took for development, we are taking the same initiatives on a smaller scale to improve our area. I think that if other Upazilas took the same initiatives, and embraced the same opportunities, Bangladesh would very quickly become a rich and developed country”.

Chapter 7

Assessment of The Two Upazilas by Selected Development Indicators

In this chapter, we analyze the data collected from primary sources, which mainly include the surveys executed over a total of hundred people. It includes tables, graphical representations, statistical analysis and interpretation of collected data. A sample of the survey has been attached in the Appendix section of this report.

7.1 Development Indicator 1: Income

This portion of the survey included questions on amount of income earned, living costs, and satisfaction with present job.

Table 7.1.1: Breakdown of Different Occupations of Respondents by Income Range

Sector	**Income Rage (Tk. / month)**	
	With Investment (Chaugachha Upazila)	Without Investment (Maheshpur Upazila)
Agriculture - Farmers (20)	5000 - 7000	4000 - 6000
Industry - Garments/ Brick Field/ Rice Mills (10)	6000 - 8000	4000 - 8000

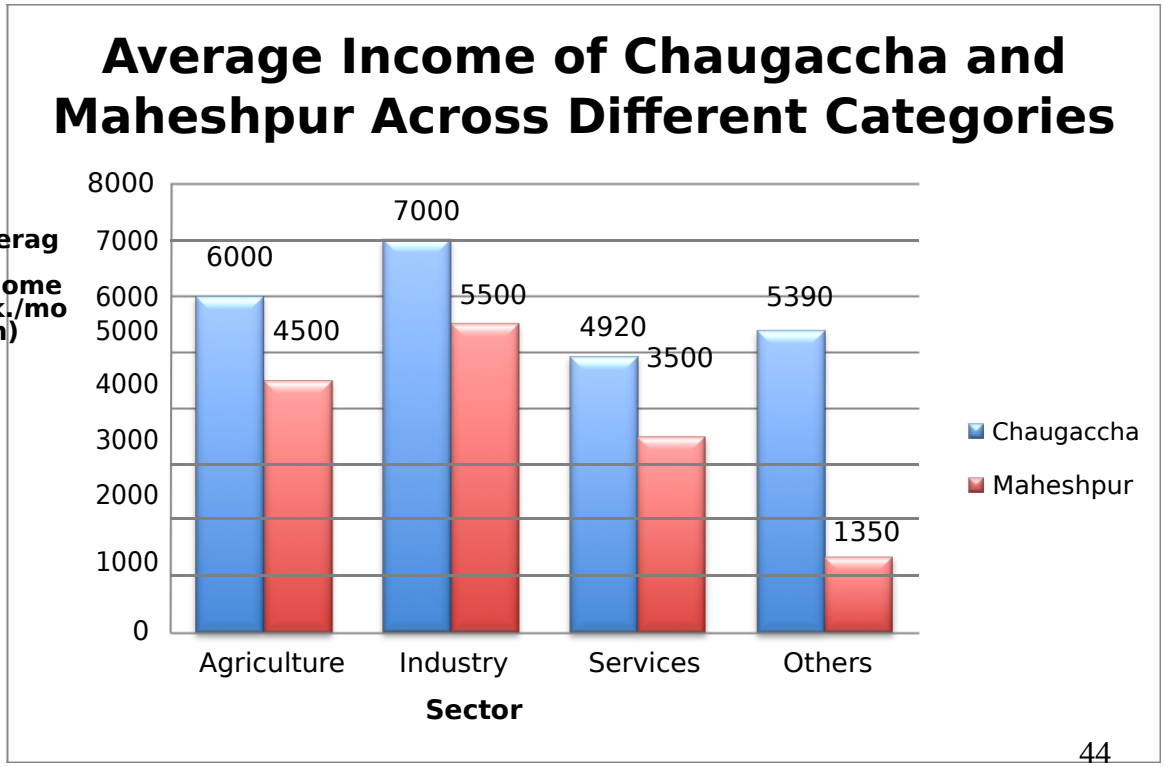
Services		
- Primary School Teacher (2)	5000 – 6000	4000 – 6000
- Sweeper (2)	3000 – 4000	2500 – 3000
- Guard (2)	3000 – 4000	2500 – 3000
- Café / Bakery Employee (2)	6000 – 7000	3500 – 4000
- Assistant Worker at a shop (2)	6000 - 7000	3500 – 4000
Others		
- Housewife (4)	1000 – 2000	500 – 1500
- Van Driver (2)	6000 – 7000	3000 – 3500
- Maid (2)	5000 – 7000	3000 – 4000
- Tong Owner (2)	15000 - 20000	5000 - 6000

We have deliberately chosen those occupations that yield the lower income in order to get a better accuracy and estimate the degree of development that took place. If we compare the average income per category of Chaugachha and Maheshpur, we obtain the following table and graph.

Table 7.1.2: Average Sectoral Income of the two Upazilas

Sector	Average Income (Tk./month)	
	With Investment (Chaugachha Upazila)	Without Invesment (Maheshpur Upazila)
Agriculture	6000	4500
Industry	7000	5500
Services	4920	3500
Others	5390	1350

Figure 7.1.1: Graph of Average Sectoral Income of Chaugachha and Maheshpur



As is evident from the graph, income of every sector in Chaugachha is higher than Maheshpur. If we compare it with the international poverty line of $1.90 a day, which translated to approximately 5000 Tk/month, we can see that in Chaugachha apart from one sector, which is the services sector, all other sectors are performing above the poverty line. In contrast, if we focus on income alone, three sectors out of the four sectors in Maheshpur are operating under the poverty line including the agriculture, services, and others sectors. This shows that Chaugachha is indeed better off than Maheshpur in terms of income of the local people. In order to test our hypothesis, we do a t test to see if there is statistically any significant difference in income.

Hypothesis: People in Chaugachha have more income than people in Maheshpur (1 tailed).

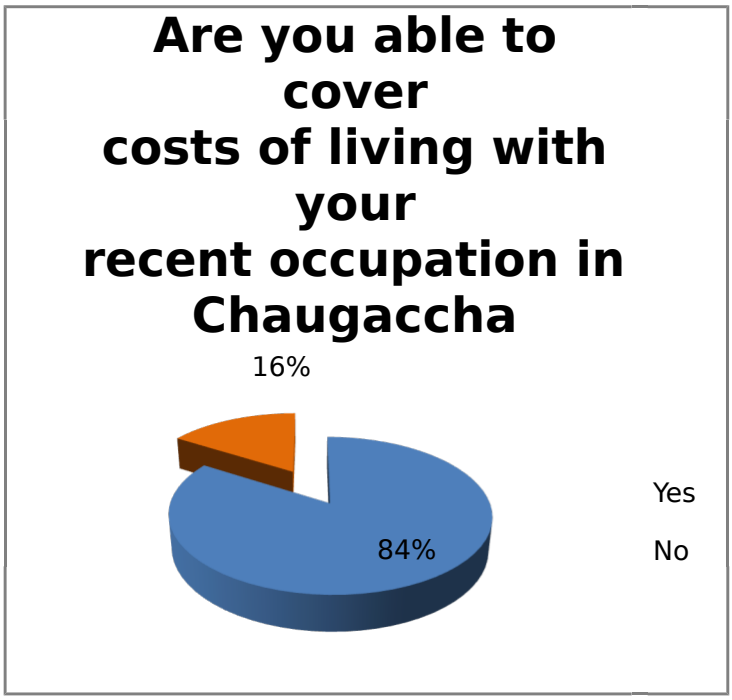
Table 7.1.3: T-test on Chaugachha and Maheshpur Income

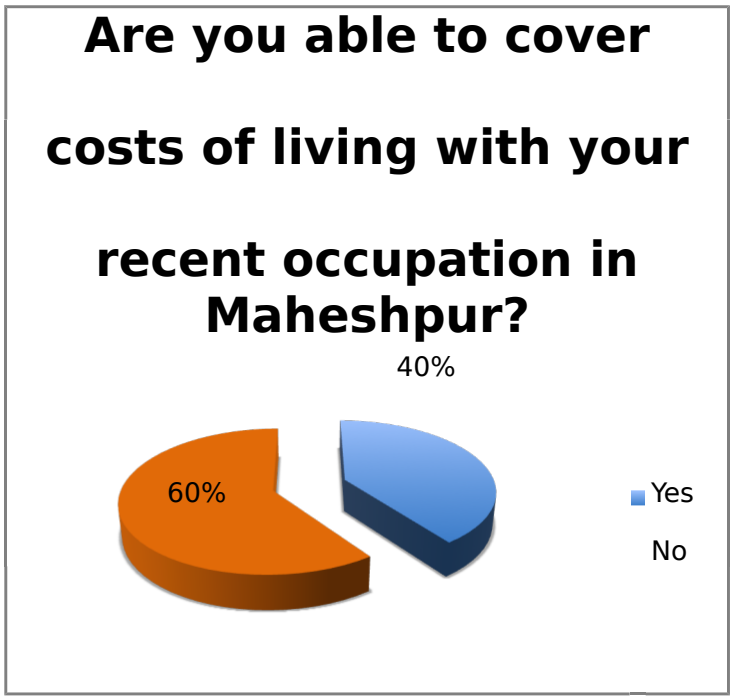
	Chaugachha Income (With Investment)	*Maheshpur Income (Without Investment)*
Mean	5962	4140
Observations	50	50
df	98	
t Stat	4.43	
P(T<=t) one-tail	1.2274E-05	
t Critical one-tail	1.66	
P(T<=t) two-tail	2.4548E-05	
t Critical two-tail	1.98	

Decision: The income of Chaugachha people (M= 5962, n=50) was hypothesized to be greater than the income of Maheshpur people (M= 4140, n= 50). The difference was significant as we achieve a p-value that is less than 0.05. To be more specific, we achieve a p-value of 0.000012, which is extremely low, thus statistically significant. As such, it can be inferred that people who have the same occupation earn a higher income in Chaugachha than the people in Maheshpur.

Next, we wanted to see if these people were able to cover their living costs with their recent jobs. Their responses have been presented in the pie chart below.

Figure 7.1.2: Responses from Survey Questions





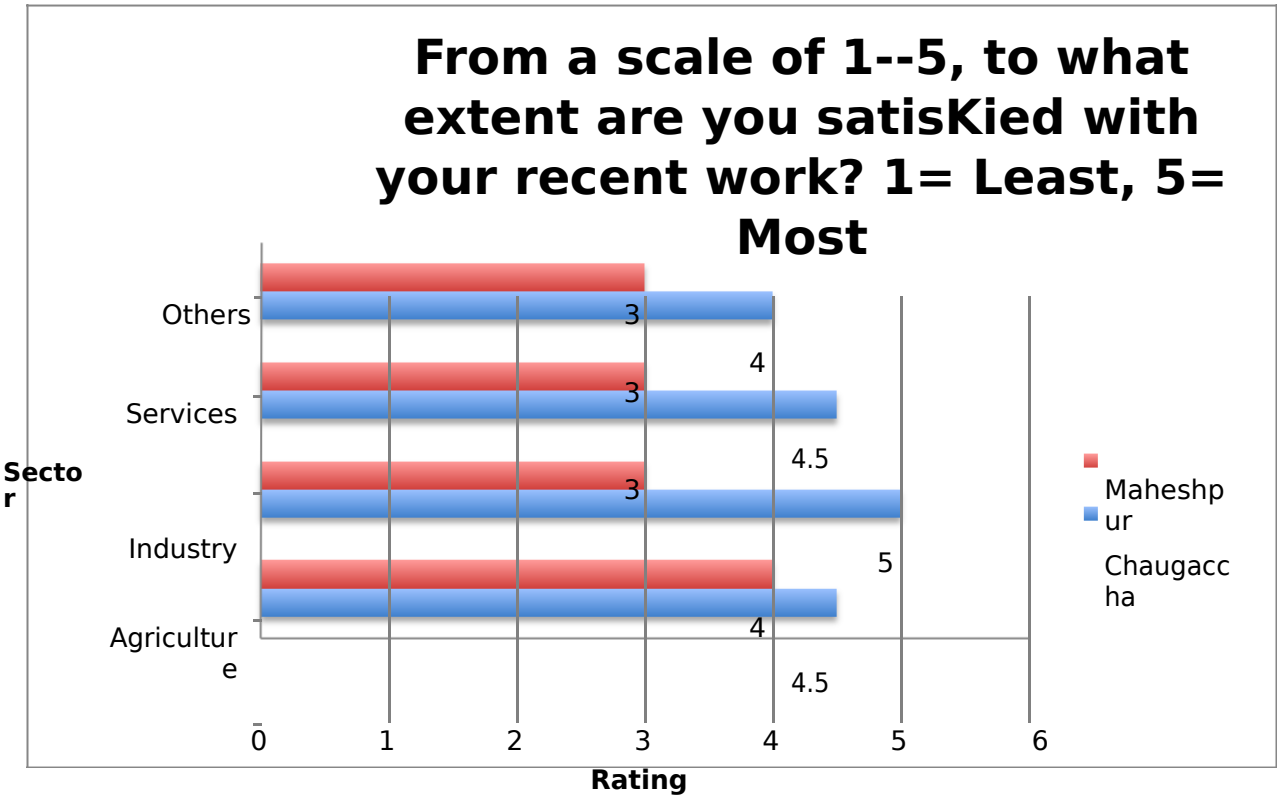
We can see from the pie charts above that more than 80% of the sample population in Chaugachha is able to cover costs of living with their recent occupation as opposed to Maheshpur where only 40% are able to cover their costs of living and the rest 60% can't. Although, this is from our survey sample, it is still indicative of the sub district as a whole.

In regards to job satisfaction, respondents were asked to give a rating from 1-5 on their job satisfaction, with 5 being the highest, and 1 being the lowest. Their responses have been summarized below.

Table 7.1.4: Rating of job satisfaction from 1 – 5

Sector	With Investment (Chaugachha Upazila)	Without Investment (Maheshpur Upazila)
Agriculture	4.5	4
Industry	5	3
Services	4.5	3
Others	4	3

Figure 7.1.3: Bar graph of rating of job satisfaction from 1 - 5



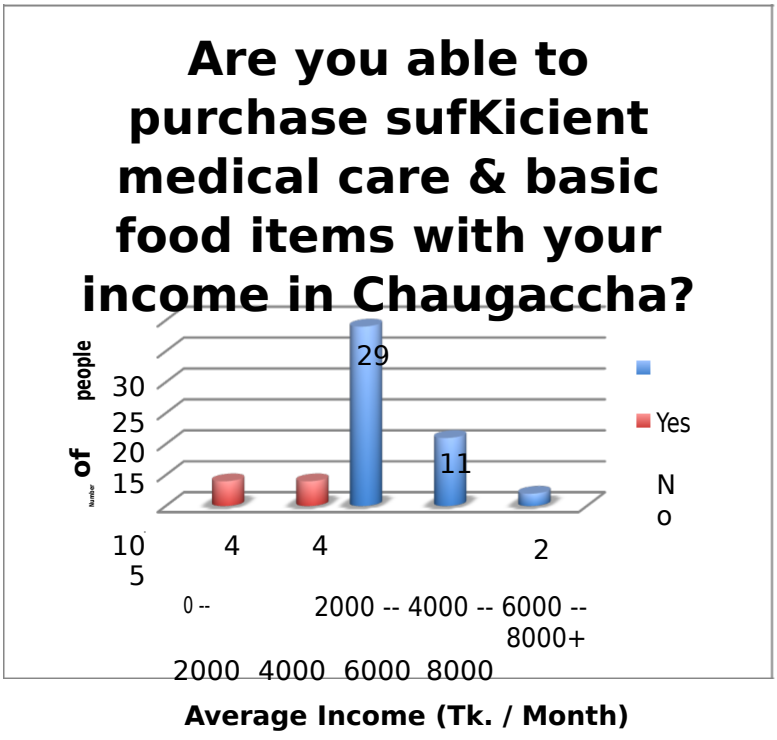
We can see from the bar graph above that even in terms of job satisfaction Chaugachha still has the upper hand. The highest recorded for Chaugachha is 5, which is most satisfaction coming from the industry sector, and the lowest is 4 coming from Others. On the other hand, the highest recorded from Maheshpur is 4 coming from the Agriculture sector, and the lowest is 3 coming from all other sectors. This may indicate that industries and services sector in Maheshpur aren't fully developed, or the compensation is low compared to the labor, or there may be long hours of hard labor. For Chaugachha, these results may suggest that the newly emerging industries have had a positive effect on the lives of Chaugachha people.

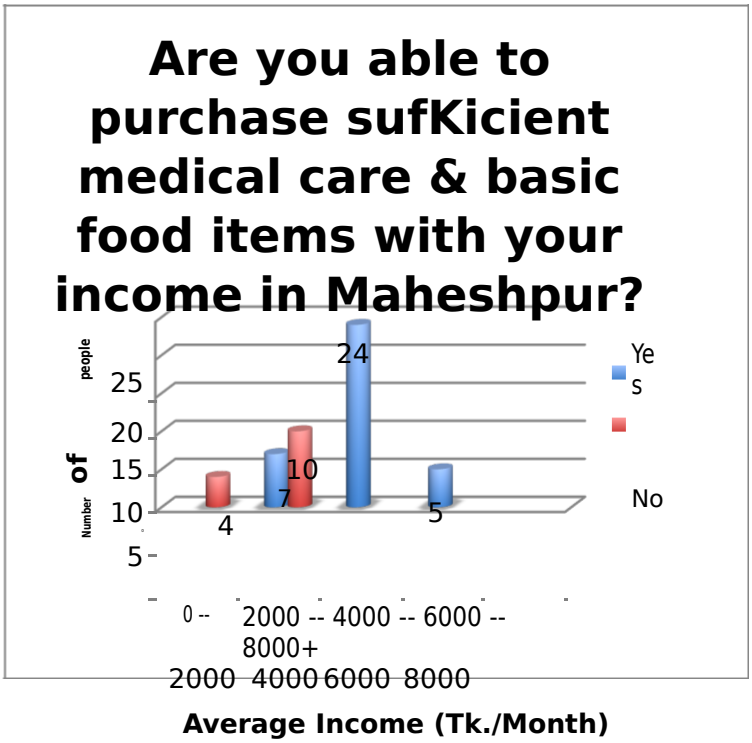
7.2 Development Indicator 2: Health & Education

This portion of the survey included questions on whether people are able to purchase sufficient amount of healthcare and food items, the quality of healthcare and education. This section was wrapped with a very important question on whether sending their child to school is important to them, and whether they regard working as a better alternative to school.

When asked if people are able to purchase sufficient healthcare and basic food items with their current income in these two sub districts, these are the responses we got:

Figure 7.2.1: Responses from Survey Questions





We can see that for both these sub districts, people with income range of 4000 – 6000 Tk./month and above are able to purchase medical care and basic food items. One important aspect we can note here is that all of the people in Chaugachha who have income within the range of 2000 – 4000 Tk./month have claimed to not being able to purchase sufficient amount of medical care and basic food items whereas in Maheshpur, there are some people from the same income range who have claimed to cover their medical and food costs whilst there are others who couldn't. This actually may reveal higher costs of goods and services in Chaugachha compared to Maheshpur. Moreover, this hike in the cost of goods and services in Chaugachha may be fuelled by a greater demand of goods and services, which may have risen from a greater overall income.

Next, we wanted to test to what extent these people are purchasing healthcare and education, so we asked our respondents to rate the amount of healthcare and education they are purchasing from 0 to 10 units, where units denote the following.

Healthcare Units:

- Buying Medicines
- Doctor Fees
- Cost of transportation to the doctor
- Yearly check up for elderly people
- Vaccines

Education Units:

- Buying school uniform
- Buying textbooks and other stationaries
- Cost of transportation to schools/ colleges
- Tuition cost for education
- Cost for private coaching

The results we got for the two Upazilas has been tabulated and presented in the table below.

With Investment (Chaugachha Upazila)

Healthcare Statistics:

Average	Standard Deviation	Sample Size	Confidence Coefficient	Margin Of Error	Confidence Interval (95%)		Maximum	Minimum	Range
					Upper Bound	Lower Bound			
6.64	2.91	50	1.96	0.81	7.45	5.83	10	1	9

Table 7.2.2: Descriptive Statistics of Healthcare in Chaugachha

Education Statistics:

Average	Standard Deviation	Sample Size	Confidence Coefficient	Margin Of Error	Confidence Interval (95%)		Maximum	Minimum	Range
					Upper Bound	Lower Bound			
6.8	2.41	50	1.96	0.67	7.47	6.13	10	2	8

Table 7.2.3: Descriptive Statistics of Education in Chaugachha

For Chaugachha, we can see that the average score for medical care and education is 6.64 and 6.8 respectively. Since it is out of 10, we can say that on average they are able to purchase more than 60% of healthcare and education. We can also see that there are people who have scored 10 meaning they are able to fully purchase medical care and education. The lowest score recorded was 1 for healthcare and 2 for education. This indicates that there are still some sectors or groups of people who need help, and are struggling to make ends meet.

Without Investment (Maheshpur Upazila)

Healthcare Statistics:

Average	Standard Deviation	Sample Size	Confidence Coefficient	Margin Of Error	Confidence Interval (95%)		Maximum	Minimum	Range
					Upper Bound	Lower Bound			
4.2	2.46	50	1.96	0.68	4.88	3.52	8	0	8

Table 7.2.4: Descriptive Statistics of Healthcare in Maheshpur

Education Statistics:

Average	Standard Deviation	Sample Size	Confidence Coefficient	Margin Of Error	Confidence Interval (95%)		Maximum	Minimum	Range
					Upper Bound	Lower Bound			
4.18	2.21	50	1.96	0.61	4.79	3.57	7	0	7

Table 7.2.5: Descriptive Statistics of Education in Maheshpur

For Maheshpur, we can see that the average score for medical care and education is 4.2 and 4.18 respectively. Since it is out of 10, we can say that on average they are able to purchase less than 50% of healthcare and education. Moreover, the maximum recorded for medical care is 8 and for education is 7, whereas the lowest recorded is 0 for both. Not being able to afford even half of the necessary medical care and education is an alarming sign indeed, and again we see that in all aspects, Maheshpur scores lower than Chaugachha. In regards to the maximum and minimum scores recorded, the maximum recorded for Chaugachha was 10 whereas for Maheshpur was 8, and the minimum recorded for Chaugachha was 1 whereas for Maheshpur was 0. This shows that in Chaugachha even the poorest are able to afford some healthcare and education as opposed to Maheshpur where the poorest are able to afford no healthcare and education.

Although we can see that Chaugachha has a higher average in consumption of healthcare and education, we still want to test it statistically to be assured. As such, a t test has been run for healthcare and education between Chaugachha and Maheshpur.

Hypothesis: People in Chaugachha purchase more healthcare than people in Maheshpur (1 tailed).

	Chaugachha Medical Care (With Investment)	*Maheshpur Medical Care (Without Investment)*
Mean	6.64	4.2
Observations	50	50
df	98	
t Stat	4.53	
P(T<=t) one-tail	8.39941E-06	
t Critical one-tail	1.66	
P(T<=t) two-tail	1.67988E-05	
t Critical two-tail	1.98	

Table 7.2.6: T-test on Medical Care of Chaugachha and Maheshpur

Decision: Medical care purchased in Chaugachha (M= 6.64, n=50) was hypothesized to be greater than the amount of medical care purchased in Maheshpur (M= 4.2, n= 50). The difference was significant as we achieve a p-value that is less than 0.05. To be more specific, we achieve a p-value of 0.0000084, which is extremely low, thus statistically significant. As such, it can be inferred that people in Chaugachha purchase more healthcare than the people in Maheshpur.

Hypothesis: People in Chaugachha purchase more education than people in Maheshpur (1 tailed).

	Chaugachha Education (With Investment)	*Maheshpur Education (Without Investment)*
Mean	6.8	4.18
Observations	50	50
df	98	
t Stat	5.67	
P(T<=t) one-tail	7.25469E-08	
t Critical one-tail	1.66	
P(T<=t) two-tail	1.45094E-07	
t Critical two-tail	1.98	

Table 7.2.7: T-test on Education of Chaugachha and Maheshpur

Decision: Education purchased in Chaugachha (M= 6.8, n=50) was hypothesized to be greater than the amount of medical care purchased in Maheshpur (M= 4.18, n= 50). The difference was significant as we achieve a p-value that is less than 0.05. To be more specific, we achieve a p-value of 0.000000073, which is extremely low, thus statistically significant. As such, it can be inferred that people in Chaugachha purchase more education than the people in Maheshpur.

Next, we inquired whether they feel if the quality of education and healthcare has improved in their areas, and their responses have been presented below.

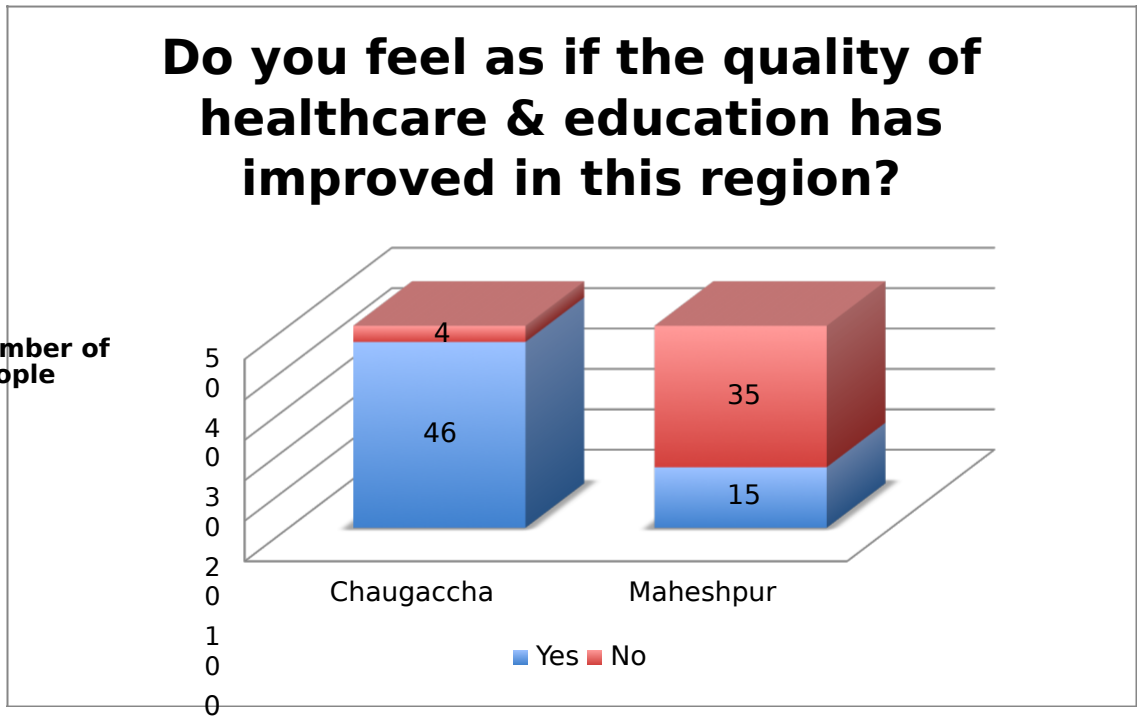


Figure 7.2.2: Graphical representation of survey responses

The above graph demonstrates that more than 90% of the population in Chaugachha feels as if the quality of healthcare and education has improved in their area, whereas only 30% of the population reciprocates the same feelings in Maheshpur. Thus, we can note a discrepancy in the quality of education and healthcare in between these two regions, and in the views of these people as well. In fact, many respondents from Maheshpur have claimed that they go to Chaugachha for health check ups.

Lastly, we wanted to check how important education and sending their child to school is. Thus, we asked them to rate the importance of sending their child to school from 1 – 5, where 1 represents least and 5 represents most.

Rating (out of 5)	With Investment (Chaugachha Upazila)		Without Investment (Maheshpur Upazila)	
	Frequency	Percentage (%)	Frequency	Percentage (%)
1	5	10.00	8	16.00
2	7	14.00	6	12.00
3	12	24.00	12	24.00
4	16	32.00	19	38.00
5	10	20.00	5	10.00

Table 7.2.8: Rating of the Importance of Sending Child to School

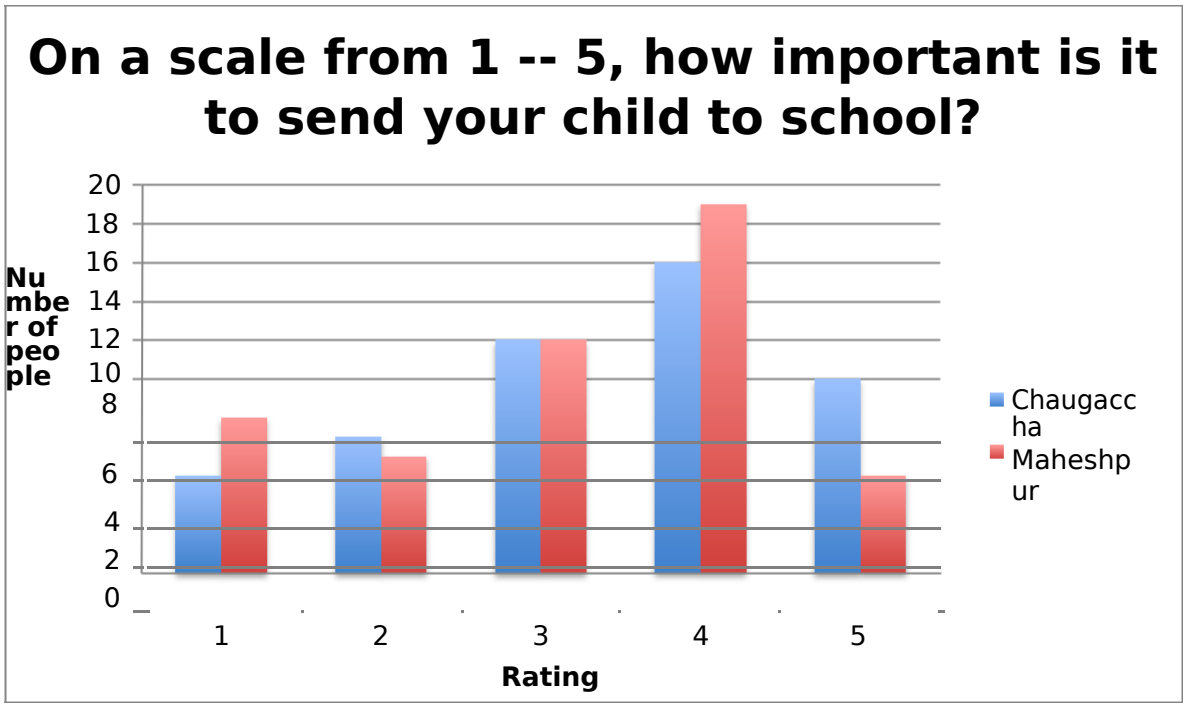


Figure 7.2.3: Graphical representation of survey answers

For this particular question, we get mixed results. It seems as if the importance of sending one's child to school is felt across all groups and socioeconomic backgrounds. However, there are people in both Chaugachha and Maheshpur who have scored 1 and 2, which indicates that these people may think working is a better alternative to school. Consistent with this, we had found 5 cases of child labor, all of which took place in Maheshpur. From these 5 children, 2 were working in brickfields, and 3 were working in agricultural fields with their fathers.

In order to get a better proposition for our policy and recommendations, we want to test whether there is a relationship between increase in income and increase in the purchase of healthcare and education. If this is the case, our policies will be more geared towards increasing the income of people. Thus, we draw a scatterplot for both Chaugachha and Maheshpur to test this relationship.

Figure 7.2.4: Regression on "Income" vs "Healthcare and Education" in Chaugachha

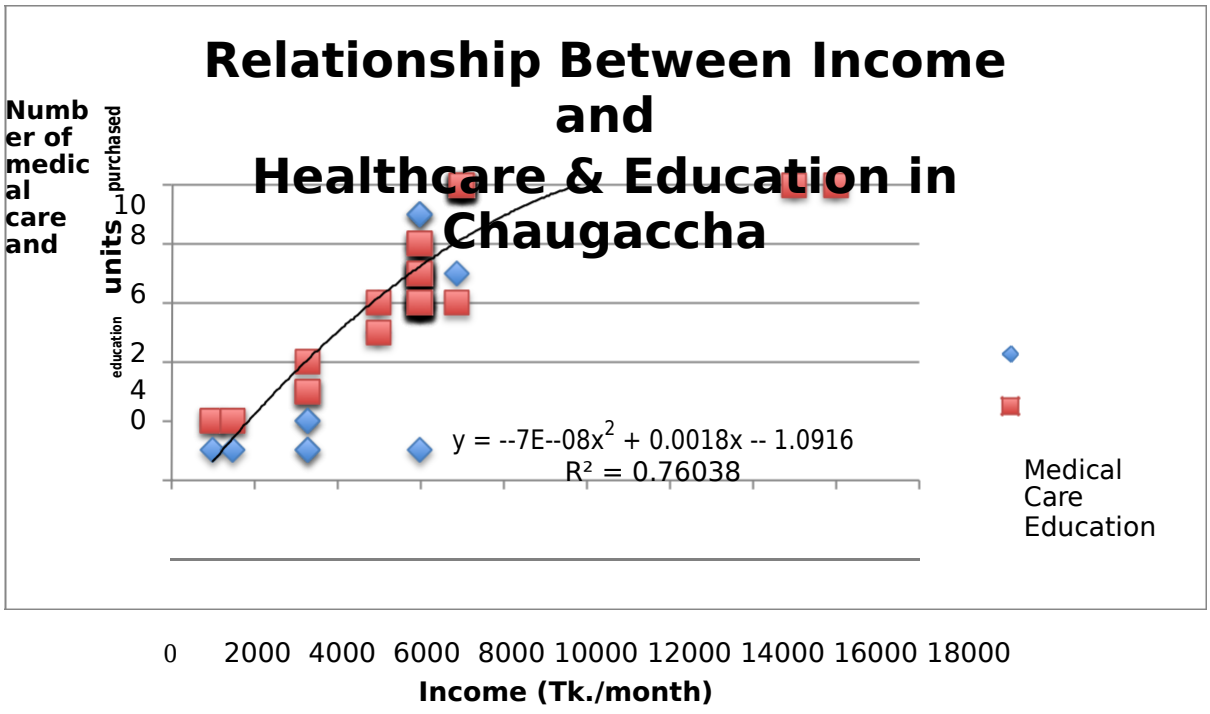
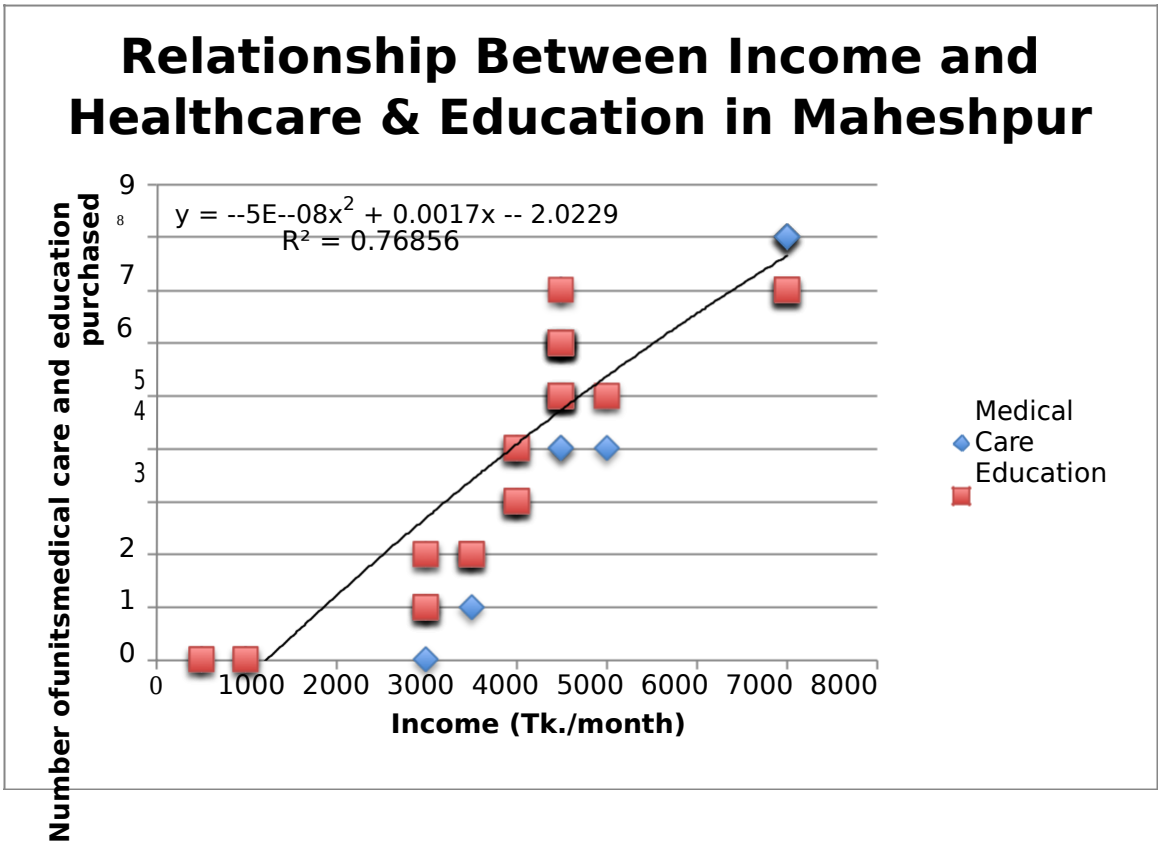


Figure 7.2.5: Regression on “Income” vs “Healthcare and Education” in Maheshpur



We can see from the graphs above are positively sloped indicating that with increase in income, a greater number of medical care and education units have been purchased. Furthermore, we can see that the R^2 value is around 0.76 for both these sub districts, which means 76% of the variation (increase) in income is explained by units of education and healthcare purchased. A value of 0.76 indicates a strong relationship between the income and the number of units purchased, thus we can deduce that if income increases, people will consume more healthcare and education.

7.3 Development Indicator 3: Women Empowerment

This portion of the survey raises concern over the employment of women, if they are paid the same as their male counterpart, and child marriage.

A breakdown of different occupations of females in our survey has been given below.

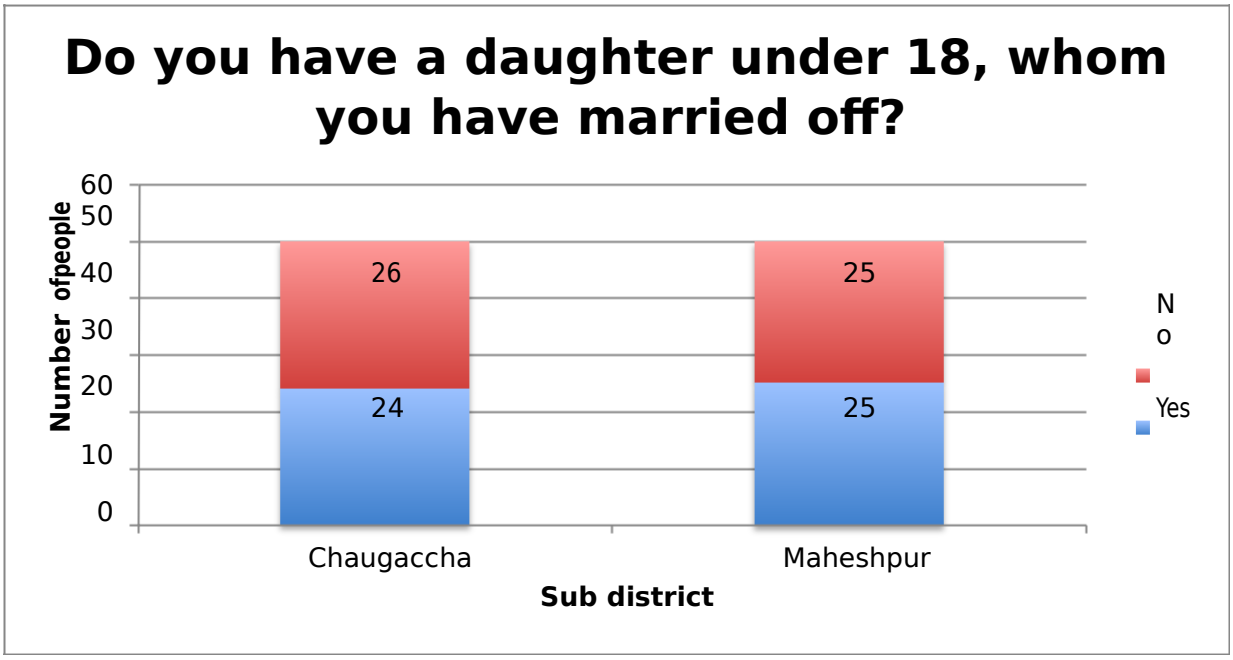
Sub District	Occupation of Women							
	Light Agricultural Work	Maid	School Teacher	Brick Fields Worker	Café Employee	School Sweeper	Garments Worker	Tot
Chaugachha	4	2	2	2	1	1	3	15
Maheshpur	4	2	2	5	0	0	0	13

Table 7.3.1: Breakdown of occupation of female participants

All women in this survey have claimed that they get the same wage as their male counterpart apart from 5 women in Maheshpur working in brickfields. They have complained that they carry the same number of bricks, sometimes even more, but yet they are discriminated on wage. In comparison to Chaugachha, 2 women working in brickfields were interviewed but they didn’t have the same complaint. Furthermore, 8 women who were mainly housewives, but they do light agricultural work in their free time have claimed that they get a lower wage than the men. But to be fair, they have also stated that their work requires lesser effort and labor. Lastly, we have asked what their views were on women working. Surprisingly, almost all of them have no problem in letting their women work, and they actually encourage it. They claim that as it brings in extra income, they feel it is a huge relief and great support.

Next, we raise issue on the topic of child marriage especially when it comes to daughters. When asked about whether they have married their daughter who is under 18, we get the following responses.

Figure 7.3.1: Graphical representation of survey answers



We can see from the graphs above that almost half of the people surveyed have married their daughter who is under 18 off. In order to test whether this was due to income constraint, we asked them if they had enough income, would they marry off their daughter later; their responses have been presented below.

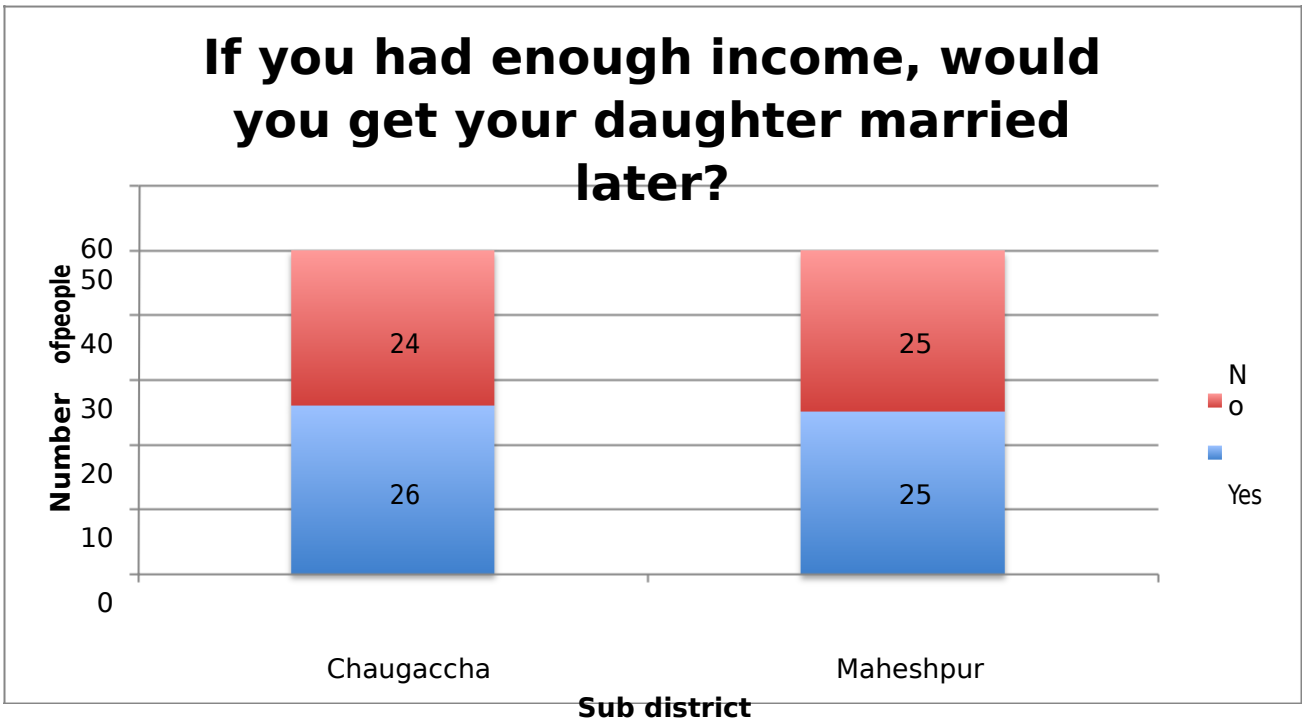


Figure 7.3.2: Graphical representation of survey answers

Shockingly enough, exactly those people who have said that they have gotten their daughter married off testified that even if they had more income, they would still get their daughter married off early. When asked to elaborate on their answers, we come to understand that this wasn't an income related issue; rather it was more of a cultural mindset. Rural societies, especially amongst low-income groups, frown upon women getting married late. These people have claimed that when their daughter reaches a mature age, surrounding neighbors, relatives pushes them to get their daughter married off, or else they talk bad about them. This was the case in both Chaugachha and Maheshpur.

7.4 Development Indicator 4: Standards of Living

This portion of the survey was mainly qualitative, and included questions on whether there was proper access to gas, water, electricity, public sanitation, bank loans, and the job market. In regards to access to gas, water, electricity, and public sanitation both sub districts have testified that they had proper access to gas, water, electricity, and many public toilets and washing facilities are apparently available.

Next, we inquired about where they usually dump their waste. People in Chaugachha have claimed that everyday their waste is collected, and dumped into a public government dustbin. In contrast, there is no specific place in Maheshpur to dump their wastes; people usually dig a hole in the ground, and dump their wastes there.

When asked about bank loans, both sub districts have said that they take bank loans to survive. Upon failure to pay back interest payments, officers would come, and talk very abusively and give them 1-2 days warning. In worst-case scenarios, if one is unable to deliver the interest payment even after 1-2 days of warning, equivalent amount of livestock would be taken. Most people would take another loan from another source in order to meet the interest payments, and this downward spiral would continue. Moreover, in terms of savings, people in Maheshpur have testified that they are not able to save any money at the end of the month. Whatever disposable income they have goes into meeting the interest payments of loans. On the other hand, Chaugachha people have testified that

they are able to save some of their income, which is usually around the range of Tk. 1000 – 2000.

Lastly, when asked about whether they know people personally who have migrated to Dhaka or abroad, answers ranged from each individual respondent knowing 10 to 35 people who have migrated to these areas. Moreover, when asked to rate the difficulty in getting a white collar job in Dhaka from 1-5 (1 presenting the least and 5 presenting the most), all our respondents scored 4 and 5 signifying strong competitiveness in the job market in Dhaka. Apparently, there were also people who came to Dhaka in search for white-collar jobs as they had attained that level of education, but due to the lack of jobs and fierce competition in Dhaka, they ultimately had to go back to their hometown, and work in the fields or other lower level work. This clearly indicates a case of underemployment for these people.

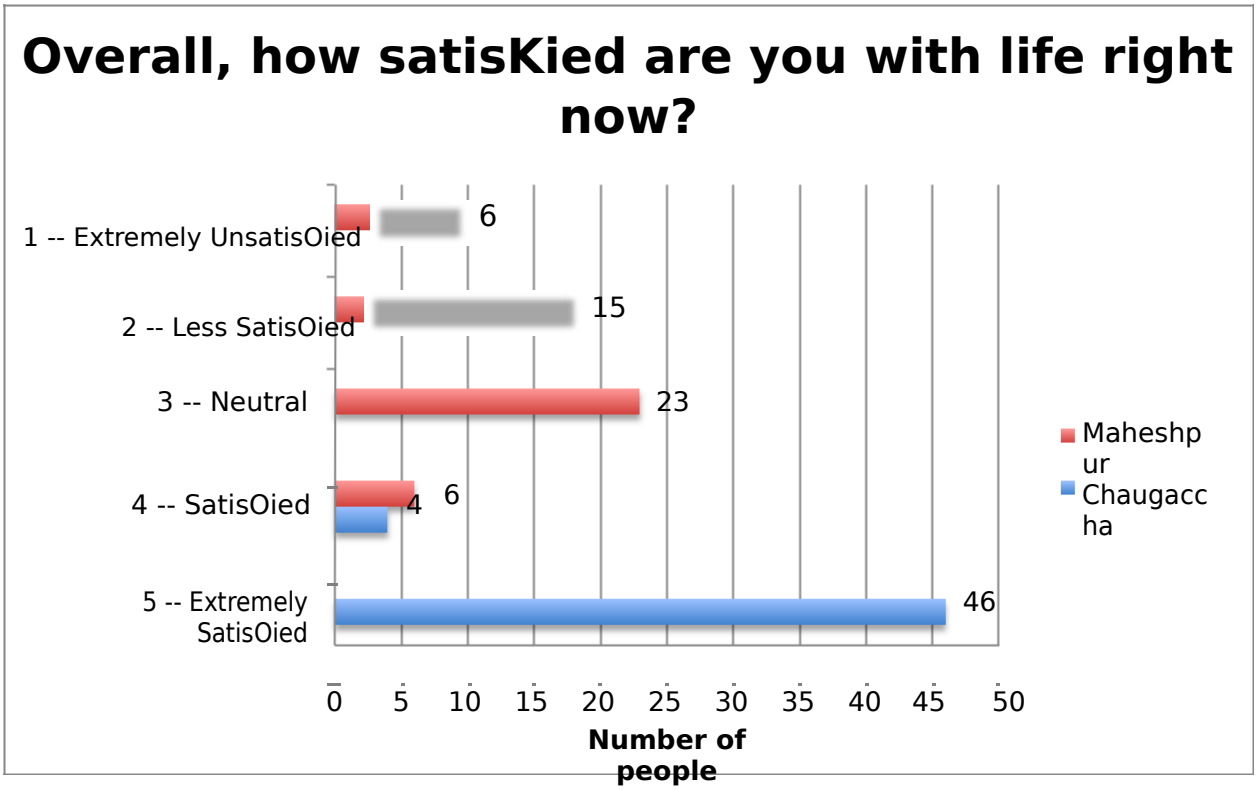
7.5 Development Indicator 5: Quality of Life

This portion of the survey includes questions on the new establishments that have recently emerged, crime rates, and overall satisfaction with life. As these establishments are only applicable for Chaugachha people, their answers have been highlighted mainly. All of these people are extremely happy with the establishments that have come about, and when asked to state one disadvantage regarding these establishments, there were none. Moreover, Chaugachha people are very proud that they have lived to see this degree of development. As far as crime rates are concerned, crime rates have been reported to significantly decrease in Chaugachha. In contrast, crime rates are said to be the same in Maheshpur. The problem that is surfacing in both these areas is the usage and smuggling of drugs within boundaries. Moving on, when asked about overall satisfaction with life, these are the results we got.

Rating (out of 5)	With Investment (Chaugachha Upazila)	Without Investment (Maheshpur Upazila)
5 - Extremely Satisfied	92% (46)	
4 - Satisfied	8% (4)	12% (6)
3 - Neutral		46% (23)
2 - Less Satisfied		30% (15)
1 - Extremely Unsatisfied		12% (6)

Table 7.5.1: Rating of overall satisfaction with life

Figure 7.5.1: Graphical representation of survey answers



From the graph above, we can see that majority of Chaugachha population are extremely satisfied with their lives as opposed to Maheshpur where only 6 people are satisfied, and the rest are below that level. In an attempt to see if there is any statistical significance between satisfaction levels of these two groups, we have run a t test as has presented below.

Hypothesis: People in Chaugachha are overall more satisfied with their life than people in Maheshpur are (1 tailed).

Table 7.5.2: T-test on Overall Satisfaction in Chaugachha and Maheshpur

	Chaugachha Satisfaction (With Investment)	*Maheshpur Satisfaction (Without Investment)*
Mean	4.92	2.58

Observations	50	50
df	98	
t Stat	18.35	
P(T<=t) one-tail	9.20753E-34	
t Critical one-tail	1.66	
P(T<=t) two-tail	1.84151E-33	
t Critical two-tail	1.98	

Decision: Overall satisfaction in Chaugachha (M= 4.92, n=50) was hypothesized to be greater than overall satisfaction in Maheshpur (M= 2.58, n= 50). The difference was significant as we achieve a p-value that is less than 0.05. To be more specific, we achieve a p-value of 9.20 x 10^-34, which is extremely low, thus statistically significant. As such, it can be inferred that people in Chaugachha happier with their lives than the people in Maheshpur.

As we want to test whether this satisfaction comes from the increase in income or not, we construct two scatter plots with income and overall satisfaction level for these two sub districts.

Figure 7.5.2: Regression on “Income” vs. “Satisfaction Level” in Chaugachha

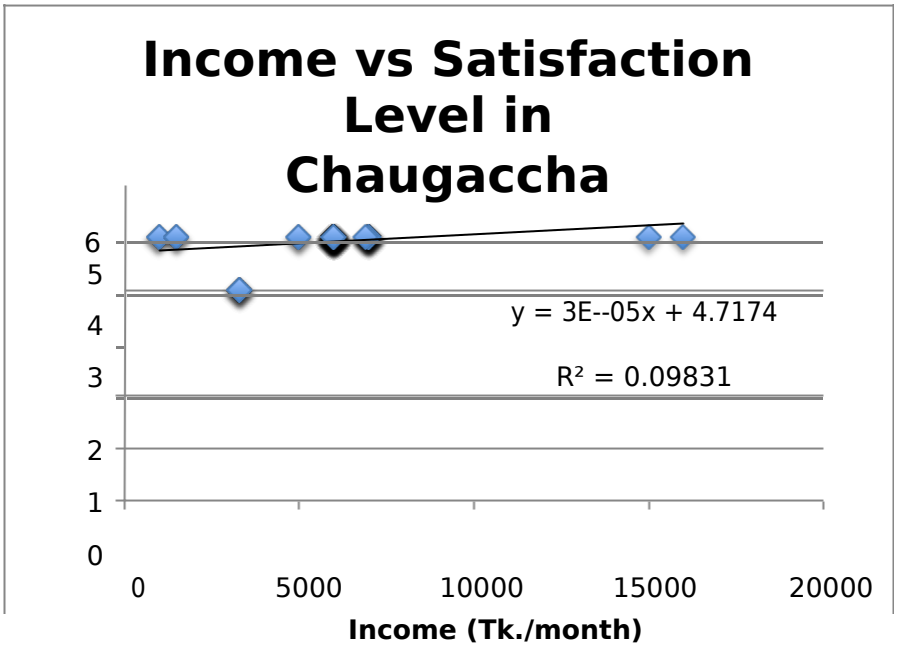
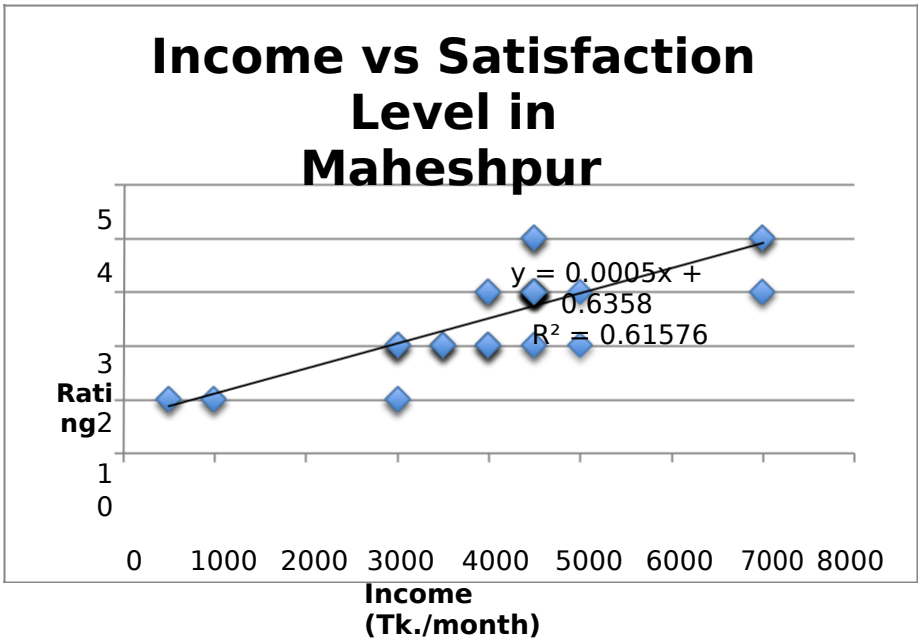


Figure 7.5.3: Regression on “Income” vs. “Satisfaction Level” in Maheshpur



We derive two very different results from the graphs above. In Chaugachha, it seems as if overall satisfaction is independent of the amount of income. The R^2 takes a value of 0.098, which is extremely low. This means that only 9.8% of the variation in satisfaction levels is caused by income. Since many private investments have taken place in this area and a lot of charity work is being held, there may be positive spill over effects, which may be the underlying cause of such high satisfaction level in this area. In Maheshpur, we see a gradual increase in overall satisfaction level with increase in income. The R^2 takes a value of 0.61, which is a reasonable amount indicating 61% of the variation in satisfaction levels is caused by income. This shows that overall satisfaction in this area to some extent depends on the level of income earned.

Chapter 8

Findings and Discussions

In this chapter, we first of all discuss and summarize our findings from the interview with the private investor and survey of 100 respondents. Afterwards, we construct the concept of [1]"holistic investment", which has been developed using the findings of this study. Lastly, policy suggestions are made that are especially tailored to the traits of each Upazila.

8.1 Findings

Now that we know both sides of the picture, it is clear that Chaugachha Upazila (with investment) has a much stronger and grounded economic footing in contrast to Maheshpur Upazila (without investment). In our analysis of base line data, we have seen that the social and economic conditions of Maheshpur and Chaugachha Upazila were roughly the same. With the exception of a few categories, they had similar poverty, prevalence of underweight, literacy rates etc. Maheshpur Upazila is still where it was in terms of poverty because not only there are large proportion of villages who are still operating under the poverty line of $1.90 a day. Even those who have crossed the poverty line have not been able to go very far, and they still express dissatisfaction and plea for help with their financial conditions.

1By holistic investment, we mean the process of simultaneous investment in different development areas such as income, health, and education.

Over these years, due to deep injections of funding into the economy from the private sector, majority of Chaugachha Upazila have not only crossed the poverty line together, but this Upazila also has ticked off every basic indicator of economic development. Focusing on income alone, Chaugachha people's income has tripled, and in some cases it has increased by as much as 4 times or 5 times. Although, the agricultural wage of Maheshpur workers have increased to an average of 180 Tk/day from 79 Tk/day previously, farmers are still very unhappy with their living conditions, and it seems that this increase in agricultural wage is not due to some exogenous factor, but it is rather matched with increasing living costs as well. Unlike in Chaugachha, the agricultural wage now stands at 250 Tk/day from 79 Tk/day previously ceteris paribus, and this may largely be attributed to the spillover effects of private investment, and a greater demand of goods and services in the market, which have pushed up both the prices and quantity demanded of these commodities. If investment were not to play a role in increasing the incomes of these farmers indirectly, then it would more or less stand at the same agricultural wage as of those farmers in Maheshpur Upazila. However, we see that this is not the case, so we can safely infer that investment did in fact have an effect on increasing the income of these farmers.

Regarding health and educational status, greater emphasis is being put on the quality of healthcare and education in Chaugachha Upazila as we have seen from the interview with the private investor. Private hospitals have been built, and people receive free treatment in some areas. Furthermore, all staff and teachers of non- MPO schools are given wages; this will undeniably increase their incentive to teach thereby increasing the quality of

education. Each government primary school is provided with a teacher from the company, again to increase the quality of education. Bright students are given scholarships, so that a brighter future can be built. In contrast to Maheshpur Upazila, there are no cases of child labor in Chaugachha. However, this is not the case for Maheshpur Upazila. Not only children were employed in different sectors (from were we surveyed 7 of them), but also there were complaints of poor quality education.

In fact, what it seems is that Maheshpur Upazila is very close to getting caught in a poverty trap. Most households in Maheshpur are very poor and struggle to purchase basic needs, to the extent that they also make their children work. So, this means that there is a lack of education and nutrition. Due to this lack of nutrition, it could very well mean that they are not able to do physical work better, and it also could mean that due to lack of educational qualifications, they are not able to get better income jobs. Again, this means low wages, and the process continues for them. Poverty traps are usually cumulative, which means that as this vicious cycle of poverty continues for them, it will only keep getting worse. Further, there is only one government healthcare centre, which is also said to be understaffed and of lower quality.

Comparing this scenario with the theoretical aspects covered in the “Background” portion of this report, we can infer the following. It is evident that income, health, and education have increased substantially in Chaugachha, and its effects are felt all over the Upazila.

Maheshpur, on the other hand, have not developed substantially in terms of income, health, and education, and has a long way to go.

Considering the Keynesian multiplier, given by the equation $K = \Delta Y / \Delta I$, where K= Investment multiplier, Y= Income, and I= Investment. As it is a predominantly agriculture society, if we compare the income of farmers when they used to earn 79 Tk/day to what they are earning now that is a value of 250 Tk/day, we can see that their income has tripled. So, as the Keynesian multiplier is a measurement of the degree of change in income due to change in investment, we can safely claim to some extent that the Keynesian multiplier is 3. This means that with every unit of increase in investment, people's income have increased by 3 folds. This is indeed an impressive value, and it just goes on to show what magnitude of development is possible with investment. It is important to keep in mind that we are considering the least increase in income i.e. the income of farmers due to the change in investment. If we considered those workers that were previously farmers, and are now directly employed by private investors where they receive 8000 Tk per month or more, again we can see massive improvement in the incomes of these people.

We have looked at different theories on growth and development, where one of the earliest growth theories was Rostow's Stages of Growth. Here, Rostow models development into five stages as was shown in the Background section. Matching Rostow's Stages of Growth with the current situation, we see that Maheshpur Upazila

remains in Stage 1 as a traditional society with a predominantly agriculture society and large pools of labor. However, we have seen Chaugachha transfer to Stage 3 as a society that is about to take off. This is true because industrialization has begun to occur on a massive scale; proper institutions are being put in place, and with proper training people are able to perform at a higher level than they were performing at. If we look at Lewis' two-sector model, we see that what he predicted has been true. However, what Lewis overlooked is that the increase rural to urban migration may give birth to the informal sector, something that is a reality today. Rural to urban migration is on the rise and keeps increasing every year with corresponding increase in urban industrial wages, and increase of the informal sector. When we look at these two Upazilas, we see that there had been migration from rural to urban areas. In Maheshpur Upazila, our respondents have reported to have known people who are migrating to Dhaka in search for better jobs, and a better standard of living. However, this is not the case in Chaugachha Upazila. Not only many people have come back from Dhaka to Chaugachha due to the newly found better earning facilities, but also it can be said that the migration rate has been contained to some extent.

Concerning poverty and its measurements, most of our respondents are operating under the poverty line, and significant portion of the Upazila is close to or already is stuck in a poverty trap. Contrarily, most of Chaugachha have already crossed the international poverty line by an impressive degree, and it is only a matter of time when the whole of Chaugachha Upazila will be above the international poverty line.

Regarding the “Big Push” theory, if we take the efforts of this private investor as a starting point, we can see that this investment did indeed push economic conditions forward, and set it into a continuum of activities. However, we cannot determine how valid the “Big Push” theory is at this point because we have not considered and examined the effects of doing investment bit by bit.

If we consider each of the development indicators for these two Upazilas, we can safely construe the following.

Table 8.1.1: Performance by Five Development Indicators

Development Indicators	With Investment (Chaugachha Upazila)	Without Investment (Maheshpur Upazila
Development Indicator 1 (Income)	Income has increased by an impressive amount for all respondents in our survey.	Income has increased to some extent over the years, but most of our respondents are struggling to make ends meet.
Development Indicator 2 (Health & Education)	Quality of healthcare and education has greatly increased, which has been testified by teachers and respondents in our survey. Further, better education and medical facilities are also being put in place.	Quality of healthcare and education is more or less stagnant, and has received displeasure from our respondents.
Development Indicator 3 (Women Empowerment)	The scope for women to earn the same as their male counterpart has indeed added to their empowerment. Child marriage or marriage at a young age still remains a challenge for the females of this Upazila.	Similar to Chaugachha Upazila, women face no restriction in being allowed to work, so they too are empowered to an extent. However, women are discriminated in regards to wages in the brick industry of this Upazila. Child marriage or marriage at a young age still remains a challenge for the females of this Upazila.

Development Indicator 4 (Standards of Living)	Standards of living is relatively better in Chaugachha due to savings, efficient waste disposal system, having proper access to gas, water, and electricity etc. However, to what extent private investment played a role in this part is unclear.	Standards of living is slightly worse off in Maheshpur Upazila due to lack of savings, lack of regional planning and management, but they also have proper access to gas, water, and electricity.
Development Indicator 5 (Quality of Life)	Quality of life has significantly increased in this Upazila; people have greater incomes, quality goods in the market, greater demand of goods and services. People in this Upazila are also happier.	Quality of life is more or less the same as it was before; respondents complain about struggling to make ends meet, greater living costs etc. There is a greater dissatisfaction in this area.

Such immense positive change has been possible due to investment from the private sector. An important thing to notice is that the nature of these private investments is such that it will attract more private investments, and this is exactly what has happened in the Upazila of Chaugachha. When one private investor started investing extensively, 8-10 other private investors were encouraged and invested. In the future, more private investors will get encouraged by looking at these 8-10 private investors, and invest further thereby pushing this Upazila into greater development with every investment. Lastly, we have seen that the efforts of one private investor allowed him to directly serve 2% of the whole Upazila (4500 people are employed under him, which is 2% of the total Upazila population) and indirectly serve the whole Upazila through spillover effects. So, this just goes on to show what a collective effort from more private investors will do to this area. Moreover, we must also try to understand the intention behind these investments. As was shown in the interview with the private investor, primarily this philanthropic approach from the private investor was influenced more so by religious and cultural beliefs rather than a profit motive. Although, this was initially the purpose behind

such investment, it wan not necessarily a trade off between profits. Without profits, these establishments would not be able to survive this long. The increase in development of this Upazila is something that was beyond comprehension, so this Upazila is a living proof that private investment actually has the ability to completely change an area.

8.2 The Case of Holistic Investment

One of the most important finding in this research is that the investment that has evolved in Chaugachha was not one sided; rather a wholesome approach towards investment had been embraced. This has been termed as a case of holistic investment in this thesis.

The private investor who was interviewed first of all focused on increasing the income of people through garments industries. Right afterwards, he moved onto increasing both the quality and accessibility of healthcare, education, recreation etc. thereby targeting all five of the development indicators. The issue here is not investing alone, but the approach that has been taken towards investment. This can be better explained with an example; suppose an investor invests in education and builds a school, which is free for all students. But there is an opportunity cost to attending that school; it may be that the family can barely survive and they need their child to work (as was the case with Maheshpur). So they don’t send their child to school, and instead makes him/ her work. Another example would include investments made in public sanitation. But, if families are uneducated and without work, they may actually die of malnutrition as this is what happens with beggars. So, there are loopholes to these kinds of investments.

In order to counteract this, a holistic approach towards investment should be embraced; holistic investment would pull families and households from the poverty traps, so they would not need to resort to desperate acts. By a holistic approach towards investment, investors should consider investing in such a way that at the very least income, health, and education all will simultaneously increase. By doing so, one won't resort to the next best alternative when things get tough. If an investor cannot do this on a massive scale, they can start with one household at the very least. Provide education for the children, facilitate some kind of employment facility for the breadwinner of the family or for both parents, and educate them on healthcare and hygiene etc. Afterwards, increase the number of household, and serve them in a similar manner. By doing so, all three basic components of development (income, health, and education) are targeted if not all five, and there would be no incentive for people to deviate from this way of life.

8.3 Policy Recommendations with Corresponding Strategies for Implementation

Before we consider policy recommendations, we must first take a step back, and rethink the conditions of these two Upazilas. At this point, there is a gap between the socio-economic conditions of these two Upazilas, so policies catered to one Upazila won't necessarily be as effective for the other Upazila. As such, two different policy toolkits have been prepared for the two Upazilas.

Upazilas Similar to Maheshpur

Maheshpur Upazila is still predominantly an agriculture-based society, and also it lacks a severe amount of private investment. With this in mind, the following policy recommendations have been constructed for Maheshpur and Upazilas like Maheshpur.

Table 8.3.1: Policy Suggestions with Corresponding Strategies to Induce Investment in Healthcare and Education

Objective:	**Greater Investment in Healthcare and Education**	
Policy Details	**Strategies**	**Time Frame**
Attract private investors to invest in healthcare and education	• Provide incentives or tax rebates to attract entrepreneurs to invest	Medium Term
Increase quality of healthcare and education available	• Bring in doctors/ teachers of better qualifications • Make this sector competitive by making it hard for doctors/ teachers to enter (have more than one interviews, make interview questions hard) • Increase the salary of doctors/ teachers and	Medium Term

	staff members	
Disseminate knowledge on hygiene, importance of education etc.	• Have unemployed people do this job. For a certain fixed wage, groups of people can go around different villages and inform them about hygiene and importance of education	Medium Term
Homogenization of education across rural areas	• Have the same syllabus in all parts of the country regardless of Bangla medium or English medium. Children should have proficiency in both these mediums.	Long Term
Stop child labor	• Have strict rules and regulations against child labor • Fine those factories that are employing children	Long Term
Keep costs of education and healthcare to a minimum so that everyone can afford it	• Provide subsidies in this sector as healthcare and education are necessities, not luxuries • Have volunteer teachers/doctors from all over Bangladesh to come and teach/ give treatment in a specific rural area for a specified amount of time	Long Term

Table 8.3.2: Policy Suggestions with Corresponding Strategies to Induce Investment in Goods and Services

Objective:	**Increase income and employment opportunities**	
Policy Details	**Strategy**	**Time Frame**
Attract private investors to invest in the manufacturing of goods and services	• Provide incentives or tax rebates to attract entrepreneurs to invest • Provide subsidies for certain sectors	Medium Term
Increase employment of rural people	• Build services or manufacturing industries where these people can work	Long Term
Utilization of human capability and human capacity	• Provide training facilities for workers • Make use of surplus labor and unemployed labor pool	Medium Term
Women empowerment	• Give jobs to women without any discrimination • Give women equal wage as men if they are of the same position	Medium Term
Create scope for tourism	• Increase the attractiveness of the Upazila by marketing and advertising its unique features, characteristics, which will increase the demand of the Upazila, and also attract visitors	Long Term

Upazilas Similar to Chaugachha

Chaugachha Upazila has immensely developed, and is on its way to becoming close to an urban centre. With this mind, policies must be made carefully, and catered to urban designing and urban planning. This is the prime time for such policies because things are still contained within the Upazila, and constructive planning is of quintessential importance for the future of Upazilas like this and its generations.

Table 8.3.3: Policy Toolkit for Sustaining Development in Chaugachha

Targeted Areas for Policies	**Strategies for Implementation**	**Implementation Agency**	**Timeframe**
Public Sanitation	Build public toilets, and have proper drainage and sewerage systems	Ministry of Planning, Ministry of Water Resources	Long Term
Contain pollution	Make the installation of ETP (effluent treatment plants) and WTP (wastewater treatment plants) mandatory for garments industries. Fine brick industries for the amount of carbon dioxide emitted into the air. Encourage industries to switch to environmentally friendly technologies. For any other polluting industries, embrace either command and control approach, or use regulatory instruments like levying taxes equivalent to the value of pollutants.	Ministry of Environment, Forest & Climate Change, Ministry of Water Resources	Medium Term
Maintain open spaces	Make certain green	Ministry of	Medium Term

and greeneries	portions of the Upazila off limits to industries and services. Landscape these areas to create it into parks, or tourist attraction spots.	Environment, Forest, and Climate Change	
Attract tourism	Highlight unique features and traits of this Upazila both nationally and internationally in order to increase tourism	Ministry of Commerce	Medium Term
Facilitate transport mobility	Invest in physical infrastructure to build a network of mass transit for industrial purposes	Ministry of Railways, Ministry of Road Transport and Bridges	Long Term
Informal Sector within the rural areas	Social and economic integration of the informal sector by keeping record of their work and income, and making it a part of the GDP	Ministry of Social Welfare, Ministry of Planning, Ministry of Finance	Medium Term
Have solid waste management system	Have a regulatory body monitoring and executing such waste management systems. Include separation of waste at source and appropriate disposal. Have solid waste treatment facilities.	Ministry of Environment, Forest, and Climate Change. Ministry of Water Resources	Medium Term
Ensure cost recovery of urban services through pricing	Promote a culture of paying for urban services by pricing urban services	Ministry of Cultural Affairs, Ministry of Finance, Ministry of Planning	Short Term
Attract private investment	Provide subsidies to attract entrepreneurs to invest	Ministry of Finance, Ministry of Planning	Long Term

Role of the Government:

- To make sure investments are streamlined and a holistic approach is taken towards development
- To instill strict rules and regulations pertaining to the education of children and well being of women
- To ensure proper implementation of policies
- To keep a record on the progress each Upazila is making in terms of income, health, and education
- To encourage private investors to invest in rural areas using regulatory instruments such as providing subsidies for investments in rural areas

Chapter 9

Conclusion

In this chapter, we draw conclusions from our study findings and analysis. Also, we highlight the limitations that we have faced in executing our research, and give some suggestions for future work as well.

9.1 Conclusion

To conclude, we see that private investment indeed has the power to change an entire Upazila. As was shown by the investment multiplier, increase in investment has led to at the very least three times increase in the incomes of people. This is the magnitude of development that is possible for the rural economy of Bangladesh. Furthermore, Chaugachha Upazila shows that these investments are not failed projects; rather it is sustainable and just as effective and profitable. However, instead of random investment, a planned investment targeting income, health, and education simultaneously will yield the optimal outcomes. For every region, there are different special factors that work in its development. From our case study, we see that rather than being motivated by profits, investment took place more on moral grounds. We can draw a lesson from this because if people go back to its origins like this one investor, it may just click and lead to the development of rural areas. Lastly, once a society begins to take its first steps towards development, and starts to take off by mimicking the characteristics of urban areas, attention must immediately be drawn to environmental infrastructure and services with appropriate policies in place. This will help preserve sustainability of both the economy and the environment.

9.2 Limitations and Future Work

There are a few major limitations to this report. The biggest one includes not being able to survey the entire population due to resource constraints, so this may decrease the validity and accuracy of this report. Next, the monetary amount of private investment injected was not disclosed, and further it was not recorded for every year. So, a quantitative correlation with regression analysis could not be carried out between the change in private investment, and changes in income or other factors. Another limitation may include the fact that these surveys were taken physically and in person. So, participants may be hesitant to reveal their true situation due to fear, intimidation, or other factors. Being shy and avoiding to express true thoughts and opinions is an unavoidable limitation, and could have contributed to bias in the findings of this report.

Suggestions for future work would include considering different aspects of a sub-district or district, and creating policies tailored to its unique traits and characteristics that will help develop that particular area. Some areas are better for tourism like Cox’s bazaar, Sylhet, Sundarbans, while other areas are good for industries for example Chittagong for shipbreaking due to Chittagong port, Rajshahi for jute mills as Rajshahi is situated along the banks of the Padma river where the raw jute fibre is mainly grown, so transportation and cost of raw materials can be decreased etc. Each city and industry/ service should be identified separately, and have its own economic planning and management that is pareto optimum for the environment, economy, and its people.

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Appendix A

Survey Questionnaire

বয়স :
লিঙ্গ :
পেশা:
শিক্ষাগত অবস্থান:
বাসস্থান :
উন্নয়ন সূচক ১:আয়
১)মাসপ্রতি আপনি কত আয় করেন?
২)১–৫ স্কেলের মধ্যে আপনি আপনার বর্তমান চাকুরি তে কত পরিসরে সন্তুষ্ট?
৩)আপনি কত দিন যাব□ এই চাকুরি করছেন?
৪)আপনার পূর্ববর্তী চাকুরি কি ছিল?
৫)আপনার আয় কত ছিল তখন?
৬)আপনার বর্তমান আয় দিয়ে কি আপনি দৈনন্দিন ব্যয় মেটাতে পারছেন?
৭)আপনার পূর্ববর্তী আয় দিয়ে কি দৈনন্দিন ব্যয় মেটাতে পারছিলেন?
৮)আপনার বর্তমান মূল খরচ কি?

উন্নয়ন সূচক ২: স্বাস্থ্য ও শিক্ষা
১)আপনি কি আপনার বর্তমান আয় দিয়ে প্রয়োজনীয় ওষুধপত্রাদি এবং মৌলিক খাদ্য সামগ্রী কিনতে সক্ষম?
২)যদি চিকি□সা সেবাকে ০–১০ এককে চিন্তা করা হয়,তবে আপনি কতটুকু কিনছেন?
৩)যদি শিক্ষা সেবাকে ০–১০ এককে চিন্তা করা হয়, তবে আপনি কতটুকু কিনছেন?
৪) আপনার কি মনে হয় এই এলাকায় শিক্ষা ও স্বাস্থ্য খাতে উন্নতি হয়েছে?
৫)১–৫ স্কেলের মধ্যে, আপনার সন্তানকে স্কুলে পাঠানো কতটা গুরুত্বপূর্ণ?
৬)আপনি কি মনে করেন আপনার সন্তানের জন্য কাজ শিক্ষার উত্তম বিকল্প?ব্যাখ্যা করুন

উন্নয়ন সূচক ৩: নারীর ক্ষমতায়ন

১)আপনি কী কাজ করেন?(শুধুমাত্র মহিলা)

২)আপনি কি একই কাজের জন্য পুরুষদের সমপরিমাণ বেতন পাচ্ছেন?(শুধুমাত্র মহিলা)

৩)নারীর কর্মসংস্থান এর ব্যাপারে আপনার মতামত কি একজন কন্যা,স্ত্রী বা মা হয়েও?নিম্নের যেকোনো একটি বক্সে টিক দিন

৪) আপনার কি ১৮ বছরের কম বয়সী কোন মেয়ে আছে, যাকে আপনি বিয়ে দিয়েছেন?

৫)বাল্যবিবাহের ব্যাপারে আপনার মতামত কি? (১৮ বছরের কম বয়সে বিয়ে)নিম্নের যেকোনো একটি বক্সে টিক দিন

৬)আপনার পূর্বের উত্তরের ব্যাখ্যা দিন

৭)আপনার আয় যদি যথেষ্ট হয়,তবে কি আপনি আপনার মেয়ে কে দেরিতে বিয়ে দিবেন?

উন্নয়ন সূচক ৪:জীবনযাত্রার মান

১) আপনি কি প্রয়োজনীয় গ্যাস,পানি ও বিদ্যু□ সরবরাহ পাচ্ছেন?

২)আপনার এলাকায় কি পাবলিক টয়লেট সহজলভ্য?

৩)আপনি সাধারণত কোথায় ময়লা আবর্জনা নিষ্কাশন করেন?

৪)মাস শেষে প্রয়োজনীয় ব্যয় মেটানোর পর আপনি কতটা সঞ্চয় করতে পারেন?

৫)আপনি কি ব্যাংক থেকে ঋণ নেন?

৬)কি হবে যদি কেউ এই ঋণ শোধ করতে না পারেন?

৭)আপনি ব্যক্তিগতভাবে কতজন কে চিনেন যারা উত্তম জীবনযাত্রার উদ্দেশ্যে ঢাকা/ বিদেশ চলে গিয়েছেন?

উন্নয়ন সূচক ৫:জীবনযাত্রার উ□কর্ষ

১)আপনি কি মনে করেন এই নতুন সংস্থানের জন্য আপনার অবস্থার পরিবর্তন হয়েছে?

২)আপনি কি মনে করেন এই বিনিয়োগের মাধ্যমে এই এলাকা এবং এলাকার লোকের উপকার হয়েছে? যদি হয়,কীভাবে?

৩)আপনি কি ভবিষ্যতে এরকম আরও বিনিয়োগ দেখতে চান?

৪)আপনি কি এই ধরনের বিনিয়োগের কমপক্ষে একটি অসুবিধা দেখতে পান?

৫)আপনার কি মনে হয় এই এলাকায় অপরাধের মাত্রা কমেছে?

৬)এই এলাকার প্রচলিত অপরাধগুলি কি?

৭)এই এলাকার উন্নয়নের জন্য কি করা উচিত বলে আপনার মনে হয়?

৮) আপনি অবসরে কি করেন?

৯)সর্বোপরি,আপনার বর্তমান জীবন নিয়ে আপনি কতটুকু সন্তুষ্ট ?

Appendix B

Pictures from Chaugachha Upazila

Entrance to Private Hospital

Chaugachha rural people working in garments factories

Chaugachha rural people working in garments factories

Rice Mill in Chaugachha

Cold Storage in Chaugachha

Chaugachha local people in training

Restaurant in Chaugachha

Playground in Chaugachha