

HEAL AND HOPE

CENTER FOR TRAINING AND REHABILITATION OF DESTITUTE

WOMEN

By

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A thesis submitted to the Department of Architecture
in partial fulfillment of the requirements for the degree of
Bachelor of Architecture

Department of Architecture
Brac University
May, 2021

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ABSTRACT

In Bangladesh, a large proportion of people living in poverty are women. These women are often considered to be a burden by their families and married off very early, with no education and money. Many of them are forced to live in destitute conditions even after marriage as they become victims of harassment and abuse, especially for dowry. An unconditional access to education, marriage and reproduction by choice, and working to provide remain only a dream for the poor women of Bangladesh.

Heal and Hope is a center for training and rehabilitation and attempts to be a home and simultaneously, an escape for the destitute women of Bangladesh. At Heal and Hope, women will be able to heal through environment and training. They will learn how to improve their skills in IT, agriculture, arts, cooking, pottery, sewing, handicrafts and Nakshi Kantha so that they may be able to help themselves out of poor conditions and lead an independent life whether or not they have a family.

ACKNOWLEDGEMENT

I would like to begin by thanking the Most Gracious, the Most High, Almighty Allah; I thank You for Protecting me, Granting me the patience and strength to never give up and for blessing my life with so many wonderful people.

My mother, Shahana Yasmeen and father, Mohammad Zakaria, I do not know where I would be without your constant prayers and unconditional love. You both have taught me the greatest lesson of all; kindness. I am so lucky to have the greatest parents one could ever ask for. To my guardian and sister, Abeer Zakaria, thank you for everything you have done and the care you provided when I was away from the shelter of parents. To Marwa and Anas Zakaria, thank you for always entertaining me and lending your shoulders to cry on.

I want to offer a massive thank you to my teachers. Dr. Iftekhar Ahmed, sir, thank you for being so patient with me throughout this journey. I truly appreciate your constant support and fierce, yet honest push to achieve good work. I feel extremely lucky to have received your guidance in Seminars I and II and Design X. This project would not have been complete without your help, sir. Dr. Zainab F. Ali, ma'am, thank you for your warmth and kindness throughout the semester. Your belief in us has been overwhelming. To Abul Fazl Mahmudun Nobil sir, thank you so much for letting our minds wander and encouraging us to aspire great things. Your passion for Architecture has been remarkable and awe-inspiring, sir. To Saad M Kaikobaad sir, thank you so much for always being available and directing me whenever it was needed.

I want to offer my gratitude to Khondaker Hasibul Kabir sir, for teaching me so much

about all that is around us. Thank you sir, it has always been refreshing to see how one can be so wise yet humble and so down to earth.

To Mohammad Habib Reza sir, thank you for guiding us in Seminar I and II. Sir, your lessons with a hint of wit and humour, has been one of the many highlights of my journey.

I want to thank Dr. Muhammad Faruk. I sincerely value all your advice, kindness and support throughout this journey. Thank you so much, sir.

Thank you, truly, to all my teachers that have taught me since the time I have embarked on the voyage of Architecture.

To Bushra Hassan, thank you for your genuine care, constant prayers and all the long hours of therapy sessions. To Parapar Shammon, thank you for being there since Day 1 and teaching me what it truly means to be selfless. To my partner in crime, Jannatun Nayeem, thank you so much for handling my panic attacks and helping me, particularly in this project. To Haroon Ashraf, for believing in me and making me laugh even in the most stressful of days. To my friends Ayesha, Afsara, Fati and Bushra, thank you for being the much needed source of entertainment and mental support throughout this ride.

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CHAPTER 01: INTRODUCTION

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- 1.2 Project Brief
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- 1.4 Project Aims and Objectives
- 1.5 Project Rationale
- 1.6 Program Overview
- 1.7 Chapter Conclusion

This chapter will briefly introduce the project, 'Center for Training and Rehabilitation of Destitute Women' and discuss the reasons for its importance.

1.1 Project Background

Women make up a majority of the poor and are often the poorest of the poor. According to the Center for American Progress, 12.9% of women lived in poverty compared with 10.6% of men, in 2018. Nearly 10 million women lived in deep poverty, and are defined as falling below 50% of the federal poverty line.

The societal disadvantages and inequalities women face merely because of their gender shape their experience of poverty differently from that of men, increases their vulnerability, and makes it more challenging for them to climb out of poverty. In other words, poverty is a gendered ordeal — discussing it requires a gender analysis of cultural norms and values, division of assets, the power dynamics between men and women, work and responsibilities.

Women and girls endure an unequal burden of unpaid household responsibilities and are extensively represented in informal jobs. In most societies, a typical setting exhibits a woman's role as largely related to the home, as a mother and caretaker, and men's role as responsible for productive activities outside the home. These norms have an acute influence on institutional policies that define men and women's access to profitable resources such as employment, education, land and credit. This is the scenario observed in most homes in Bangladesh, particularly in the poverty-stricken, rural areas.

According to The Borgen Project, 31.5% of the population of Bangladesh is currently living below poverty line, greater than any other South Asian country. The Bangladeshi women suffer the challenges posed by poverty more than men because of the deeply entrenched patriarchy in the country. The pressures and agonies of dowry, being forced into early marriage and reproduction and limited access to education and health care are all examples of the challenges faced by women and girls in Bangladesh every day. Because of the limitations to resources, many women conform to the pressures and devote their lives to domestic chores. Therefore, a high proportion of Bangladeshi women do not actively look for paid jobs or employment.

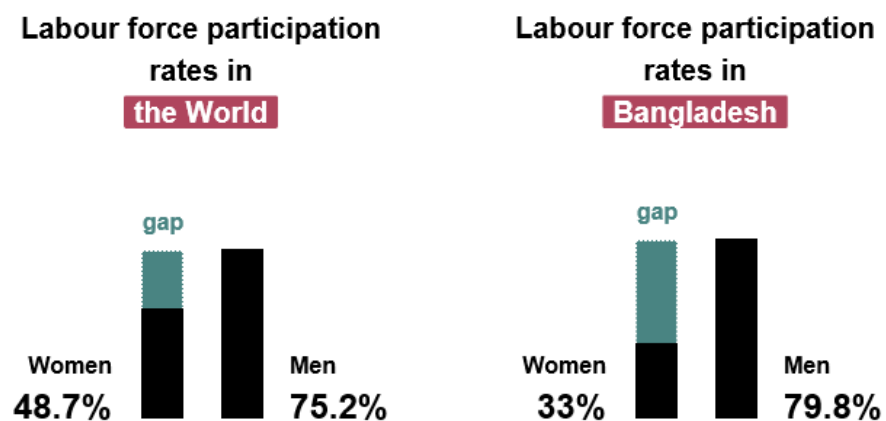


Figure 1.1 Labour Force Participation (Source: *World Employment and Social Outlook: Trends for Women 2017*)

1.2 Project Brief

Project name: Center for Training and Rehabilitation of Destitute Women

Location: Chhatrapur, Mymensingh.

Client: Ministry of women and children affairs

Site Area: 8.2 acres (360375.721 square feet)

1.3 Project Introduction

“There is no tool for development more effective than the empowerment of women and girls,” -- Secretary-General Kofi Annan at a round table discussion in November 2006, that marked the 60th anniversary of the Commission on the Status of Women at Headquarters.

According to Country Meters, 84.8 million women contribute to the total population of Bangladesh. With such a high proportion of women being victims of toxic patriarchy, it is crucial to raise awareness on the importance of empowering women and the gravity of the benefits that come along with more women joining the labour force. Therefore, in sight of the significance of the matter, a proposal for an opportunity center is in order.

This center will aim to empower the destitute women and girls of Chhatrapur, Mymensingh and encourage them to join the labour force through extensive training, and help them to deal with the pressures of domestic responsibilities through therapy, seminars and classes.

1.4 Project Aims and Objectives

The aim of this project is to train, educate and heal the destitute women of Chhatrapur, Mymensingh in various ways so that they may in turn help themselves and their families out of poverty and impoverishment.

This center for training and rehabilitation will be devoted to eradicating social and economic barriers that cause women to be unemployed.

The center will focus on raising awareness about women's rights in society through public advocacy. Furthermore, it will provide training and conduct courses on various types of work such as computers, pottery, handicrafts, entrepreneurship etc. It will also outlet platforms that will enable women to exhibit and market the skills that have been taught to them at the center.

1.5 Project Rationale

In many Bangladeshi households, girls and women are considered to be burdens by their families and when married off quickly, a pawn for harassment and abuse for their husbands and in-laws.

The women in Bangladesh, particularly those living in poverty, have been struggling to exercise the freedom to do practically anything all their lives. An unconditional access to education, marriage and reproduction by choice, and working to provide remain only a dream for the poor women of Bangladesh.

Warranting that women have access to these rights is an important end in itself; however, the process should not end there. It is crucial to provide women with such a platform that will enable them to exercise their rights and maintain the cycle of empowerment for generations of women to come.

Moreover, according to the International Labour Organisation, reducing the gender gap in the labour force participation can drastically improve and increase the GDP in all regions and subsequently cause global tax revenue to increase by US\$1.5 trillion.

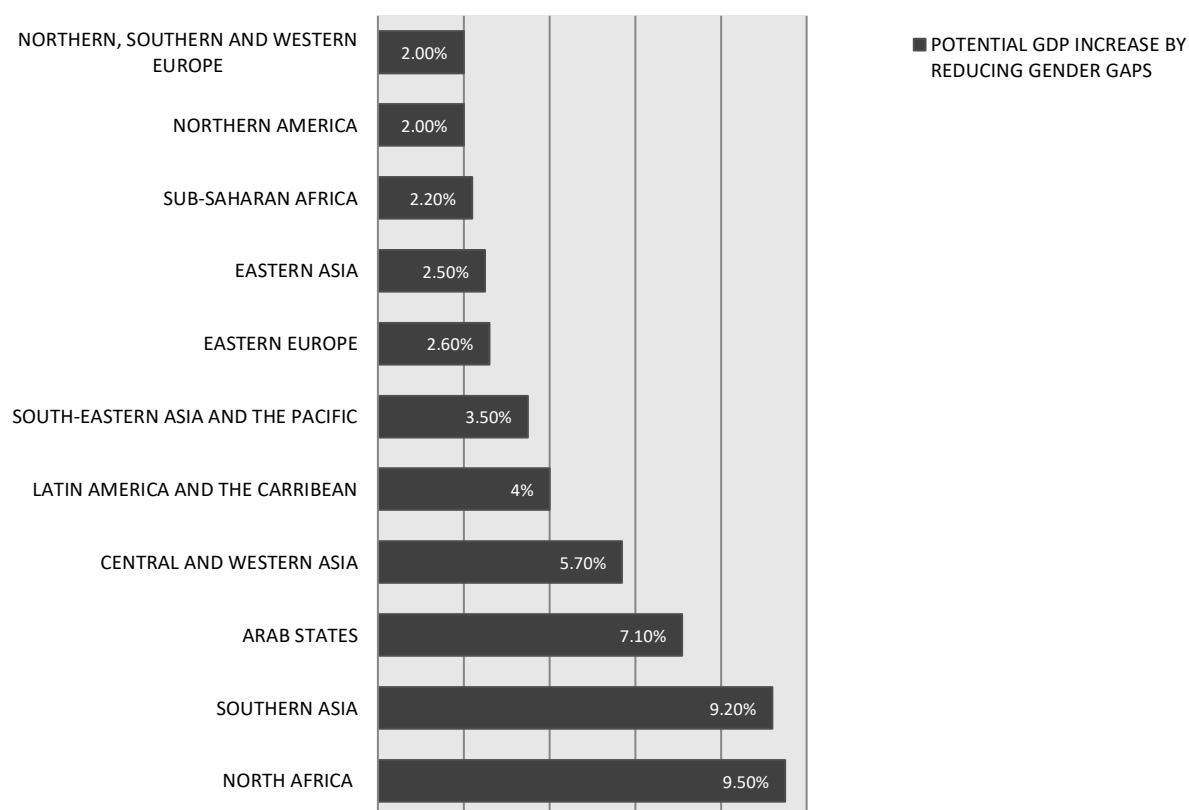


Figure 1.2 Potential GDP Increase by Reducing Gender Gaps (Source: *World Employment and Social Outlook: Trends for Women 2017*)

Although, the empowerment of women is necessary in all parts of Bangladesh, this project will target the women in Chhatrapur, Mymensingh. Mymensingh is a district and

the capital of Mymensingh division in Bangladesh. It is regarded as one of the poorest regions in the country. A study conducted by the Bangladesh University of Agriculture identified the factors influencing women empowerment in Mymensingh and showed alarming statistics relating to employment rates, access to education and household incomes of the two genders in several families.

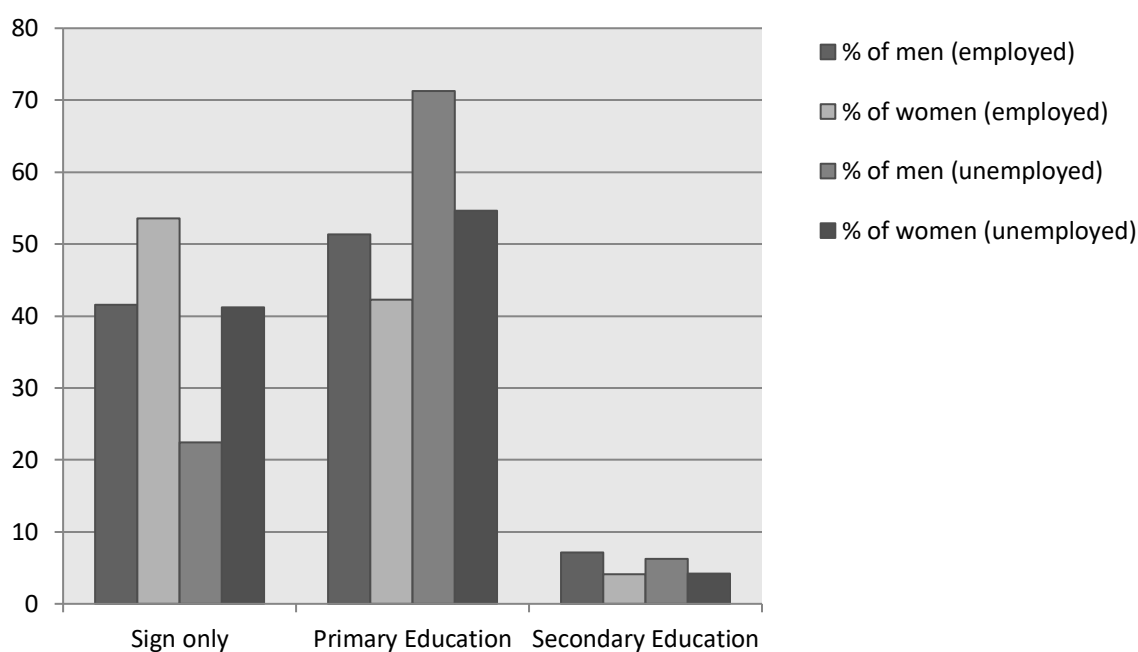


Figure 1.3 Relationship between Literacy and Employment in Mymensingh
 (Source: *Employment and empowerment of rural poor women in Mymensingh District of Bangladesh, Progressive Agriculture, 2020*)

1.6 Program Overview

The Center for Training and Rehabilitation of Destitute Women will comprise of four important zones: administrative, educational, recreational and residential. Each zone will house programs of three categories: public, semi-public and private.

i. Public:

Administration

The administrative block comprises of a number of offices and record rooms, a prayer space and a reception.

Medical facility

The medical facility will incorporate an office for one doctor and nurse for primary medical tests and prescriptions, a first aid room for emergencies and a store that shall log all medical records of the members of the center.

Exhibition Space

The permanent exhibition spaces will be used to showcase and exhibit the various work delivered by women. Along with that, women shall also present the training they have received in the center, in this space.

The exhibition space will allow women to present exhibits seasonally and on special occasions or fairs.

Restaurant

The restaurant is available to all visitors, staff and members. It will house 150 people at once.

Multipurpose Space

This space is available to all visitors, staff and members and shall house various types of activities.

- ii. Semi-private:

Library

The library will be accessible by trainers, trainees and staff only. It will allow its users to browse through books and carry out web based researches to spark their interests.

Classrooms and studios

The classrooms and studios will be accessible by trainers and trainees. Classrooms will be used for courses and lessons. The studios will be used to house workshops and practical training.

Primary School

The primary school will allow the children of the members to participate in various types of learning; educational and recreational activities.

iii. Private:

Dormitories

The dormitories will shelter women that have been through violence and forsaken by their families or in-laws. The dormitories will comprise of a dining area, kitchen, indoor games room and a courtyard.

The dorms shall be of two types: a family unit for women with children and a female dorm for single women.

Staff accommodations

Members of the staff may reside in staff accommodations.

1.7 Chapter Conclusion

It is evident from various data and discussions that reducing the gender gap in labour participation and empowering women can only bring about a positive change. Doing so has positive impacts on the mental welfare of the women themselves as well as the society as a whole. It is no secret that women are the very spine of their families and responsible for raising generations and thus, empowering women shall bring about a hopeful future.

CHAPTER 2: LITERATURE REVIEW

2.1 What is poverty? What is absolute and relative poverty?

2.2 How does poverty affect women more than men?

2.3 A closer look at the destitute women in Bangladesh

2.4 Understanding the gender gap in employment

2.5 Bridging the gap

2.6 Understanding the importance of women empowerment

2.7 Understanding the significance of 'Center for Training and Rehabilitation of Destitute Women'

This chapter will seek to understand why poverty affects women more than men and provide an in depth analysis on the gender gap in employment and the factors that cause it.

2.1 What is poverty? What is absolute and relative poverty?

The term poverty paints a picture in our minds of an individual who does not have enough resources – money, food, shelter etc. However, poverty is much more complex than that. According to the World Bank Organisation:

“Poverty is hunger. Poverty is lack of shelter. Poverty is being sick and not being able to see a doctor. Poverty is not having access to school and not knowing how to read. Poverty is not having a job, is fear for the future, living one day at a time.

Poverty has many faces, changing from place to place and across time, and has been described in many ways. Most often, poverty is a situation people want to escape. So poverty is a call to action -- for the poor and the wealthy alike -- a call to change the world so that many more may have enough to eat, adequate shelter, access to education and health, protection from violence, and a voice in what happens in their communities.”

It is important to note that money does not narrate the full story of poverty. While low income is a primary contributing factor, other indicators such as nutrition, sanitation, clean water supplies and other utilities must be taken to account as well. Furthermore, to make matters worse for those living in such conditions, worldwide statistics conclude

that people being born into poverty are more likely to remain poor and struggle their entire lives to make ends meet. (Adapted from *What Is Poverty? - Economic and Social Inclusion Corporation*, n.d.)

Poverty can be classified into two categories: absolute poverty and relative poverty. Absolute poverty is a circumstance in which a household income is below a certain level to keep up with basic living standards such as food, shelter, housing, safe water etc. Relative poverty is a circumstance in which a household income is a definite percentage below median incomes. This percentage is area specific and varies with economic growth.

In both cases, poverty is exclusion, and a consequence of economic, social and political factors. Thus, the question arises; is poverty really measurable? If so, is everyone in poverty, absolute or relative, suffering equally? (Brown, 2018)

2.2 How does poverty affect women more than men?

Gender inequality is an issue that is evident in all aspects of society, everywhere. This issue is directly related to poverty and according to a number of statistics; women are regarded to be poorer than men and more likely to live in poverty. One of the main causes for these statistics is cultural norms and traditions that oppress women and deny their voices, underrate their abilities and view them to be inferior to men.

In many countries, women still do not have the right to education and the freedom of choice: to work, marry and reproduce. In addition, to that many societies deny women of the right to their assets merely because they are women. Systems like these are

catalysts for the feminisation of poverty. These women have no money of their own, and it is a known fact that money means power; the power to have a choice, the power to exercise basic rights and the power to be independent and free. These women are usually forced into marriage, wherein they suffer violence and harrasment and most are compelled to stay due to having no money or assets of their own. On the other hand, the women who step out of such circumstances end up in destitute conditions, abandoned by their families with no jobs due to lack of education and skill. These conditions lead to homelessness, abuse and severe food insecurity. According to a report by the Food and Agriculture Organisation of the United Nations, women in every region were more likely to be food insecure than men in 2017. (Bureau of International Information Programs, 2012; *Why the Majority of the World's Poor Are Women*, 2020)

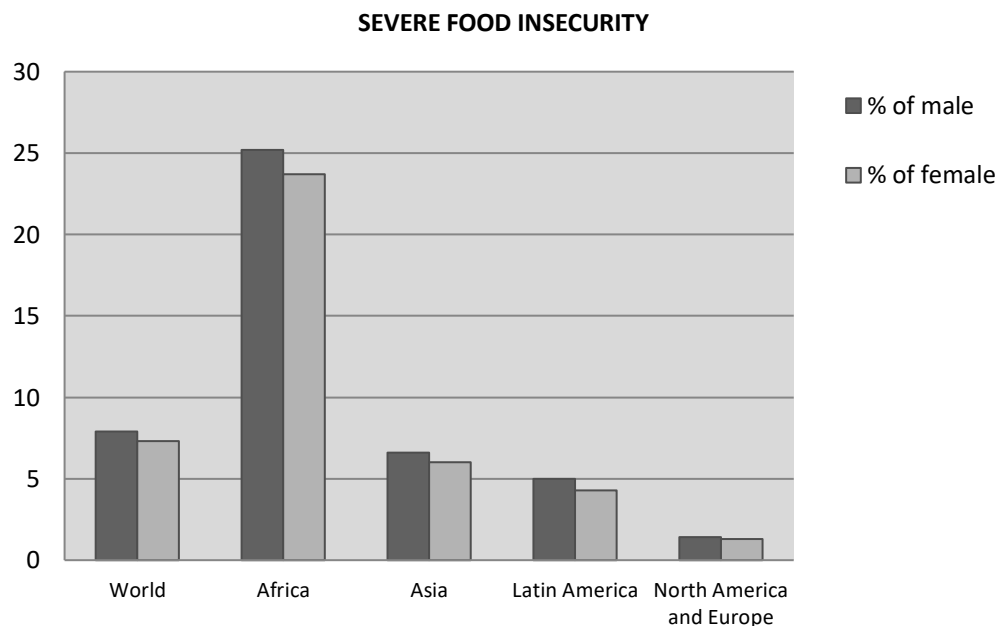


Figure 2.1 Comparison of the prevalence of severe food insecurity among men and women aged 15 years and older (2014-16 three-year averages). (Source: *FAO Voices of the Hungry Project*)

2.3 A closer look at the destitute women in Bangladesh

The Bangladeshi society is a high functioning patriarchy wherein women, particularly those born in low-income circumstances, are destined to a life of hardships and hunger. Girls usually obtain less food than their male siblings since birth because they are viewed as economic liabilities to the family and traditionally not expected to look after their parents in old age. And hence, they are married off as early as possible, without any choice. Furthermore, since women are regarded as burdens to the society they are often exchanged for money in the form of dowry. In marriage, the woman must adjust to the ways of the husband and his family, most endure other wives and mistresses, hard labour, and mental and physical abuse. The abuse is usually expressed when dowries are not paid in full and can also lead to the woman's husband or in-laws starving her.

In Bangladesh, being a woman is unfortunate enough because she always has to be dependent on someone, for instance her father, brother or husband. A woman is further classified as destitute if she is orphaned, widowed, divorced, abandoned, has a disabled spouse, penniless and unemployed. This can be said for a high proportion of women in Bangladesh. (Adapted from Chowdhury et al., 2016, p. 303; Katona-Apte, 1988, p. 4)

2.4 Understanding the gender gap in employment

Due to the lack of rights millions of women all around the world are not in the labour force or do not actively seek job opportunities. According to the International Labour Organisation (ILO) the current global gap for employment is a difference of 26 points,

with 75% of men and just 46% of women in the labour force. In Bangladesh, this difference is about 46.8 points, with just 33% of women in the labour force.

According to the ILO, about 6% of women in the labour force are still unemployed globally (7% in Bangladesh). (*Why the Majority of the World's Poor Are Women*, 2020)

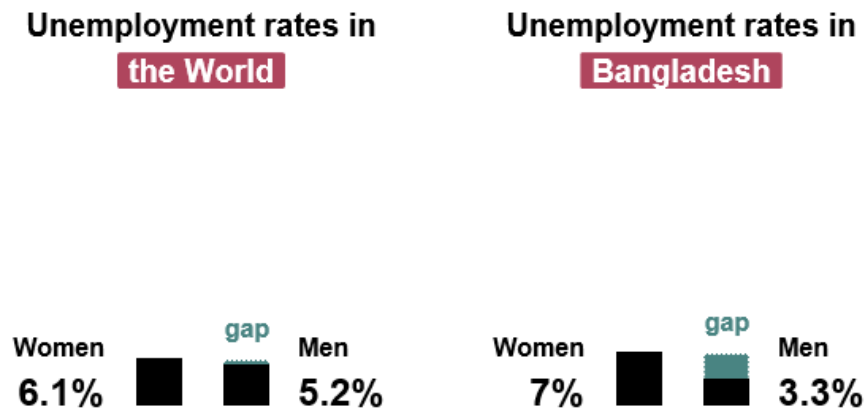


Figure 2.2 Rates of Unemployment. (Source: *World Employment and Social Outlook: Trends for Women 2017*)

The trouble does not end with unemployed women. The percentage of women that are employed have to often work in extremely vulnerable conditions. Vulnerability arises from women in paid jobs working shorter hours – usually not by choice or when women are employed as contributing family workers in businesses owned by relatives, when there is a lack of maternity coverage and social protection access. (*Why the Majority of the World's Poor Are Women*, 2020)

Apart from this, a high proportion of women spend most of their lives in unpaid household and care work. Unlike paid jobs, this work is not a six or eight hour job. These women spend every minute of every day doing household work and caring for the family. Thus, technically, women work almost three times more than men.

For this very reason, it is important to stress that women need a job to escape the fury of poverty, and not because they do not work enough. Women can not provide financially mainly because they do not have spare time in which they could actively be seeking opportunities. (Hughes 2017, Khader, 2019)

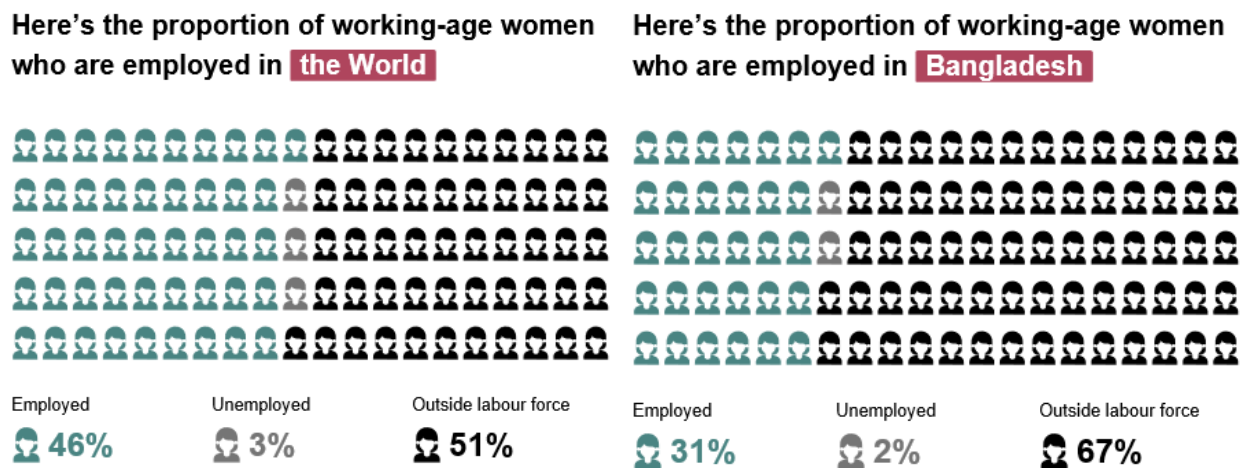
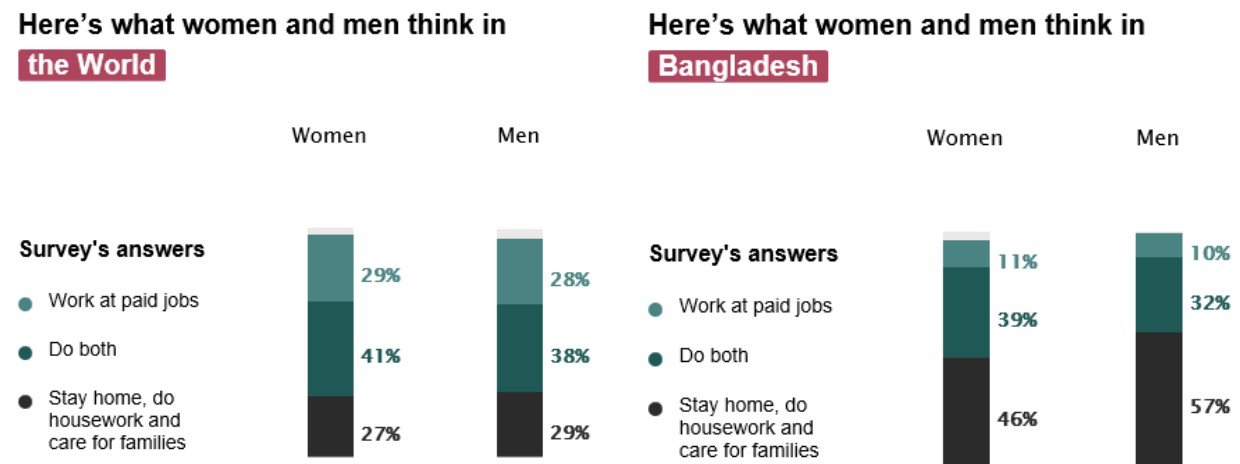


Figure 2.3 Proportions of Employed Women. (Source: *World Employment and Social Outlook: Trends for Women 2017*)

While things have certainly improved for women over the years, in terms of employment, there are many people, both men and women around the world, who still think women should continue to only participate in unpaid household and care work.



2.5 Bridging the gap

The empowerment of women ensures colossal gains, economically and socially. According to Asian Development Bank, more than a hundred million people could be scooped out of poverty if women had the same access to productive resources as men.

These assumptions all aid to having more people give women a chance at work, but for women to actually seek employment, it is important to create circumstances that would enable them to do so and mitigate the factors that act as their barriers. (*Gender*

Equality: Bridging the Gap, n.d.; *The Gender Gap in Employment: What's Holding Women Back?*, 2017)

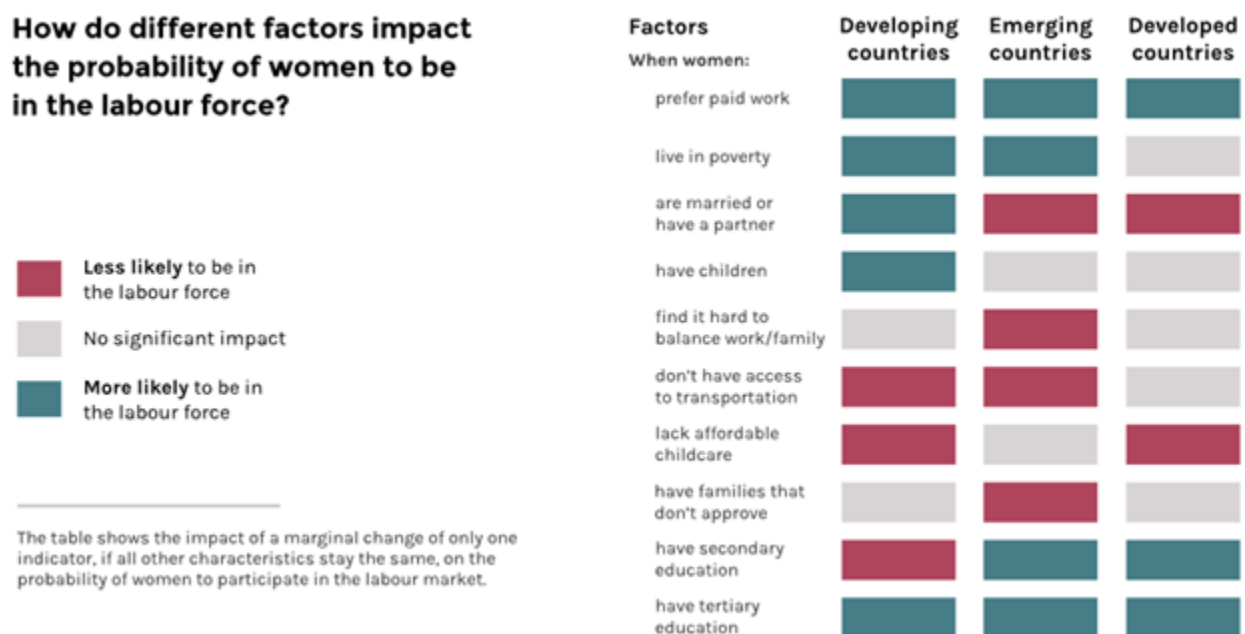


Figure 2.5 Factors Affecting the Numbers of Women in the Work Force (Source: World Employment and Social Outlook: Trends for Women 2017)

To bridge the gender gap of employment, the primary principles that need to be taken into account are as follows:

- i. Achieve equal pay: This principle must be safeguarded by law. With equal pay for both genders, the competition of superiority can be put to rest.
- ii. Tackle occupational segregation: This principle would succeed to recognize care jobs, in which women are often overrepresented in, as a high value occupation.
- iii. Generate quality care jobs
- iv. Advocate work-family balance
- v. Protect against economic crises
- vi. Eliminate discrimination
- vii. Provide women friendly and efficient transportation (*The Gender Gap in Employment: What's Holding Women Back?*, 2017)

2.6 Understanding the importance of women empowerment

In simple words, an empowered woman is one who has 'choice'. The choice to seek education, the choice to not be forced into early marriage, the choice to work if she wants to, the choice to spend her income in the way she wants to and the choice to benefit from the resources, that she had invested time and effort into, however she wants to. (Adapted from *Facts and Figures: Economic Empowerment*, 2018; Human and Hope Association, 2018)

Essentially, women empowerment is necessary for the growth of society in many ways, and particularly, economically. With more women in the labour force there is an increase in economic diversification and thus the overall GDP. According to the UN

Women, it is estimated that companies with three or more women in senior management functions score higher in all dimensions of organizational performance. Furthermore, increasing the number of women in the labor force has been regarded to increase the GDP by a whopping 1.5 trillion US Dollars. (Hawley, 2016; *The Gender Gap in Employment: What's Holding Women Back?*, 2017)

Bangladesh has come a long way in terms of women empowerment and gender inclusivity, but we still have a long way to go. This is evident from the study carried out by the BAU in Mymensingh that studied the patterns of literacy rate, employment, marriage and monthly income.

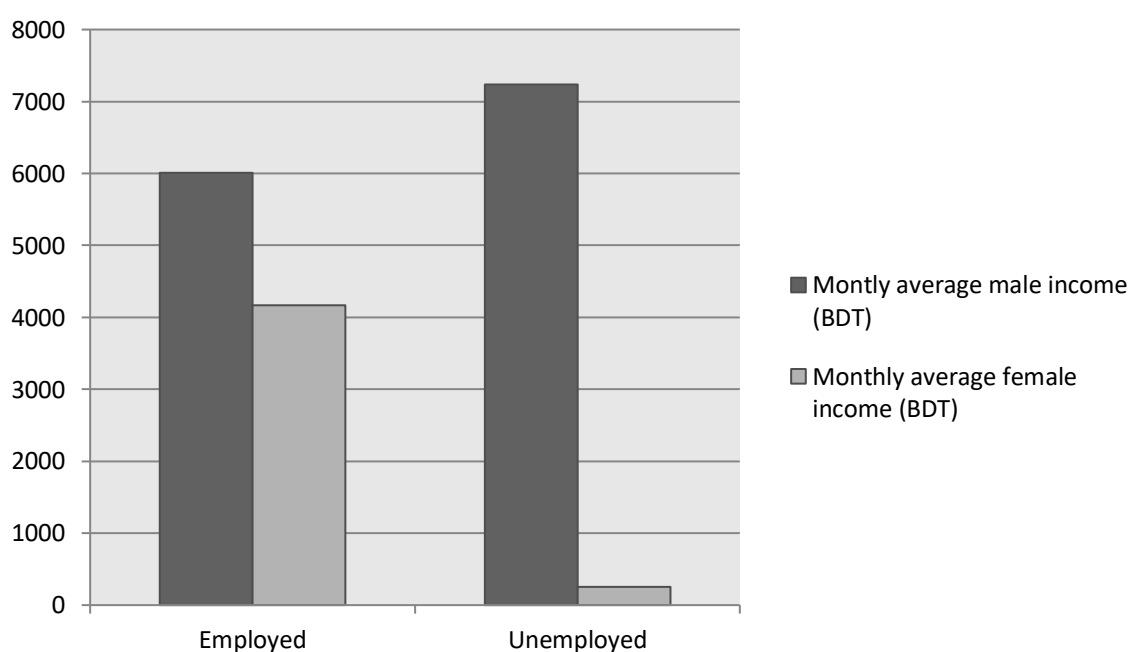


Figure 2.6 Male and Female Monthly Income in Mymensingh
(Source: *Employment and empowerment of rural poor women in Mymensingh District of Bangladesh, Progressive Agriculture, 2020*)

Results from the study clearly indicated a significant wage gap between the men and women of Mymensingh. The study also concluded that as the age gap increases between married couples, a woman's right to decision making decreases. It is important to understand that a Bangladeshi male usually looks to marry a young or underage girl to sustain a controlling and dominant position in the household. (Chowdhury et al., 2016, p. 303)

Women are inherently nurturing but when a woman is suppressed she lives in constant fear and cannot voice her opinions even if that means her opinions aid the situation of her and her family. Thus, it is important to advocate the importance of empowering women and to promote equal rights for all genders. (Human and Hope Association, 2018)

2.7 Understanding the significance of 'Center for Training and Rehabilitation of Destitute Women'

The Center for Training and Rehabilitation of Destitute Women in Mymensingh will aim to aid the women of Chhatrapur, Mymensingh by prepping them for opportunities to support themselves and their families. It will provide comprehensive training and education for programs such as computing, producing and selling handicrafts, pottery and other items of merchandise, cooking, screen printing etc. The center will provide shelter to the women that have been abandoned or harassed by their families and along with that, provide primary education for their children if they have any.

The center will seek to rehabilitate the destitute women by preaching and raising awareness about women's rights in society through seminars and lectures, and encourage women to carry the torch of empowerment forward. It will also aim to restore the psychological well-being of these women through its landscapes and design.

The center will also advocate women empowerment by generating activities that would attract the public and discussing with them the numerous benefits of including women in the labour force.

CHAPTER 03: SITE APPRAISAL

3.1 Location and Demography

3.2 Site Surroundings

3.3 Climate Analysis

3.4 Vegetation and Soil Analysis

3.5 SWOT Analysis

The chapter will discuss an analysis of the site, its surroundings, landscape, climate and social aspects.

3.1 Location

The site is located in the area of Chhatrapur, in the Mymensingh District of Bangladesh. It is the capital of the Mymensingh Division.

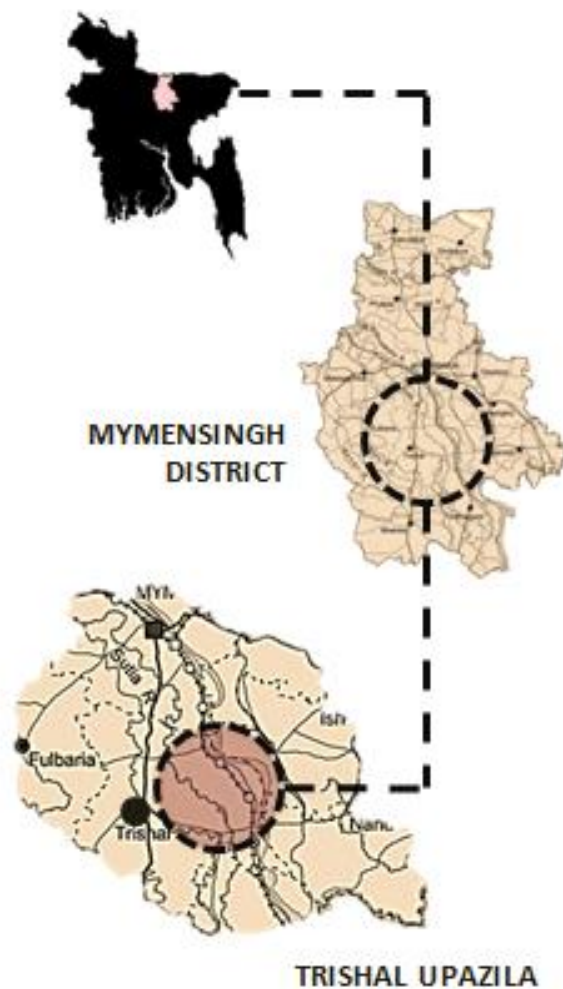


Figure 3.1 Location of Project Site (Source: Google Earth, Maps.
Diagram: Author)

Mymensingh Division shares international borders in the North, with the city of Meghalaya in India and the Garo Hills, and national borders with Gazipur district on the South, Netrokona and Kishoreganj districts in the East, and the districts of Sherpur, Tangail and Jamalpur on the West.

The district is comprised and of thirteen upazilas: Ishwarganj, Gaffargaon, Gauripur, Trishal, Dhobaura, Nandail, Phulpur, Fulbaria, Bhaluka, Mymensingh Sadar, Muktagachha and Haluaghat, eight municipalities, 146 union parishads, 84 wards, 206 mahallas, 2201 mouzas and 2709 villages.

The population of Mymensingh is about 5,110,272 with 49.69% of males and 50.31% of females. (*Bangladesh: Divisions and Urban Areas - Population Statistics, Maps, Charts, Weather and Web Information*, n.d.)

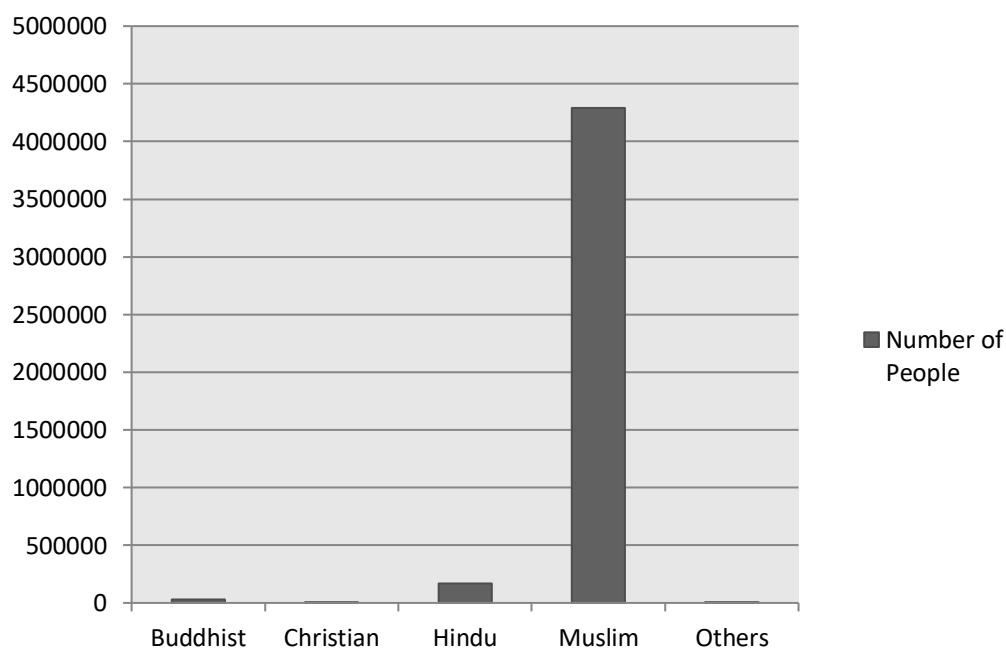


Figure 3.2 Populations by Religion (Source: *Banglapedia*. Diagram: Author)

Apart from Buddhists, Christians, Hindus, Muslims and other beliefs, indigenous communities such as Barman, Dalu, Garo, Hajong and Koch reside in Mymensingh district.

Some notable water bodies in this district include The Brahmaputra River, Bhogai, Kangsa and Bajua Rivers.

The Brahmaputra River flows through a part of Mymensingh and was approximately ten kilometers wide a hundred years ago. Today, however, it flows only seasonally in the area. A large proportion of land recovered from this riverbed for a hundred years known as the chars. These lands make up a great part of Mymensingh today. Seasonal flooding of the river revitalizes the land and makes it more fertile. It also aids to create pools of native fish that make up most of the local's people diet. (*MediaWiki 1.35*, n.d.)

3.2 Site Surroundings



Figure 3.3 Site Surroundings (Source: Google Maps,
Diagram: Author)

The site is located on the West bank of Brahmaputra River and is an area of 7.93 acres. It is located near notable areas such as the Bangladesh Agricultural University, its Botanical Garden, its Railway station and Sutiakhali Highway.



Figure 3.4 Figure-Ground Ratio (Source: Author)

The figure ground ratio of the site and its surroundings show that there are ample open spaces within walk able area from the site.



Figure 3.5 Building Use Map (Source: Author)

A building use map demonstrates that the site has been mostly used for residential and educational purposes. A local bazaar located along the Sutiakhali Road adds to the many strengths of the project site.

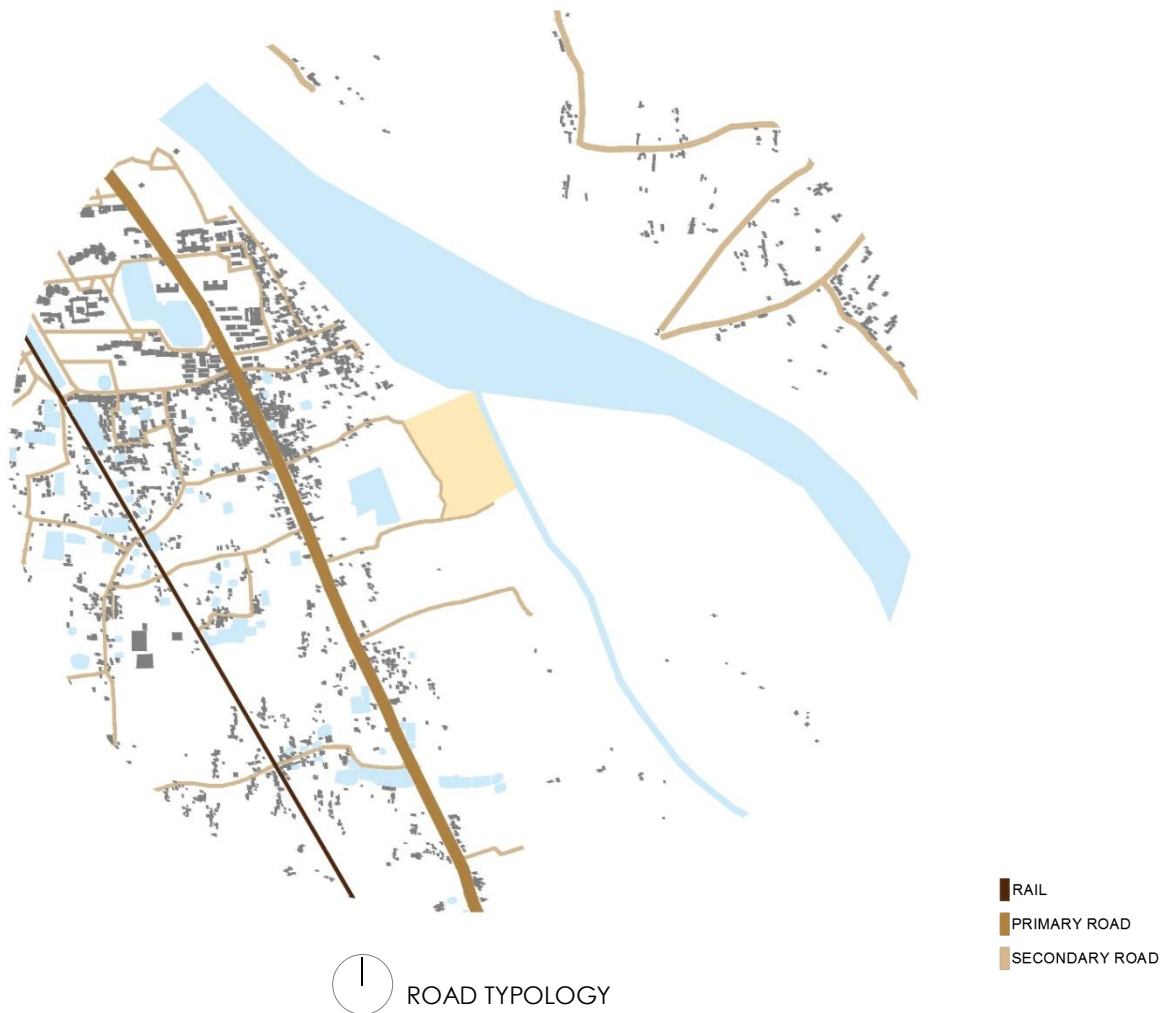


Figure 3.6 Road Typologies and Network (Source: Author)

This map shows the road network and typologies in the area. The only primary road here is the Sutiakhali road which connects to the site through 20 feet wide secondary roads.



Figure 3.7 Vegetation Ratio (Source: Author)

This foliage map attempts to illustrate the ratio of foliage present in the area.

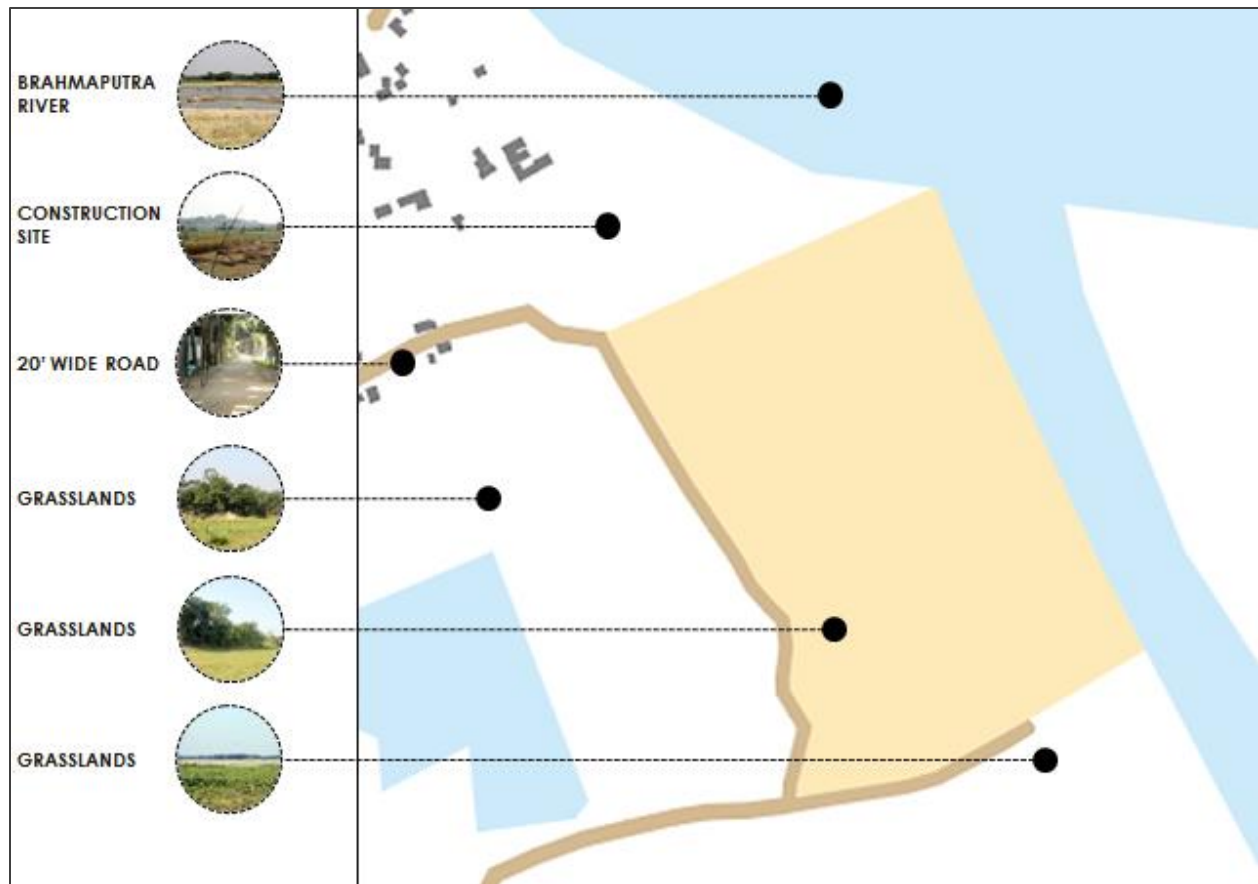


Figure 3.8 Site (Source: Google Maps, Diagram: Author)

The site itself is grassland and overlooks large masses of grassland in the East and South, as well. It has a construction site for residential development in its North and is accessible from the Sutiakhali road via 20 feet wide secondary roads.

3.3 Climate Analysis

Mymensingh has a moderate climate with highest average temperature of 33.4 degrees Celsius and lowest average temperature of 11 degrees Celsius. It has an annual rainfall of 2298mm, with June as its wettest and December as its driest months.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Day	26 °C	30 °C	34 °C	35 °C	34 °C	33 °C	32 °C	32 °C	32 °C	31 °C	29 °C	26 °C
Night	15 °C	16 °C	20 °C	24 °C	25 °C	26 °C	26 °C	26 °C	25 °C	22 °C	18 °C	16 °C
Precip	2 mm	10 mm	22 mm	69 mm	100 mm	168 mm	136 mm	156 mm	106 mm	43 mm	6 mm	6 mm
Rain days	2	2	8	19	26	26	26	26	23	12	3	1
Dry days	29	26	23	11	5	4	5	5	7	19	27	30
Sun hours per day	7	7	10	11	11	9	7	8	9	8	7	7
Wind force in Bft	2	2	2	2	2	2	2	2	2	2	1	2
UV-index	6	6	6	7	7	7	7	7	7	6	6	6

Source: <https://www.besttimetovisit.com.ph/bangladesh/mymensingh-4040827/>

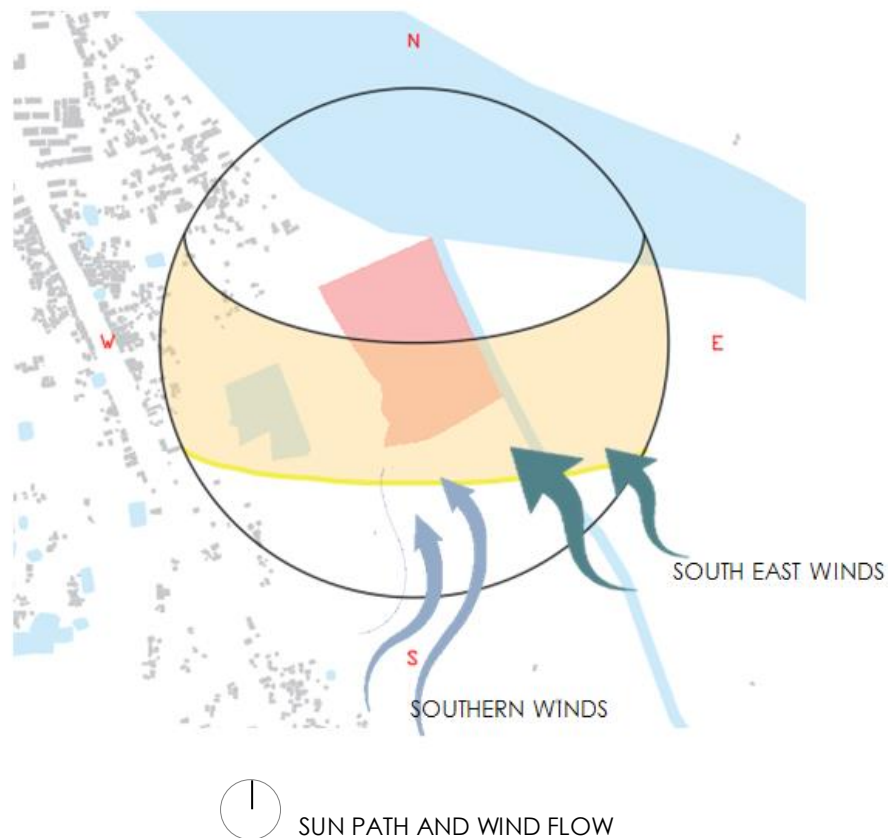


Figure 3.9 Climate Analysis (Source: Author)

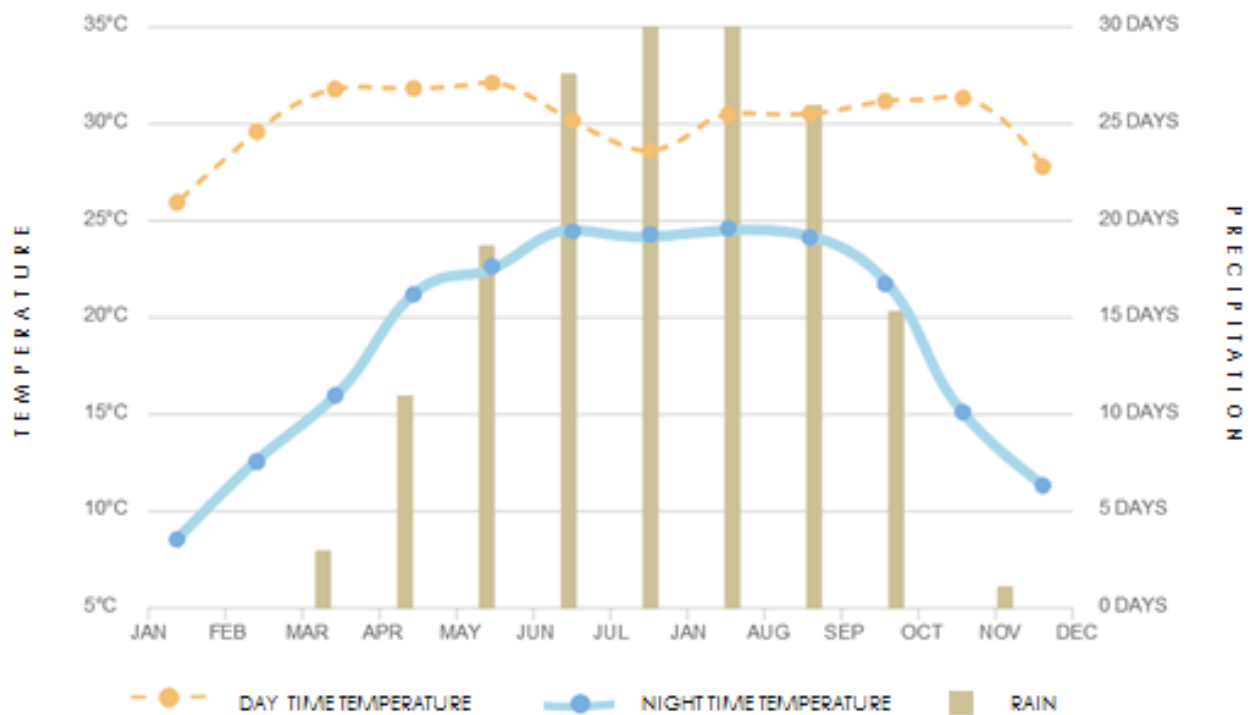


Figure 3.10 Temperature and Precipitation Patterns (Source: *Hikers Bay, Diagram: Author*)

The air quality of Mymensingh is fresh with an annual Plume AQI (Air Quality Index) score of 12, which suggests that the air is pure and suitable for outdoor activities and pursuits. The main pollutants of the air in Mymensingh, however, are Nitrogen Dioxide, Ozone, PM2.5 and PM10.

3.4 Vegetation and Soil Analysis

A study conducted by the Department of Agricultural Chemistry of Bangladesh Agricultural University evaluated the pH of the soils of Mymensingh to be acidic. The classes range from Lokdeo, Tarakanda, and Silmondi, and the textures varying between sandy loam, silty clay, loam and clay loam, loam and clay.

CONTENT	COMPOSITION IN SOIL	CORRELATION WITH PH
N	Low to very low	Negative
P	Medium to high	Positive
S (upper layers)	Medium to optimum	Negative
S (lower layers)	Low to medium	Negative
K, Ca, Na	Low to very low	-
Zn (upper layers)	High to very high	Negative
Zn (lower layers)	Low	Negative
Cu	High to very high	-
Mn	High to very high	Negative
Fe	High to very high	Positive

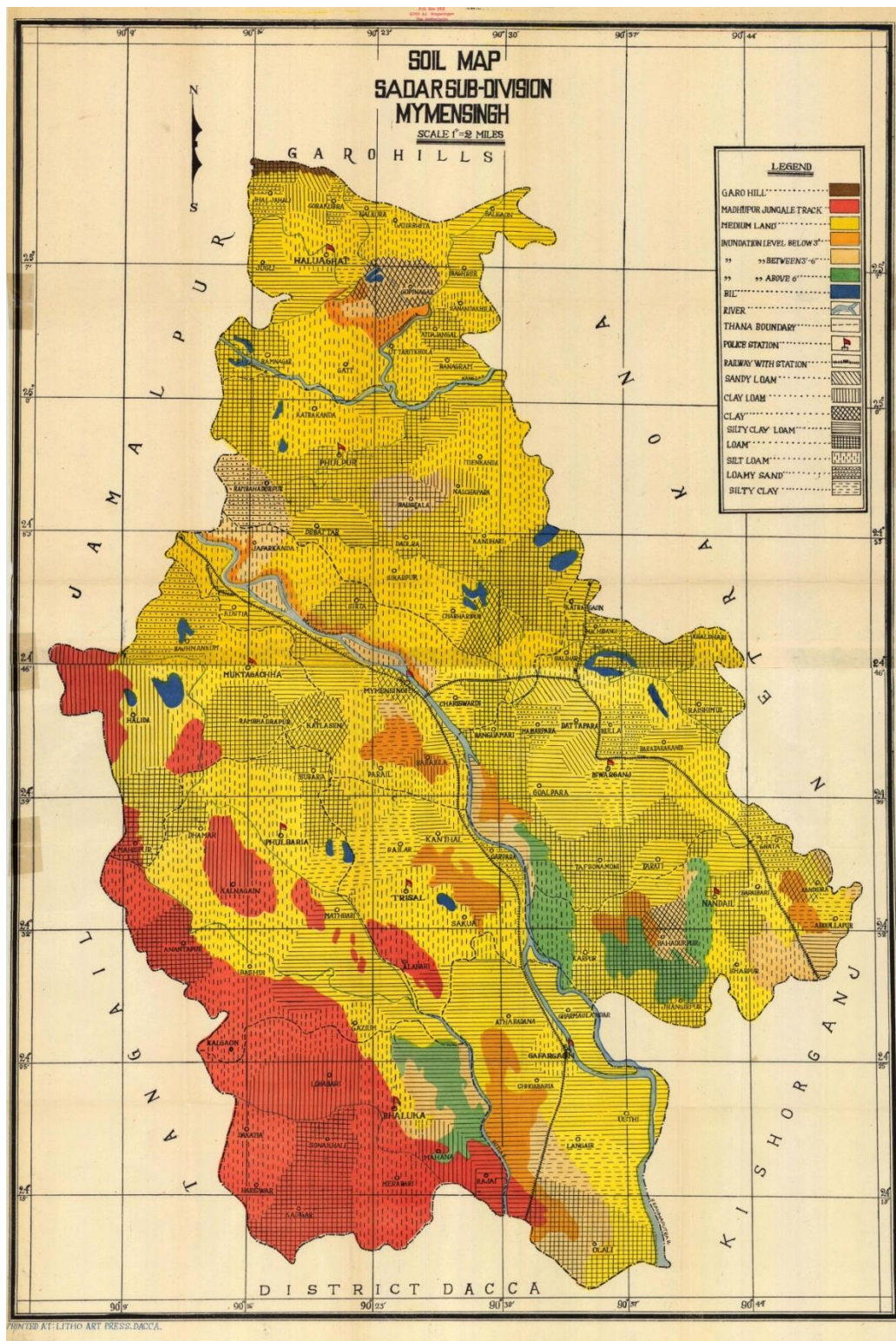


Figure 3.11 Soil Map of Mymensingh (Source: https://esdac.jrc.ec.europa.eu/ESDB_Archive/EuDASM/Asia/lists/k10_cbd.htm)

The major crops of Mymensingh include jute, okra, Aus and Aman rice, wheat, potato, mustard, lentil, chickpea, onion, cabbage and cauliflower.



The main vegetables of Mymensingh district include white gourd, cabbage, okra and cauliflower.



The locals of Mymensingh have assessed the plants and herbs found in their respective areas and have recorded their medicinal purposes.

Species	Part(s) used	Diseases
<i>Abroma augusta</i>	Root	Urinary problem & menstrual problems
<i>Achyranthus aspera</i>	Root	Jaundice
<i>Adhatoda zeylanica</i>	Leaf	Cold and cough
<i>Aegle marmelos</i>	Fruit, root	Dysentery and diarrhoea
<i>Ageratum conyzoides</i>	Leaf, stem, root	Fever, chronic ulcers and pneumonia
<i>Albizia procera</i>	Leaf, bark	Insecticide and fish poisoning
<i>Alstonia scholaris</i>	Bark	Asthma and fever
<i>Amaranthus spinosus</i>	Leaf, root, stem	Rheumatism, blood purifier and irregular menstruation
<i>A. viridis</i>	Whole plant	Snake-bite
<i>Annona reticulata</i>	Bark	Diarrhoea
<i>Aphanamixis polystachya</i>	Bark	Liver diseases and spleen
<i>A. viridis</i>	Whole plant	Snake-bite
<i>Annona reticulata</i>	Bark	Diarrhoea
<i>Aphanamixis polystachya</i>	Bark	Liver diseases and spleen
<i>Artocarpus heterophyllus</i>	Root	Asthma and diarrhoea
<i>Averrhoa carambola</i>	Fruit	Piles
<i>Blumea lacera</i>	Root	Mouth diseases
<i>Cajanus cajan</i>	Leaf	Diabetes and jaundice.
<i>Centella asiatica</i>	Whole plant	Ulcer and dysentery
<i>Clerodendrum viscosum</i>	Leaf, roots	Skin diseases, tumors and snake-bite
<i>Coccinia grandis</i>	Leaf	Skin diseases and diabetes
<i>Colocasia esculenta</i>	Leaf, corm	Astringent, scorpion bites and stimulant
<i>Commelina bengalensis</i>	Whole plant	Urinary burning, sores and itches
<i>Cuscuta reflexa</i>	Stem	Jaundice
<i>Cynodon dactylon</i>	Whole plant	Stop bleeding and toothache.
<i>Dillenia indica</i>	Fruit	Diarrhoea and dysentery
<i>Ficus hispida</i>	Fruit	Diabetes
<i>F. religiosa</i>	Bark	Toothache and skin diseases
<i>Glycosmis pentaphylla</i>	Leaf, stem	Jaundice and toothache
<i>Heliotropium indicum</i>	Leaf	Fever
<i>Holarrhena antidysenterica</i>	Bark	Dysentery and elephantiasis
<i>Hyptis suaveolens</i>	Leaf, seed	Stomachache
<i>Litsia glutinosa</i>	Bark	Dysentery and diarrhoea
<i>Melia azedarach</i>	Leaf	Small pox, fever and antiseptic
<i>Mikania cordata</i>	Leaf	Wounds, itches and dyspepsia
<i>Mimosa pudica</i>	Root	Jaundice, blood pressure and ulcer
<i>Moringa oleifera</i>	Leaf, fruit, bark	Dysentery, vomiting, cold and cough and abscesses.
<i>Ocimum tenuiflorum</i>	Leaf	Gastric disorder, cold, cough and ring worm
<i>Oxalis corniculata</i>	Leaf	Antiscorbutic and antidote
<i>Peperomia pellucida</i>	Leaf	Asthma
<i>Phoenix sylvestris</i>	Fruit	Fever, Heart disease and abdominal complaints
<i>Piper nigrum</i>	Fruit	Fever and bronchitis
<i>Rauvolfia serpentina</i>	Root	Nervous agitation, high blood pressure and sound sleeping
<i>Scoparia dulcis</i>	Whole plant	Kidney problems and diabetes
<i>Sida cordata</i>	Fruit, flower	Burning complaints
<i>Solanum torvum</i>	Root	Cough and toothache
<i>Spilanthes calva</i>	Root	Toothache
<i>Syzygium cumini</i>	Leaf, seed, bark	Diabetes, chronic diarrhoea and sore throats

Source: <https://www.banglajol.info/index.php/BJPT/article/download/44594/33073>

Apart from medicinal uses, plants in this region also have economic and cultural significance.

Species	Parts used	Economic and cultural importance
<i>Aegle marmelos</i>	Fruit, leaf	Fruits are edible. Leaves are used by Hindu community in religious festival
<i>Alstonia scholaris</i>	Wood	Used as furniture
<i>Annona squamosa</i>	Fruit	Fruits are edible
<i>Artocarpus heterophyllus</i>	Wood	Used as furniture
<i>Borassus flabellifer</i>	Fruit, leaf	Fruits are edible. Fibre is used in making mats, hats, brushes and brooms
<i>Cocos nucifera</i>	Fruit, leaf	As drinks. Fibre is used in making brushes and brooms. Also in religious festival fruits are used by the Hindu community
<i>Colocasia esculenta</i>	Whole plant	Used as vegetables
<i>Curcuma longa</i>	Rhizome	The Hindu community uses the rhizome in their religious festival
<i>Dillenia indica</i>	Fruit	Fruits are used as vegetable, also used in making pickles
<i>Ficus banghalelsis</i>	Leaf	Leaves are employed by the Hindu people in their religious festival
<i>F. hispida</i>	Leaf	Leaves are used as vegetable
<i>F. religiosa</i>	Leaf	Leaves are employed by the Hindu people in their religious festival
<i>Glycosmis pentaphylla</i>	Twig	Young twigs are used as tooth-brush.
<i>Lawsonia inermis</i>	Leaf	Leaves are employed by the Hindu people in their religious festival
<i>Mangifera indica</i>	Leaf	Fruits edible. Leaves are used by the Hindu people in their religious festival
<i>Musa paradisiaca</i>	Fruit, leaf	Fruits edible. Leaves are employed by the Hindu people in their religious festival
<i>Ocimum tenuiflorum</i>	Whole plant	In religious festival the Hindu community used this whole plant
<i>Oxalis corniculata</i>	Whole plant	Used as leafy vegetables
<i>Phoenix sylvestris</i>	Fruit, leaf	Fruits are edible. Fibre is used in making mats, hats, brushes and brooms
<i>Solanum torvum</i>		Used as vegetables
<i>Syzigium cumini</i>	Wood	Used for high class furniture

Source: <https://www.banglajol.info/index.php/BJPT/article/download/44594/33073>

3.5 SWOT Analysis

Strengths:

- Situated on the banks of the Brahmaputra River – pleasing views.
- Easily accessible – linked to highway.
- Local bazaar within walk-able area.
- Mymensingh Medical College and Hospital located within 5 (4.95) kilometers from site.
- Presence of lush green and sufficient foliage in site, and open spaces around it.
- Located within 500 meters of Bangladesh Agricultural University (BAU) and BAU Railway Station.

Weaknesses:

- Site and surrounding area have been left unused

Opportunities:

- Scope for riverside promenade (as there is none other within walk-able area of the site).

- Can be collaborative with BAU for agricultural training.
- Large area – scope for large scale landscaping.
- Can attract many people from the capital because of proximal distances.

Threats:

- Water in the Brahmaputra River reducing due to environmental factors.
- Future residential development in the North can cause views to be obstructed.

CHAPTER 04: PROGRAM DEVELOPMENT AND ANALYSIS

4.1 Target and Aim

4.2 Program Derivation

4.3 Program Detail

4.4 Functional Flow

4.1 Target Group and Aim

The project targets destitute women, meaning poverty stricken, ill-treated or abused and abandoned or divorced women and will attempt to heal them through environment and through skill training so that they may be able to help themselves when needed.

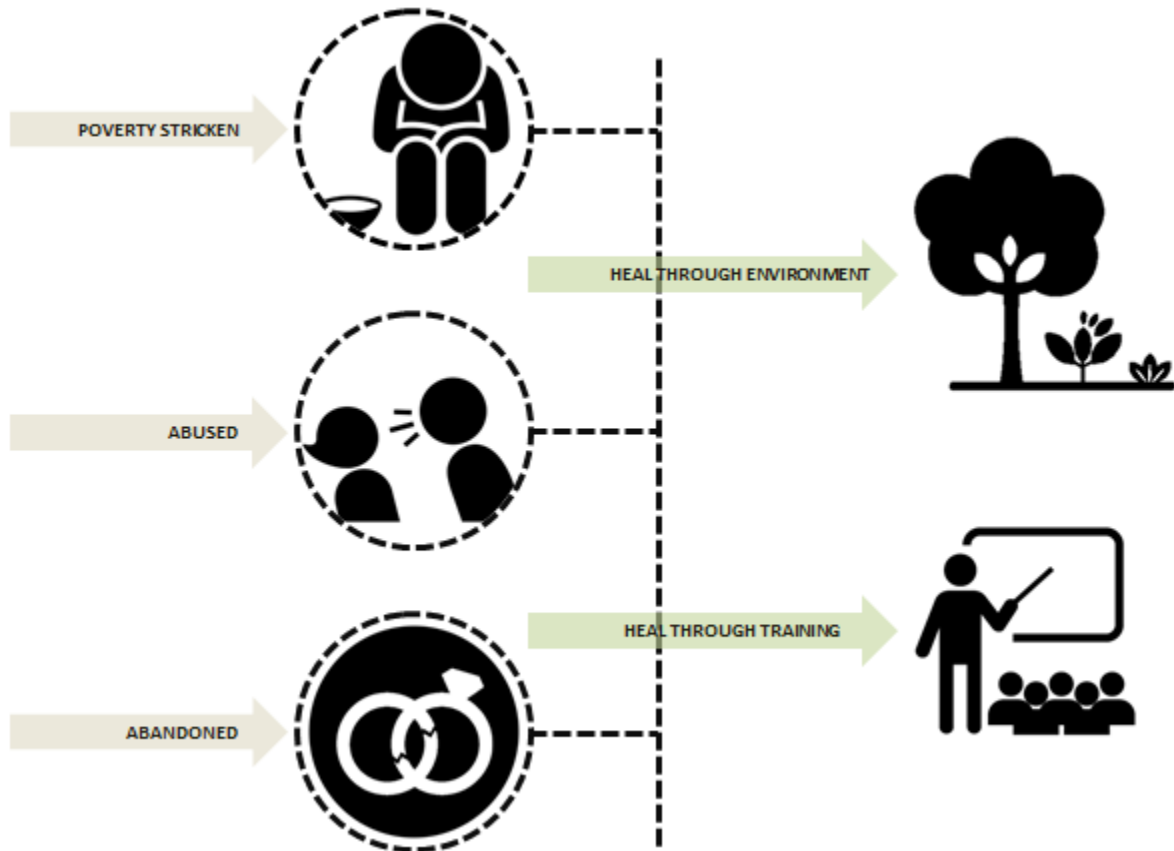


Figure 4.1 Target Groups and Target Aim (Source: Author)

4.2 Program Derivation

To establish a training and rehabilitation center it is important to derive a list of functions that are required for the center to run. Since the project aims to primarily train women in various skills and to shelter them in the process, the list of programs for this center can be categorised into three zones: administrative, educational and residential.

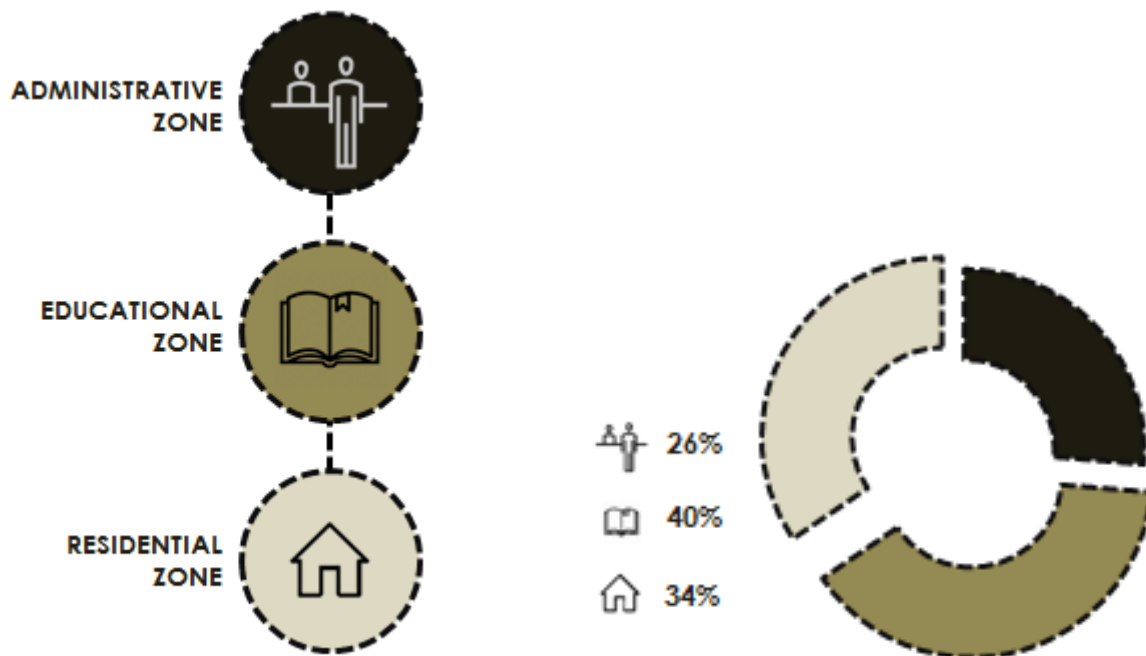


Figure 4.2 Distribution of zones (Source: Author)

4.3 Program Detail

This section illustrates the total area required (in square feet) for each functional activity and each zone as a whole.

ZONE	FUNCTIONAL ACTIVITY	NO. OF USERS	NO. OF UNITS	AREA PER UNIT (sqft)	TOTAL AREA (sqft)
ADMINISTRATIVE	Entry	50	1	600	600
	Lobby	150	1	850	850
	Reception		1	200	200
	Security Office	2	1	140	140
	Director's Office	1	1	400	400
	Manager's Office	4	1	500	500
	General Staff Room	6			330
	IT Room	3	1	300	300
	Meeting Room	20	1		600
	Record Room	1	1	100	100
	Medical Facility*		1		1600
	Prayer Space	20	1	200	200
	Storage		2	150	300
	Cafeteria*	150	1		6000
	Exhibition Space		1		4800
	Multipurpose Space	300	1		6000
	Restrooms		2	380	760
TOTAL					23680
CIRCULATION (30%)					7104
NET TOTAL					30784
EDUCATIONAL	Classrooms and Studios*	120	6		10000
	Computer Lab	40	1		2500
	Training Kitchen	20	1		1800
	Common Rooms		3	470	1410
	Restrooms		3	500	1500
	Primary School	120 children			12000
	Library		1		6050
TOTAL					35260
CIRCULATION (30%)					10578
NET TOTAL					45838
RESIDENTIAL	Staff Accommodations	20			4000
	Family Units	48			18000
	Female Dormitories	128			8600
	Dining	96	1		1950
	Washrooms				500
	Kitchen				560
TOTAL					33610
CIRCULATION (20%)					6722
NET TOTAL					40332
GRAND TOTAL					116954

Figure 4.3 Zone and Program Analysis (Source: Author)

After spatial analysis, the total built area rounds up to 117,000 square feet. This built area consists of an administrative building housing offices and a reception, a restaurant, a multipurpose space, an exhibition space, a library, a training facility, a primary school and three types of accommodation.

4.4 Functional Flow

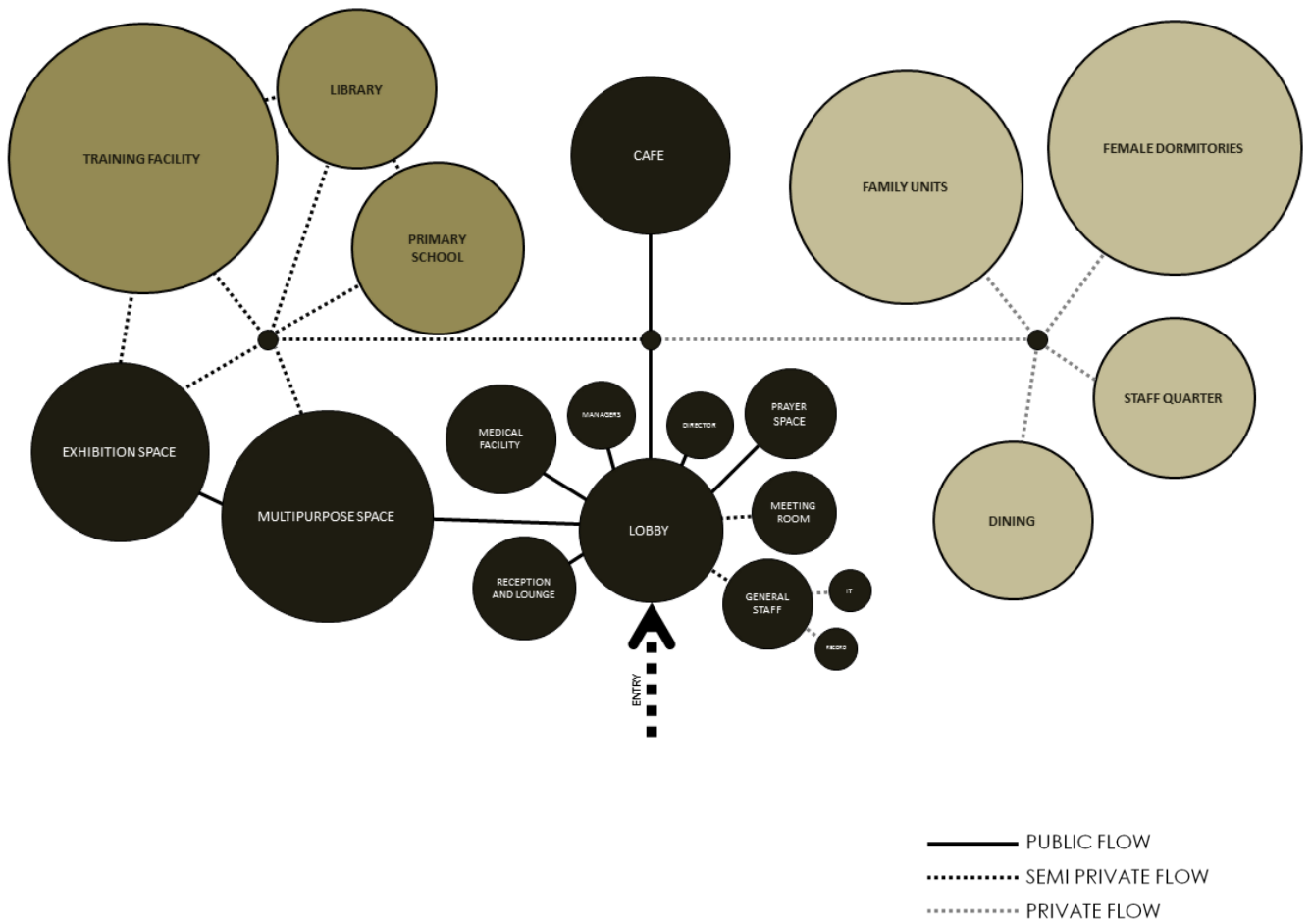


Figure 4.4 Functional Flow between public, semi-private and private zones (Source: Author)

CHAPTER 05: CASE STUDY

5.1 Women's Opportunity Center, Rwanda

5.2 Ayesha Abed Foundation

5.1 Women's Opportunity Center, Rwanda

Location: Kayonza, Rwanda

Category: Community Center

Project Manager: Bruce Engel

Architects: Sharon Davis Design

Area: 2200 m²

Year of completion: 2013



Source: Sharon Davis Design

The Women's Opportunity Center (WOC) in Rwanda had been designed in collaboration with Women for Women International (WWI). WWI is a non-profit

humanitarian organisation that administers moral and practical support to destitute women. The WOC in Kayonza, Rwanda occupies a two-hectare site, one hour from the capital and has been developed with the following objectives in minds of the creators: to empower its community, create economic opportunities, and rebuild social infrastructure.

Architects at Sharon Davis Design referenced a Rwandan village as their organizing principle, and clustered human-scaled pavilions to create security and cultivate a sense of community. Facilities in the center include class rooms, guest lodgings, a demonstration farm that is cooled by a green roof and retained earth walls, and a marketplace, where women can sell items they have made and been trained to make on site. Apart from designing innovative buildings that allow passive cooling and solar shading, the creators of the WOC established local partnerships to create water purification, biogas, and other sustainable systems that can be maintained by the site's inhabitants. Hygienic composting toilets replaced the more traditional pit-latrines, reducing water use while trapping nitrogen-rich waste. (*Sharon Davis Design, n.d.*)



Source: Sharon Davis Design



Source: Sharon Davis Design

The project is organized in a manner akin to a vernacular Rwandan village, divided into 17 human-scale pavilions whose clustered arrangements engenders familiarity and community among occupants. (Sharon Davis Design, n.d.)

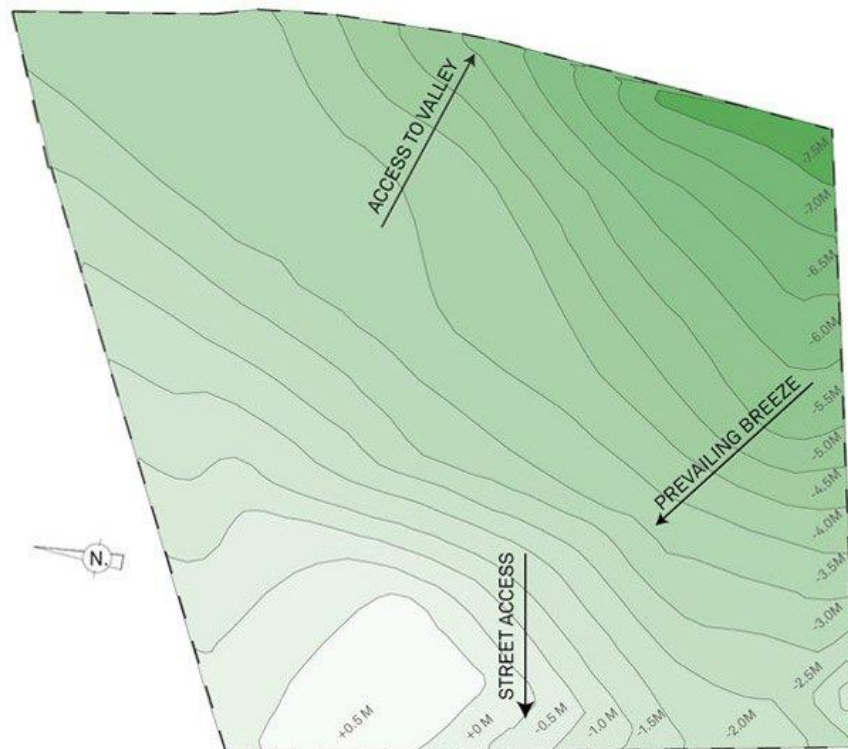


Figure 5.1 Topographic plan (Source: Design Boom)

The architect of the WOC had spoken to the teachers in Rwanda who said they always teach women in groups of twenty to twenty five, and always in a circle because they find that helps them to bond together. The idea of the project, according to the architect, was really about the women bonding and the focus was placed inwards for which reason the bricks on the walls were pulled apart for light and air yet maintaining that there are no distractions. (*Sharon Davis Design, n.d.*)

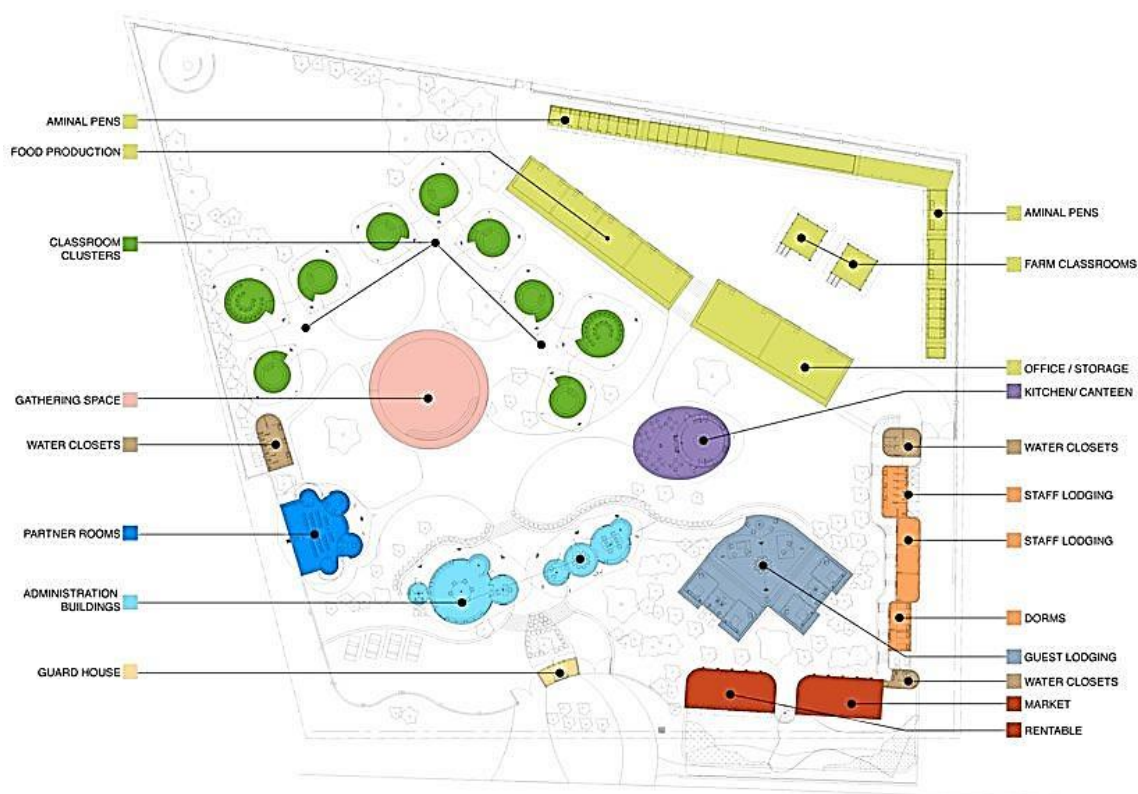


Figure 5.2 Programming. (*Source: Design Boom*)

Built in clay brick, the buildings center on an inviting, publicly accessible plaza where students sell food, textiles, baskets, and other products made on site. The process to make the bricks was designed by the architects in a way that was easy for local women to follow. A total of 450,000 clay bricks used for the construction were made at the center by local women. (*Sharon Davis Design, n.d.*)

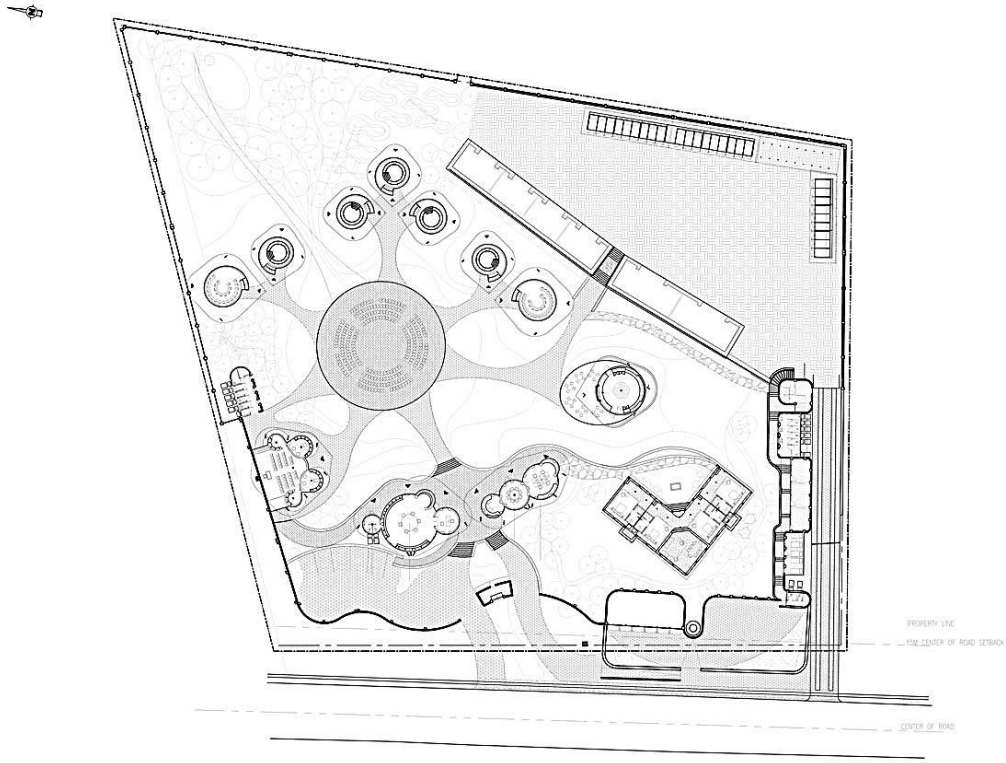


Figure 5.3 Plan. (Source: Architizer)

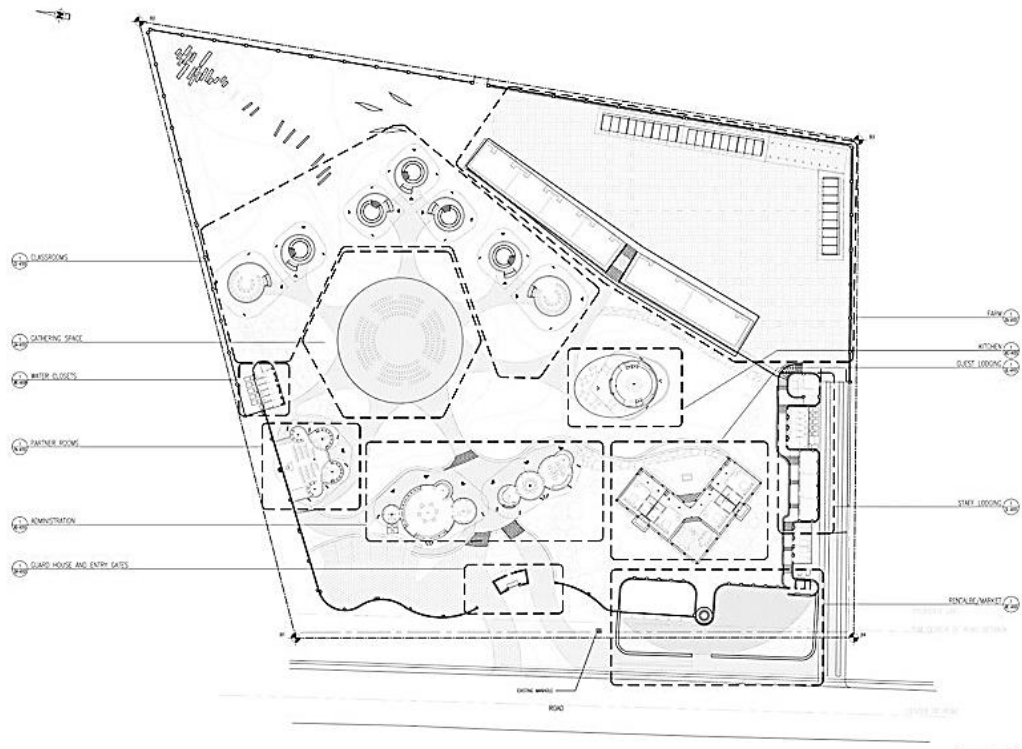


Figure 5.4 Zoning. (Source: Architizer)



Figure 5.5 Potable water collection points (Source: Architizer)

Potable water is collected from the pavilions' corrugated roofs, while vegetation planted on two of the structures provides their interiors with extra insulation.

The potable water harvested from the center's rooftops, along with food, textiles and other items are all sold by the women in the plaza that acts as a public transit and is easily accessible by motorists. (Db, 2015; *Women's Opportunity Center, Rwanda*, 2020)



Figure 5.6 Landscape plan. (Source: Livin Spaces)

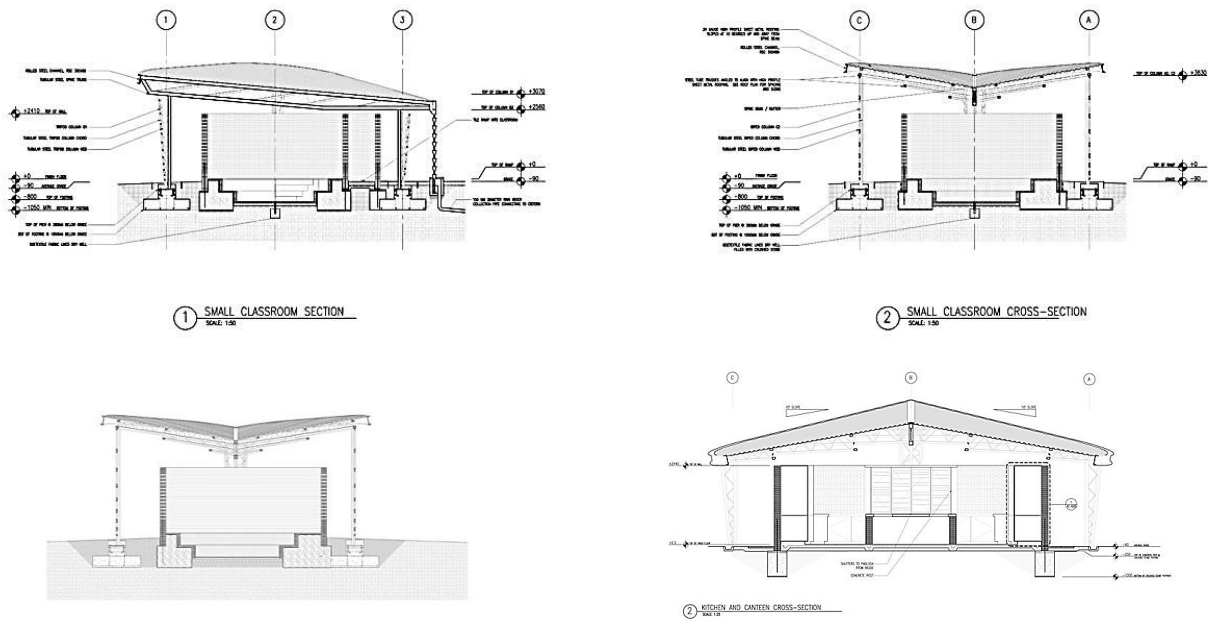
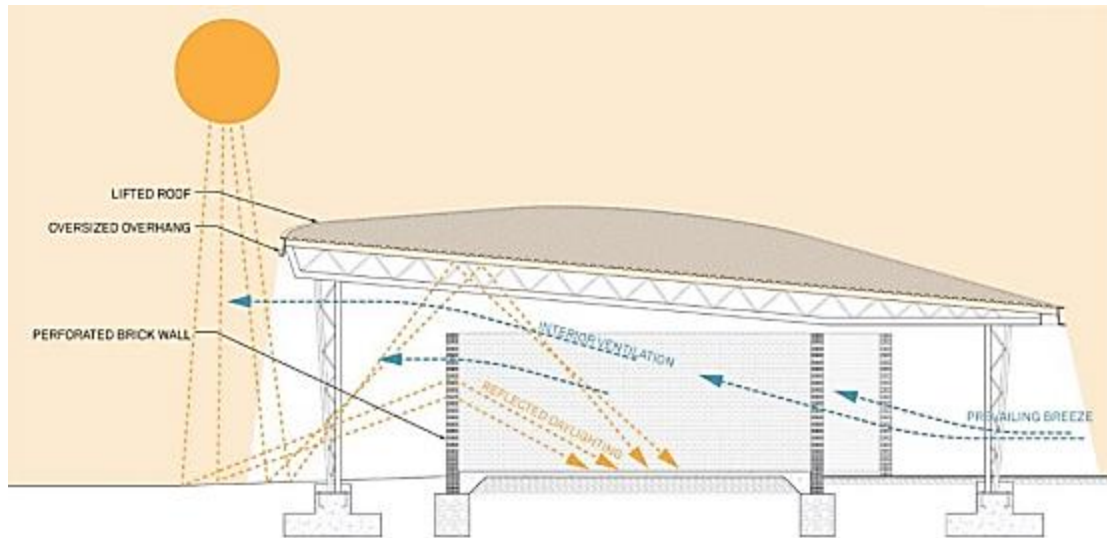
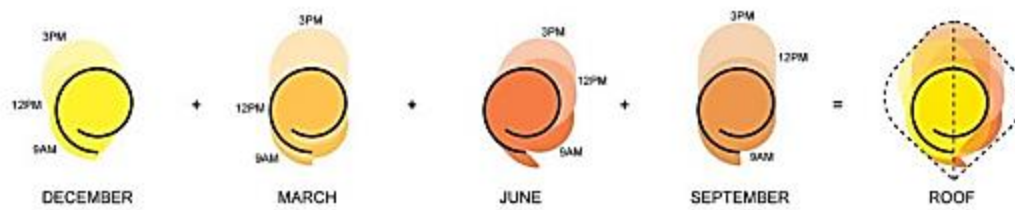


Figure 5.7 Sections. (Source: Sharon Davis Design)



ANNUAL SOLAR COVERAGE



Source: Architizer



2.5 M BRICK WALL



ANNUAL SOLAR COVERAGE REQUIRED



WFW CLASSROOM

Figure 5.8 Classroom structure. (Source: Design Boom)

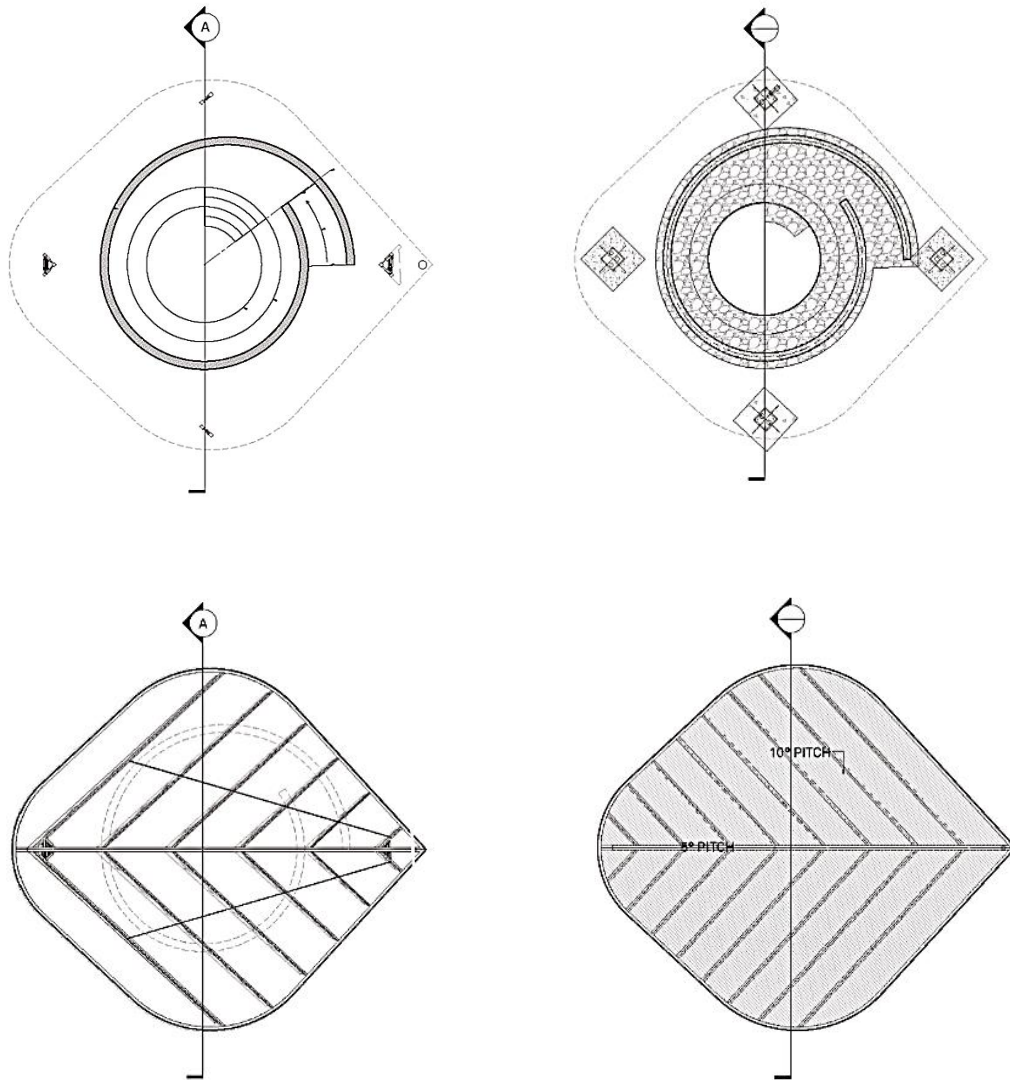


Figure 5.9 Floor and roof plans(Source: Architizer)

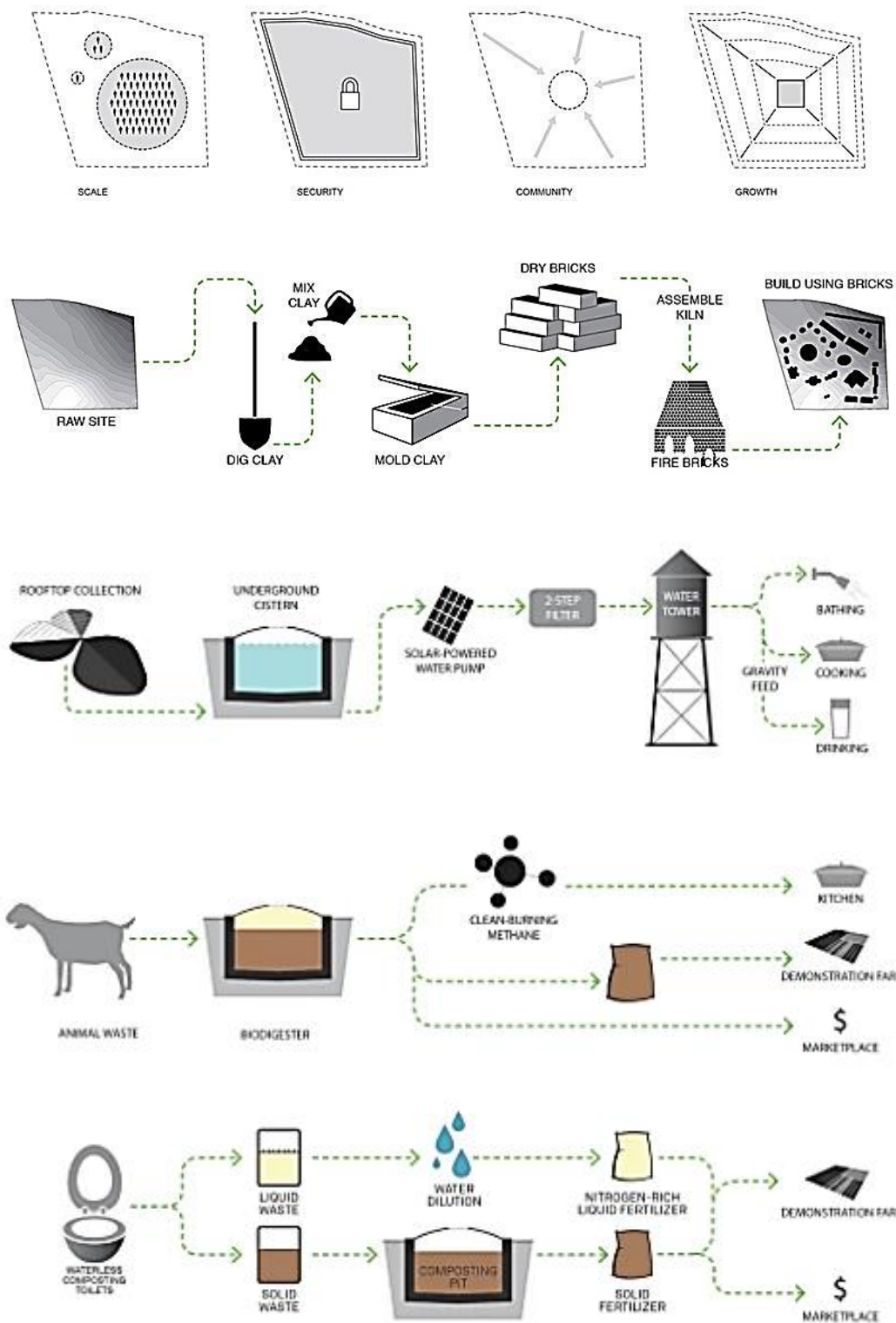


Figure 5.10 Representation of the goals of the project. (Source: Design Boom)



Source: Sharon Davis Design

Analysis:

It is evident the images and the design of the project that the most important factor for the architects in decision making was sensitivity; sensitive towards the landscape and

topography of the site, the climate, the surrounding views and the nature and interaction patterns of the locals.

The WOC is an excellent example of a sustainable project because of the architects' consideration to collecting rainwater and to use wastes to produce biogas for on-site purposes such as cooking, drinking and cleaning. In addition to that, the fact that the center has been constructed from clay bricks produced and made on-site shows that great deal of attention has been paid to vernacular materials and its availability. Nonetheless, the use of local materials did not limit the level of creativity achieved by the architects at Sharon Davis Design. The unique structure of the WOC sets an example for people to break traditional schemes and think outside the box in terms of design.

Apart from design and accessibility, the center has not strayed from its main aim, to empower women. The presence of training facilities and marketplaces will allow women to be confident enough to start entrepreneurship of their own once they graduate from the program. They will be able to sell their own goods, manage business and improve local economic growth.

Finally, another superior feature of the WOC is its inclusivity and the architects' consideration to draw in the locals and public into the center and its schemes through a central inviting plaza and gathering space. This space is the heart of the center and goes to show that the people, in general were kept in mind as well, and not just women.

5.2 Ayesha Abed Foundation

Location: Sub-center in Jamalpur, Bangladesh

Category: Non-Profit Organisation

Year of inception: 1982

The Ayesha Abed Foundation was founded in honor of Ayesha Abed, a social activist and better known as the wife of Sir Fazle Abed, the founder of BRAC. Ms. Abed is well known for having advocated women empowerment in Bangladesh for years. Her primary objective for the Ayesha Abed Foundation was to empower and aid the women of Bangladesh and particularly those that are in destitute or vulnerable conditions, illiterate and discriminated against, by training them to improve their skills or establish new ones. (Fatiha, 2016)



The foundation made sure to hire skilled tailors and craftsmen who would impart their knowledge to the members of AAF. Any members that are mothers have access to day care centers while they work and senior workers received aid for retirement. (Jaspers, 2015)

Initially, the foundation started with training in the production of traditional handicrafts, known as Nakshi Kantha. However, later a number of other activities were added to its list programs, such as poultry, agriculture, weaving, tailoring and food processing.

Soon, Ayesha Abed Foundation became a hub for quality handicrafts and embroidered goods and linked outlets such as Aarong and other BRAC enterprises prospered. In 2009, Aarong's revenues exceeded forty million dollars. (*Aarong – An Inspiring Story of Stitches*, 2017)



The Ayesha Abed Foundation later introduced a number of initiatives that would further aid its member financially by providing them with loans and legal assistance. Till date, the AAF works to training thousands of Bangladesh women not only to generate an income but work towards independence and courage. (Fatiha, 2016)

Analysis:

This project is essentially a humanitarian project that seeks to aid destitute women in practical life.

The establishment of the AAF in Bangladesh has improved the mindsets of many Bangladeshi men and women who believe women are only capable of doing household, care work. The success that has been brought in by the enterprises linked to the AAF warrants the capabilities of women in the labour force and demands it even more.

With these statistics of successes, more women would feel confident to stand on their own feet and thus become empowered.

Thus the AAF, too, is a good example of a sustainable project as it targets the empowerment of women, and uses local skills and training to achieve global goal. The crafts and lessons taught at the centers are traditional and familiar to Bangladeshi women.

In addition to that, the revenues resulting from the AAF have drastically improved the economy of Bangladesh and its people over all. (Adapted from *Aarong – An Inspiring Story of Stitches*, 2017)

CHAPTER 06: DESIGN DEVELOPMENT

This chapter will look into the stages of design development of the project and its establishment.

6.1 Design Considerations and Form Derivation

6.2 Drawings: Plans, Sections and Elevations

6.3 Landscape Index

6.4 Dimensional Visuals

6.1 Design Considerations and Form Derivation

The presence of the Brahmaputra is an important site force and hence one of the primary decisions in the design approach was to incorporate a Riverside promenade connecting the site to the botanical garden in its Northwest.

The promenade shall be a public zone and accessible by all the locals in the area.

To ensure that it is a vibrant public space, the promenade will be shaded with deciduous local trees and vegetation and would house activities such as food stalls and kiosks, boating docks, a bicycle track and ample seating.

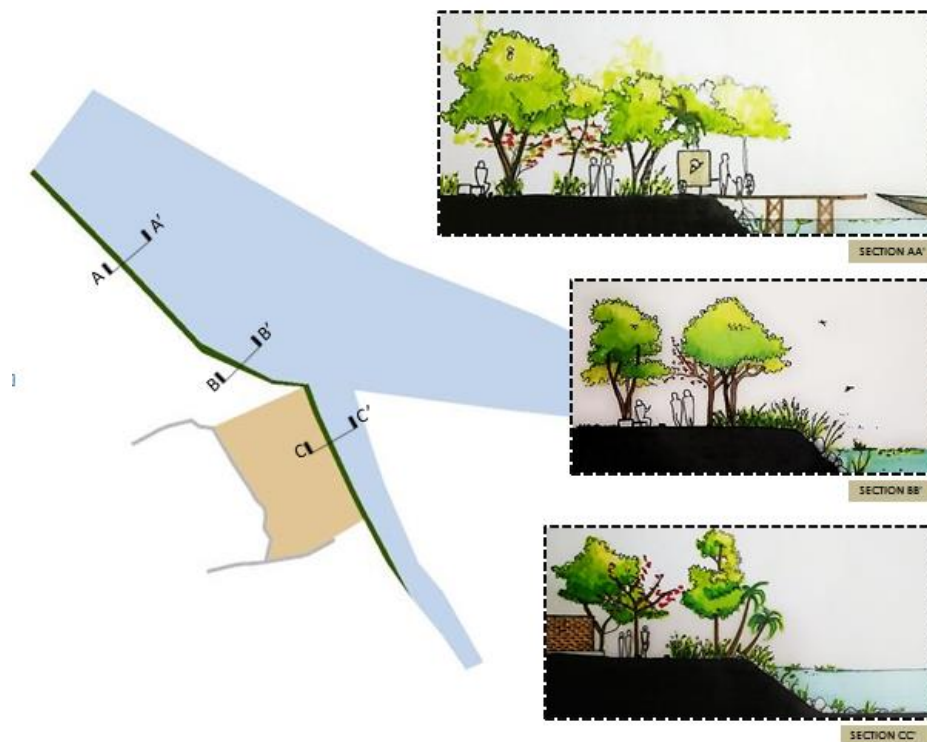


Figure 6.1 Sections through the riverside promenade (Source: Author)

One of the main targets of the project was to heal the members of the center through environment, and thus, the site as a whole was to be considered a garden. The functions would be packed in clusters around a central courtyard, so that each zone is wrapped in and simultaneously opens up to a garden, breathing and healing space.

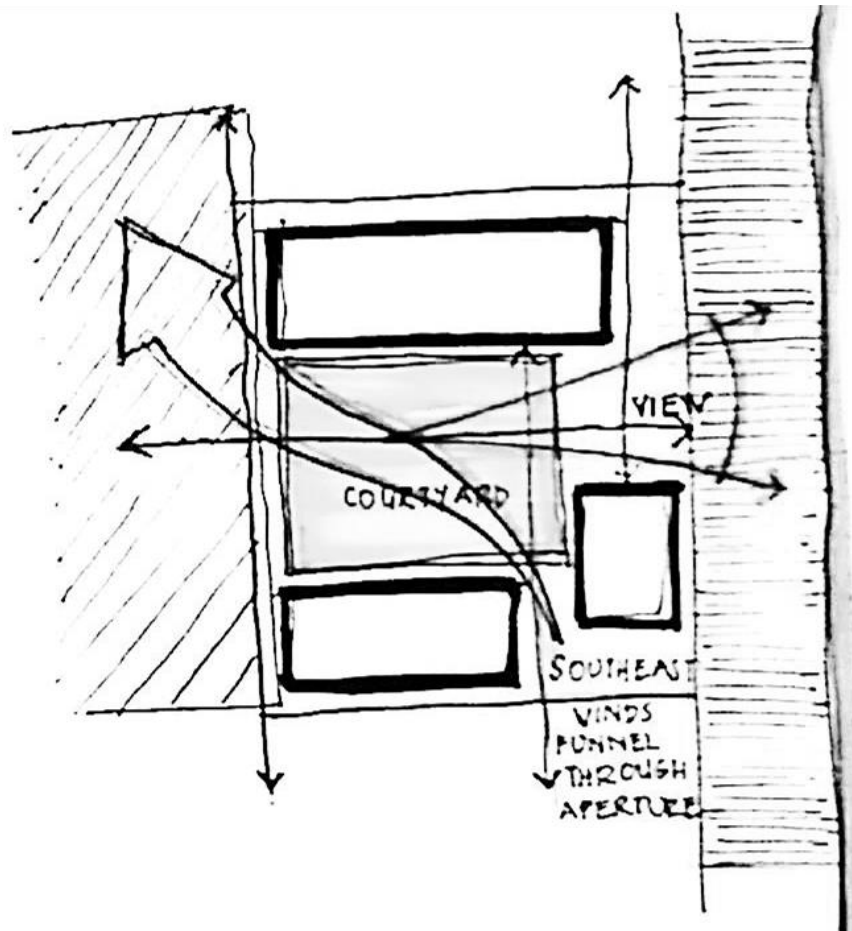


Figure 6.2 Preliminary cluster idea (Source: Author)

The following considerations were to maximise views to the river in the North and East and to place functions around courtyards that clear vistas to the Eastern stream.

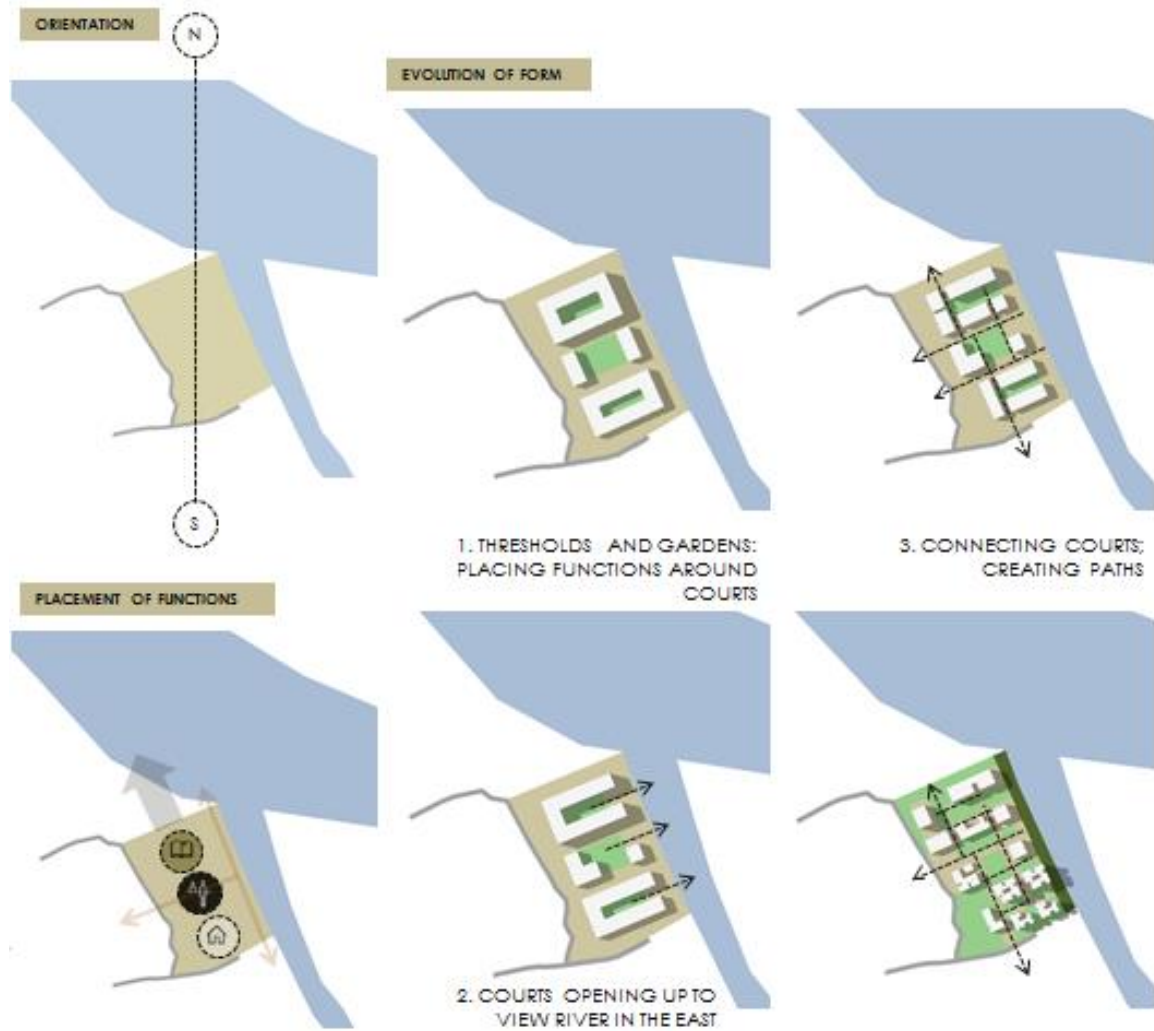


Figure 6.3 Placement of functions and evolution of form (Source: Author)

In order to maximise views to the river, it was important to place the educational facility in the Northern segment of the site because the women would spend most of their day time at the facility. Placing the administrative zone at the center of the site acts as a buffer between the educational and residential zones and this zone can be accessed from the promenade.

6.2 Drawings: Plans, Sections and Elevations

i. Plans:



Figure 6.4 Ground Floor Plan (Source: Author)

There are four entry points; one main entry and drop off, one pedestrian entry and two vehicular and service entries, in to the site. The entrance from the drop leads to a public zone of offices, a reception and waiting area, a multipurpose space and a restaurant. This zone is accessible from the promenade as well and is open for public use. The educational zone in the North houses a training facility for women, a library, a primary

school, and an exhibition space wherein the members of the center would be able to market the items they have made at the facility. The residential zone includes three types of accommodation--a family unit for women with children under the age of 12. The children would be provided with a primary education at the school in the center. The other types of accommodation are female dorms for single women and a staff quarter for female staff. The residential zone will also include a common dining area for all residents of the center.



Figure 6.5 First Floor Plan (Source: Author)

This center will provide women with eight types of training. The ground floor of the training facility houses a training kitchen, an agricultural training classroom for which a

section of the educational court shall be dedicated to for cultivation of rice and seasonal fruits and vegetables, sewing and handicrafts classrooms. On its first floor is a pottery classroom, arts class and a classroom for training in the production of Nakshi Kantha, and an IT lab on its second floor.



Figure 6.6 Second Floor Plan (Source: Author)

For women with children, the center includes a primary school as a form of day care so that these women may be able to train without having to worry about taking care of their children in the day time. The school shall have eight classrooms of primary level, a first aid room, a teachers' room and an activity room.

The library has an indoor reading space and an outdoor reading deck on its ground floor, with the deck visually connected to the eastern promenade, and an e-library on its first floor.

The restaurant has an indoor and outdoor dining area and can be accessible by the public from the promenade, as well.



Figure 6.7 Third Floor Plan (Source: Author)

The residents' dining area can hold 96 diners at once and will be shared by all the residents of the center i.e. female members and female staff. The dining area is supported by a spacious kitchen and a wash area. On the first floor, this edifice holds a

staff quarter for 20 female staff members. Each unit of the quarter houses two bunk beds, a workspace that serves two at a time and fitted cabinet with ample storage space.

The family units are made up of modules comprising of two living and/or bed spaces that each have a washroom and a veranda of their own. These modules are placed around a central atrium and open up to terraces in the Northeast that bring natural light and ventilation into the edifices.

Each unit in the female dormitory houses four women in two bunks and a single washroom, four workstations and ample storage space.

All the zones are connected to each other through paths shaded with local trees, and each zone is segregated by a change in ground level. It is important to note that the security of the women and children of center is vital, and hence the educational and residential zones are controlled from the promenade by a low height brick wall that would be lined with climbers and shrubs.

ii. Sections:



Figure 6.8 Sections (Source: Author)

Green roofs and roof gardens played a vital role in ensuring that the project is sustainable. The benefits of green roofs are numerous; they provide a rainwater buffer, purifies the air, reduces temperatures and saves energy.

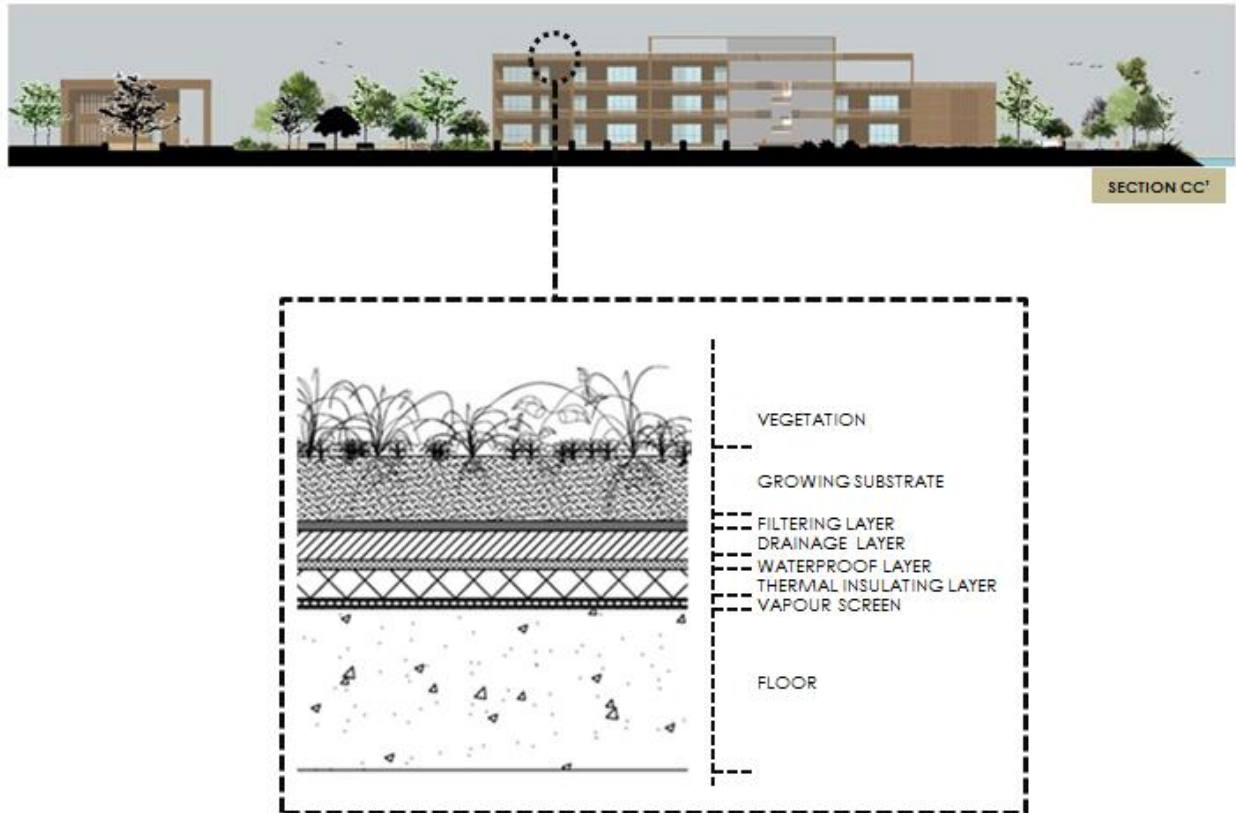


Figure 6.9 Green Roof Detail Section (Source: Author)

iii. Elevations:



WEST ELEVATION



EAST ELEVATION

Figure 6.10 Elevations (*Source: Author*)

6.3 Landscape Index

The landscape is to be the soul of the project, and hence it was important that it is designed and considered carefully.

Mymensingh is rich in flora and fauna, and thus local trees, shrubs and herbs were taken into account for the design of the project's landscape. The trees used were of three types: flower bearing, fruit and nut bearing and medicinal. Among the species identified in locality, *Jarul*, *Krishnachura*, *Chhatim* and *Shimul* showed greater abundance under the category of flower bearing trees. Under fruit bearing, *Amra*, *Aam*, *Narikel* and *Tetul* were more dominant than others. And under medicinal, *Neem*, *Arjun*, *Ashok* and *Debdaru* were more thriving than others.



Figure 6.11 Flora and Fauna (birds) of Mymensingh (Source: *Encyclopedia of Flora and Fauna of Bangladesh*, Diagram: Author)

It was important to consider lush green gardens for a healing atmosphere, so apart from trees, different local herbs and shrubs also constituted the design such as *Danda Kalash*, *Bhant*, *Assam Lata*, *Pudina*, *Tulshi* and *Fern*.

In addition to trees, herbs and shrubs, it was essential to consider aquatic plants found in Mymensingh because the site itself is located along the West bank of a major river, the Brahmaputra. *Binna Ghaash*, *Kochuripana*, *Shapla*, *Padma* and *Keshordam* are all a few examples of the plenty aquatic plants found in the local area.



Figure 6.12 Project Landscape Index (Source: Author)

6.4 Dimensional Visuals









EDUCATIONAL ZONE COURT



RESIDENTIAL ZONE



RESIDENTIAL ZONE



BOATING DOCKS





PERSPECTIVE FROM THE RIVER

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