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Ministry of Housing and Public Works
Urban Development Directorate (UDD)

Preparation of Development Plan for Fourteen Upazilas

Package-04

(Saghata Upazila, District: Gaibandha; Sariakandi Upazila and
Sonatala Upazila, District: Bogra)

FINAL SURVEY REPORT
FORMAL-INFORMAL ECONOMIC SURVEY
Of
Sonatala Upazila, Bogra

June, 2017



Modern Engineers Planners & Consultants Ltd.

Letter of Transmittal

Ref No.: MEPC/UDD/2017/43

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To

The Project Director

“Preparation of Development Plan for Fourteen Upazilas” Project

Urban Development Directorate (UDD)

82 Segun Bagicha, Dhaka-1000.

Subject: Submission of the Final Formal-Informal Economic Survey Report of Sonatala Upazila, Bogra.

Dear Sir,

I have the pleasure to submit herewith the Final Formal-Informal Economic Survey Report of Sonatala Upazila, Bogra District under “**Preparation of Development Plan for Fourteen Upazilas Project**” Package No: 04 (Saghata Upazila, District- Gaibandha; Sonatala Upazila and Sariakandi Upazila, District- Bogra) for your kind information and further action.

Thanking you and assuring you of our best services.

Best Regards

.....
(Engr. A. Sobahan)

Managing Director of MEPC

.....
(Shamim Mahabubul Haque)

Team Leader, Package-4

Executive Summary

This Economic Report on Sonatala Upazila, District Bogra has been prepared as a part of the requirements set out in the Terms of Reference (ToR) of the Project, “Preparation of Development Plan for Fourteen Upazilas” signed between the UDD and Modern Engineering and Planning Consultant.

The Report presents necessary economic information, including discussion findings derived from the survey results of various aspects of Sariakandi Upazila under Bogra District. The survey on Land Use, Physical Features, Topography, Hydrology, Environment, Agriculture, Socio-Economic Conditions, Drainage and Flood Control, Market, Trading, Transportation etc. provided useful data and information for use in preparing development plan for the Upazila.

The stakeholders’ views gathered through meetings at Upazila and Union levels PRA have been reported for consideration in the planning decisions. Based on the analysis of survey information, critical planning issues of the Upazila have been identified. Identification and estimates on the future growth pattern for different potential sectors are expected to be useful in future planning decisions and land use allocations following planning standards.

There are various national policies for sector development purposes. These policies have important implications in the implementation of physical plans at various levels of local governments. For example, agriculture policy suggests for preserving the valuable agricultural lands through minimizing the use of land for non-agricultural purposes. Like-wise, in every aspect and Action Area Plan, the national policies have distinctive value and implications in the plan preparing process. These policies have been reviewed and their values are judged and expected to be applied in the preparation of the proposed plans at different levels for the upazila.

In this context, it may be mentioned that, the planning standards help rationalize the allocation of lands for various land uses and minimize the loss of valuable agricultural lands, which is seriously required for food safety and environmental preservation in a land-hungry country, like Bangladesh. In the present land use practices in Sariakandi Upazila, agriculture contains the highest quantum of land on which majority of the population of the Upazila maintains their livelihood.

The development proposals, prepared on the basis of planning standards will be provided for land uses in different sectors of the Upazila for various phases of plan period in the Project Upazila. Some major development projects, with possible guidelines will be proposed in the plan based on the findings of this report. The possible sources for supporting the projects will also be identified in the Plan.

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List of Abbreviations and Acronyms

AEZ	Agro-Ecological Zone
AEO	Agriculture Extension Officer
CBO	Community Based Organization
DAE	Department of Agricultural Extension
EIA	Environmental Impact Assessment
FAO	Food and Agricultural Organization
FY	Fiscal Year
FYP	Five Year Plan
GD	Group Discussion
GDP	Gross Domestic Product
GoB	Government of Bangladesh
Ha	Hectare
HH	Household
HHS	Household Survey
HYV	High Yielding Variety
ICZP	Integrated Coastal Zone Plan
KAP	Knowledge, Attitude and Practices
KII	Key Informant Interview
LV	Local Variety
LL	Low Land
LLP	Low Lift Pump
MDG	Millennium Development Goals.
MEPC	Modern Engineers Planners & Consultants
NCA	Net Cultivable Area
NGO	Non-Government Organization
NOC	No Objection Certificate
SAAO	Sub-Assistant Agricultural Officer
SME	Small Medium Enterprise
SDG	Sustainable Development Goals
SPSS	Statistical Package for the Social Sciences
sq.km.	Square Kilometer
T.Aman	Transplanted Aman
T.Aus	Transplanted Aus
ToT	Training of Trainers

ToR	Terms of Reference
UAO	Upazila Agricultural Officer
UDD	Urban Development Directorate
UMMC	Upazila Market Management Committee
UN	United Nations
UNO	Upazila Nirbahi Officer
UP	Union Parishad
W&S	Winter and Summer

CHAPTER ONE: INTRODUCTION

1.1 Introduction

The conservative estimates by the national and international organizations including UN agencies indicate that about 50% population in Bangladesh will live in the urban areas within next 15-20 years. According to an estimate, by 2020, nearly every other man, woman and child will live in an urban area (World Bank, 2007). This is alarming given the existing conditions in physical infrastructure and socio-economic system over the geographical space in the country. Preparation for a planned development approach to achieve the long-term economic and social goals is an urgent need of the time. In the wake of globalization and advancement in technology worldwide, a concerted effort for comprehensive development is a necessity. The impacts of climate change and natural disasters in the recent decades have raised further concerns for an integrated urban development policy with strategies of inclusion of urban and rural areas in the physical planning processes. Bangladesh has made significant socio-economic progress over more than last 20 years in increasing income and reducing poverty. The Perspective Plan¹, 2010 aspires to transform Bangladesh from a low income economy (at 2010) to the first stages of a middle-income nation by the year 2021². The Plan further expected the economy to grow at 8% per annum by 2015 and 10% by 2021 along with improving other economic and social indicators i.e. equality in income distribution and women empowerment, per capita income to increase to \$2,000 (\$923 in 2013), and the poverty head count rate to decline from the current 31.5% to 14% by 2021.³To sustain the progress in the future, a planned development is of paramount importance.

The analysis of socio-economic features and condition of an area is a prerequisite to development planning process, which provides required background information on growth culture which has great impact on the other facts of planning, including land use, drainage, environment, traffic and transportation, essential services etc.

¹GED, Planning Commission, 2012

² “As of 1 July 2014, low-income economies are defined as those with a GNI per capita, calculated using the *World Bank Atlas* method, of \$1,045 or less in 2013; middle-income economies are those with a GNI per capita of more than \$1,045 but less than \$12,746; high-income economies are those with a GNI per capita of \$12,746 or more. Lower-middle-income and upper-middle-income economies are separated at a GNI per capita of \$4,125. Note that low- and middle-income economies are sometimes referred to as developing economies.” (World bank, 2016)

³Perspective Plan of Bangladesh 2010-2021

1.2 Sample Design

As per our discussion held at Project Director's office, we conducted the survey following the standard sampling procedures of 95% confidence level at 5% precision (standard error), based on the following formula:

$$N = (z)^2 \cdot pq/d^2$$

Where,

N = Desired sample size

z = Standard normal deviation set at 95 percent confidence interval

p = Proportion in the target population estimated to have a particular characteristic

q = 1.0 – p

d = Degree of accuracy desired set at 0.07

The survey was designed to assess the perception levels of the population on knowledge, attitude and practices (KAP) and their preferences and priorities related to the essential services and facilities and development issues. It is considered that the findings available on such issues derived through a qualitative investigation and survey are very much important for incorporating in the development plan.

Considering the 5% Household from each union as p value the following sampling distribution has been set up. Within the each union the selection of the HH has been done following randomized sampling technique. As in the rural area the HH do not have any holding no. the following randomized sampling distribution through the whole union was a challenge. The information forms the local NGO HH listing and also UP office provided the list of the household which was the basis for the practice.

Table 1.1: Household Distribution for Sampling of Socio-Economic Survey in Rural Areas of Sonatala Upazila

Name of Unions	No. Of HHs in each Union	Sample Size for each Union
Sonatala	4064	149
Balua Haat	6777	149
Digdair	7419	149
Jorgacha	8752	149
Madhupur	5297	149
Tekani Chukainagar	3451	149
Pakulla	6295	149
Sonatala Paurashava	6514	149
	48569	1192

Source: Socio-economic Survey, Sonatala Upazila, 2016

For the Sonatala Paurashava Holding number was used to determine the sample HH. The Table 1.2 shows the ward wise HH distribution for the Sonatala Paurashava.

Table 1.2: Household Distribution for Sampling of Socio-Economic Survey in Urban Areas of Sonatala Upazila

Name of Wards	Sample Size for Each Ward
Ward No-01	17
Ward No-02	16
Ward No-03	17
Ward No-04	16
Ward No-05	17
Ward No-06	16
Ward No-07	17
Ward No-08	16
Ward No-09	17
Total	149

Source: Socio-economic Survey, Sonatala Upazila, 2016

Sample Design for Group Discussion (GD)

The main purpose of the GD is to collect primary information in the market areas about the formal and informal economy. The sampling technic used in this case is cluster sampling. The stakeholder within the market area has been primarily divided into three broad group.

1. Formal shopkeepers/sellers
2. Shoppers/Byers
3. Informal sellers or service providers.

From these three broader groups 2 GD has been conducted in each market under consideration. The distribution of the GD conducted in the field area as follows:

Hat-Bazar	Clusters			Total GD conducted
	Formal Shopkeepers/ sellers	Shoppers/ Byers	Informal sellers or service providers	
Sonatala Bazar	2 GD	2 GD	2 GD	6 GD
Sonatala bus Stand Bazar	2 GD	2 GD	2 GD	6 GD
Madhupur Bazar	2 GD	2 GD	2 GD	6 GD
Horikhali Bazar	2 GD	2 GD	2 GD	6 GD
Digdair Bazar	2 GD	2 GD	2 GD	6 GD
Korpur Bazar	2 GD	2 GD	2 GD	6 GD
Tekani Bazar	2 GD	2 GD	2 GD	6 GD
Moheshpara Bazar	2 GD	2 GD	2 GD	6 GD
Jorgacha Bazar	2 GD	2 GD	2 GD	6 GD
College Bazaar	2 GD	2 GD	2 GD	6 GD

Hat-Bazar	Clusters			Total GD conducted
	Formal Shopkeepers/ sellers	Shoppers/ Byers	Informal sellers or service providers	
Pakulla Bazar	2 GD	2 GD	2 GD	6 GD
Balua Haat Bazar	2 GD	2 GD	2 GD	6 GD
Total	24 GD	24 GD	24 GD	62 GD

Source: Socio-economic Survey, Sonatala Upazila, 2016

Selection of the individual participants for the GD was based on purposive sampling as the enumerator need to gather 5 to 7 specific type of people in this regard.



Source: Field Survey, 2016

Plate 1.1: Group Discussion in a Tea Stall

Sample Design for Institutional/Organizational Survey

Due to time and resource limitation only a part of the formal institution/organization has been surveyed in this regard. The selection of the economic unit follows purposive sampling and the following Table 1.3 shows the sample that has been included in the formal and informal survey.

Table 1.3: Items to be Included in Formal and Informal Economic Study

Hat-Bazar	Bank	Bima	NGO	Industries
Sonatala Bazar	Rajshahi Krishi Unnyan Bank	Popular Life Insurance Ltd.	BRAC	Abdul Halim Rice Mill
Sonatala bus Stand Bazar	Sonali Bank	Delta Life Insurance Ltd.	ASA	Wares Rice Mill
Madhupur Bazar	Karmasangsthan Bank		Gram Bikash Sangstha	Sonatala Rice Mill
Horikhali Bazar	Janata Bank		GUK	Koritola Rice Mill

Hat-Bazar	Bank	Bima	NGO	Industries
Digdair Bazar	Agrani bank			Nur Rice Mill
Korpur Bazar				Rice Mill
Tekani Bazar				Sonatala Saw Mill
Moheshpara Bazar				Titporol Saw Mill
Jorgacha Bazar				Enamul Saw Mill
College Bazaar				Koraitola Saw Mill
Pakulla Bazar				Saw Mill
Balua Haat Bazar				

Source: Field Survey, 2016

1.3 Understanding Formal-Informal Survey

In this report Formal and Informal sector comprises as following:

1.3.1 Formal Sector Survey

Formal Sector illustrates Professional (Bank/Bima, NGO, CBO, etc.), Types of Business Centers (Katcha Bazar, Hat, Growth Centers, Retail Market, Wholesale Market, and Other etc.), Shopping Center, Industry, Traders and Consumer Groups, types of Industrial Products, Marketing area, etc. Their Output and Employment impacts are taken care of GDP, GNP and National Accounting System.

Information on formal sector has been collected mostly from the secondary sources. Direct inquiries of large employees, trade organizations, owner associations and labour unions were conducted. Besides, relevant Government agencies (Bureau of Statistics, Ministry of Industry) publish regular reports that contain information on employment; investment, production etc. have been analyzed.

1.3.2 Informal Sector Survey

Informal Sector Illustrates the Means of Livelihoods, Unregistered Economy, Informal Trade Category, Fixed Place of Retailers, Road side/Footpath Markets, Mobile hawkers, Daily Wage Earners Groups, Rickshaw Pullers, Home Servant-made servant, Homemade Cloths and Food sellers etc. This sector is beyond Government Control and exempted from tolls and taxes. This sector Output and Employment impacts are not taken into GDP and National Accounting System.

At first, necessary steps were taken to identify the nature of activities in informal sectors of the study area. Most of these activities were in the service sectors and small manufacturing units. A reconnaissance survey was proposed to identify the nature of activities.

Sample survey was conducted at the household level and at the business unit level/trading centers with the help of questionnaires. While the household surveys was designed to collect information on employees, type and nature of employment, income level etc. The business unit level survey was conducted to collect information on investment, production, if locally consumed, or “exported” type of trading, name of employees etc.

The objective of this study is to analyze the present economic base of the study area to assess how the significance of its economic base is changing compared to the national economy. This would determine the future growth potentials of the area.

1.4 Upazila Profile- Sonatala

Sonatala is a traditional Upazila of Bogra district. It was established as Thana in 1981 and converted as Upazila in 1983. The present Sonatala was a renowned business center from its ancient period. The settlement of this area was started centering the river ‘Bangali’. The fertile land, communication facility over river way and excellent geography exerted a pull on people to live and conduct business here. Thus, settlement developed by the surrounding inhabitants and with the people of remote area as well. It is proverbial that the name ‘Sonatala’ was originated from the name ‘Sona Bibi’ who was the wife of Baro Bhuiya chief Isha Khan. Isha Khan often visited this area along with his wife in sixteen century. The area has a lot of similarities with the historical ‘Mahasthangar’.

1.4.1 Location, Area and Physical Setting

Sonatala Upazila is a flood prone area located at Bogra district under Rajshahi Division. It borders Rangpur Division to the north, Sariakandi Upazila to the east and south, Gabtali Upazila to the south and west, and Shibganj Upazila, Bogra to the west.

Table 1.4: Area and Physical Setting

Sonatala Area Distribution	Area (sq. km.)
Total area	156.76
Land area	145.14
Riverine area	11.61
Agricultural land	124.65
Khas land	1.34

Source: BBS District Statistics 2011, Bogra District, GoB, 2016

The total area of Sonatala Upazila is 156.76 Sq. Km. with a total population of 167,547 inhabitant where 85, 862 male and 82, 341 female population (GoB, 2016). The Upazila has 101 Mouzas and 131 villages. The major rivers of the area are Jamuna and Bangali. The Upazila has 331.61 acre Khas land.

1.4.2 Administration

Sonatala Upazila has one municipality named Sonatala and seven other Union Parishads named as Balua, Digdair, Jorgacha, Madhupur, Pakulla, Sonatala and Tekani Chukainagar (See the Map 1.1).

Sonatala Paurashava is subdivided into 9 wards and 16 mahallas. With an area of 12.37 sq. km. Sonatala Paurashava is inhabited with 21,494 citizens. The upazila has one fire station, one auditorium cum community center, one railway station, and one Upazila Server Station.

1.4.3 Residential and Commercial Development

The area is mostly in rural characteristics. Most of the housing structure is katcha (79.8%), while pucca structure is only 2.5%. Semi-pucca structure is only 17% and the remaining 0.7% lives in jhupri. According to the BBS report based on Population & Housing Census 2011, total household of the Upazila is 48569. Average household size is 3.84 and population density per square kilometer is 1191 persons (BBS, 2011).

1.4.4 Heritage and Historic site

Though there is no cultural and historic heritage site located in this area, this area is very rich in natural beauty. Sonakiania Gurvanga is the most popular scenic places known as ‘tematha’. ‘Horse Race’ is another cultural event usually takes place once in a year at Sonatala. Concentrating on the event local festival usually arranged.

1.4.5 Sonatala Regional and Sub-Regional Setting

Sonatala upazila has three mode of transport i.e. Rail, Water and Road Transport. Map 1.1 is illustrated the communication network of the Upazila. According to the National Web portal, Bangladesh, Sonatala Upazila has 131 km of paved (pucca) road, 256 km of un-paved (katcha) road and 436 number of Bridge/Culvert (GoB, 2016). Major parts of the 256 kilometer unpaved road become unusable during wet season. The Upazila also has a railway station located in Sonatala Municipality. The existing rail route allows people to connect with Gaibandha and Bogra district head quarter through Sonatala Paurashava, Jorgacha and Digdair.

According to the BBS report based on District Statistics, 2011, the Upazila has total 421 kilometer road of which 106 kilometer is metalled road, 15 kilometer is semi metalled road and remaining 300 kilometer is unmetalled (katcha) road. The area has 14 kilometer railway connection with Bogra Sadar. It has 36 kilometer water way in monsoon (both river and canal) and around the year it has 24 kilometer. The area has 150 bridges, 5 baily bridges, 10 Shakos and 234 culverts. The total area has 3 railway stations and 8 bus stands.

Due to the locational advantage and availability of water ways through Jamuna a considerable amount of trip has been made using the water network. The usual mode of transports is small to large Boats etc. The waterways allows the local people to connect with other Upazilas situated in the other bank of Jamuna i.e. Islampur, Dewanganj, Melandaha Upazila of Jamalpur District.

1.4.6 Economic Activities and Productivity

Major Economic sector in Sonatala Upazila is Agriculture. The Upazila has the potentiality to grow further as an agricultural growth center. The major agricultural items produced in this Upazila are paddy, green chili and brinjal. According to the BBS report based on population census 2011, the total production of rice in 2010-11 of the Upazila was 218,920 metric ton, wheat production was 418 metric ton, Jute production was 6,233 metric ton and Sugarcane was 353 metric ton. Table 1.5 depicts some information regarding the economic activities within the upazila:

Table 1.5: Different Economic Resources in Sonatala Upazila

Economic Resources	Frequency
1. Farms	
Advanced Poultry Farm	65 Unit
Cow rearing and beef Fattening	12 Unit
2. Cooperative	
Farmers' Cooperative	146 Unit
Youth Cooperatives	16 Unit
Fisherman's' Cooperative	37 Unit
Others	125 Unit
3. Fisheries Infrastructure	
Number of Ponds	3203 Unit

Source: Bangladesh Jatio Tathaya Batayon, 2016

From the Table 1.5 it is evident that, along with the agro-product the upazila also have resources for animal husbandry and Fisheries sector for further development. The upazila already have decent amount of cooperative initiatives which with proper guidance and initiatives can accelerate the economic activities of the locality.

1.4.7 Water Supply, Sanitation and Other Utility Services

The urban area (Sonatala Paurashava) of Sonatala Upazila has little water supply facility. From the BBS, 2011 statistics only 0.4% people got access to the tap water supply and 97.3% rely on tube-well and 2.3% get water from other source of water. Moreover, high quantity of iron content into the tube well water also is a problem faced by the inhabitants.

Sonatala Pourashava has no street lights. Major part of the upazila is without any power connection. Installation of solar power system is a popular alternative than to have networked power supply. According to BBS, 2011. Only 40.66% household has power supply network connection with in the Sonatala Upazila. The highest electricity connection is in ward no-07 (76.3%) while the lowest is in Tekani Chukainagar union 9.3%.

Table 1.6: Union-wise Basic Statistics of Sonatala Upazila.

Union Name	Total Area (Acre)	Household	Population			Literacy Rate
			Male	Female	Both Sex	
Sonatala	2521	4064	7637	7807	15444	36.3
Balua Haat	5426	6777	12293	12592	24885	45.0
Digdair	6460	7419	14293	14515	28808	48
Jorgacha	7580	8752	16820	17537	34357	47.8
Madhupur	3796	5297	9988	10374	20362	36.5
Tekani Chukainagar	3916	3451	6645	6600	13245	32.5
Pakulla	5959	6295	12422	12535	24957	37.9
Sonatala Paurashava		6514	12208	12512	24720	49.6
Total	38736	48569	92306	94472	186778	43.2

Source: District Statistics: Bogra, Population and Housing Census, 2011

Sonatala Upazila has relatively low literacy rate compared with the national literacy rate. The current literacy rate of the Upazila is 43.2% (census 2011). The residents of the Upazila are now having education facility from 2 (two) colleges, 2 (two) degree colleges, 6 (vocational) colleges, 21 (twenty one) secondary schools, 121 (one hundred and twenty one) govt. primary schools, 1 (one) community primary schools, 9 (nine) Madrasha and a PTI institute.

The community facilities of this area are very poor. The urban population of this area is 24,720, but for this population and also for the entire upazila there are little community facilities. There is one filling station, one fire brigade station, one police station; there is only one govt. medical hospital. The sanitation facilities of this area is not satisfactory 44.42% has no sanitation facilities and only 55.58% has got sanitary facilities in this area. Bangali and Jamuna is the main river of this Upazila. Total navigable waterway round the year is 24 km and 35 km only in the monsoon period. With only one Public Hospital with 50 beds, the local inhabitants acquire inadequate health facilities. There are 26 community clinics, 56 satellite clinics, 5 union family welfare centers and 2 union health centers in this Upazila. For recreation purpose, there is no park or playground in the area. The general information regarding the Sonatala Upazila has been collected from the District Statistics: Bogra, Population and Housing Census, 2011.

CHAPTER TWO: APPROACH AND METHODOLOGY

2.1 Methodology of Field Survey

The consultants realized that, creation of good working condition and rapport-building with the respondents are important pre-conditions for developing faith and beliefs between the interviewee and the interviewer. Good environment is of great help for collection of quality and accurate data and information. Local people, in this case can play significant role in the creation of such atmosphere with the targeted respondents. Therefore, the consultants engaged local investigators having at least bachelor/equivalent degree for conducting the household survey. It is mentionable that, investigators have been engaged in each Union Parishad and in the Paurashava area, totaling 10 nos. to conduct the survey simultaneously all over the Upazila. The consultants organized a day-long training program for them, including a field testing of the Questionnaire for these investigators with a view to make them understand the pros and cons of the Questionnaire and techniques and approach to conduct the survey.

An interview guide was used to collect the information relevant information. At first a draft interview guide was prepared and has been tested in the field during the reconnaissance survey with some dummy interviews. With feedback from the field, the interview guide was finalized. As interview guide intended to give much flexibility to the responded, it has both the combination of the open ended and close ended answering pattern. Also if anything interesting came up from the respondent view, it was immediately noted in the questionnaire. Each of the interviews took 1 hour duration. Thus the interviews were conducted in an informal way. Often interviews were taken considering their working and leisure time.

Group Discussion (GD) is a special type of data collection tool. Each GD engages 3 steps. At first, the facilitator has been appointed and trained to be the moderator. Then, with the help of the potential participants of the GD, the time and the place have been fixed. The Facilitator has helped the researcher in this regard. At last, on the appointed day, GD has been conducted. The expected participants for the each GD have been 5 to 7 participants. The total discussion was conducted following a checklist of information prepared earlier for the each GD.

While doing the Group Discussion and the Guided interview if the researcher considers a respondent as a potential source of information, then instantly the respondent was considered as a potential candidate for. Thus the *Key Informant Interview* was followed in unstructured way with informal *key informant* manner to have more flexibility to collect the data.

Observation is a way of data gathering by looking into the research subjects in *natural or structured environments*. There are different types of observation. This study uses the

“*complete observer type*” in which the *researcher observes from the outside* (Tashakori et al. 2003). Researcher considers him as an outsider of the targeted group collect the data as an outsider perspective. Personal observation was used to get background information and also the reflection of the researcher towards the study area and the respondent which was kept maintaining a daily log.

2.2 Review of National Policies and Plans

2.2.1 Perspective Plan, 2010

This “Perspective Plan of Bangladesh (2010-2021): Making Vision 2021 a Reality” is a strategic articulation of the development vision, mission, and goals of the Government in achieving a prosperous Bangladesh grounded in political and economic freedoms a reality in 2021. It provides the road map for accelerated growth and lays down broad approaches for eradication of poverty, inequality and human deprivation (General Economic Division , 2012).

The major imperatives of this Plan within the context of this document are:

- Treating urban and rural development as two legs of sustainable development;
- Higher growth in rural economy to improve quality of life of the rural people;
- Improved urban management through providing infrastructure and services;
- Promoting sustainable land-use planning and innovative land management practices for urban development through integrated and environmentally sound physical planning.

2.2.2 Sixth Five Year Plan (2011-2015)

Perspective Plan 2010-2021 have set solid development targets for Bangladesh by the end of 2021. The implementation of Perspective Plan 2010-2021 will expected to be achieved through two medium term development plans i.e. Sixth Five Year Plan (SFYP) and 7th FYP. This Five Year Plan is the sixth in the series of development plans in Bangladesh starting in 1973. SFYP is a midterm strategic document which illustrated the Perspective Plan 2010-2021 goals within midterm achievable manner. The sixth Five-Year Plan makes the following key observations in the urbanization context of urbanization:

- Better management of land is of paramount importance for sustaining rapid growth;
- Sound land management also has a direct effect on people’s welfare and poverty reduction;
- Landless farmers are amongst the poorest of the poor and land is essential for their housing;

- The rapidly expanding slum population and rising land prices in urban areas are indications of increasing difficulties that Bangladesh faces in providing people with proper shelter.

2.2.3 Seventh Five Year Plan (2016-2020)

The 7th FYP reflects a continuation of the major goals articulated in the 6th FYP. The core targets set in accordance with the vision and goals of the Perspective Plan under the 7th FYP which is relevant to this report includes: (General Economic Division , 2015)

❖ Income and poverty

- Attaining average real GDP growth rate of 7.4% per year over the Plan period;
- Reduction in the head-count poverty ratio by 6.2 percentage points;
- Reduction in extreme poverty by about 4.0 percentage points;
- Creating good jobs for the large pool of under-employed and new labour force entrants by increasing the share of employment in the manufacturing sector from 15 percent to 20 percent.

❖ Urban Development

- Infrastructural investment and civic facilities in peri-urban growth centres especially around Special Economic Zones;
- Inclusive housing and other civic services for urban inhabitants including for people living in informal settlements and slums;
- Inclusive urban planning based on sustainable land use planning and zoning;
- Increased productivity, access to finance, and policy support for urban micro-small and medium enterprises.

❖ Human Resource Development (Education, Health and Population)

- Achieving 100 percent net enrolment rate for primary and secondary education;
- Percentage of cohort reaching grade 5 to be increased to 100 from current 80 percent;
- Under 5 mortality rate to be reduced to 37 per 1000 live birth;
- Maternal Mortality Ratio to be reduced to 105 per 100,000 live births;
- Immunization, measles (percent of children under 12 months) to be increased to 100 percent;
- Reduce proportion of underweight children among under-five children to 20 percent;
- Births attended by skilled health staff to be increased to 65 percent;
- Reduction of Total Fertility Rate to 2.0;

- Increasing Contraceptive Prevalence Rate to 75 percent F. Water and Sanitation;
- Safe drinking water for all;
- Proportion of urban population with access to sanitary latrines to be increased to 100 percent;
- Proportion of rural population with access to sanitary latrines to be raised to 90 percent.

2.2.4 Millennium Development Goals (MDGs)

The poverty reduction strategies were also targeted towards achieving the Millennium Development Goals (MDGs) of the government. The supporting strategies of the poverty reduction framework comprise:

- i. Ensuring participation, social inclusion, and empowerment;
- ii. Promoting good governance;
- iii. Ensuring efficient delivery of public services;
- iv. Caring for environment and tackling climate change; and
- v. Enhancing productivity and efficiency through science and technology.

The critical concern of the strategy is to achieve higher growth as well as equity and poverty reduction simultaneously. In this context, the focus is on agriculture and rural life, expansion of social safety nets for the ultra-poor and targeted approach towards employment generation.

2.2.5 Sustainable Development Goals (SDG)

The Sustainable Development Goals (SDGs), officially known as transforming our world: the 2030 Agenda for Sustainable Development is a set of seventeen aspirational "Global Goals" with 169 targets between them. Spearheaded by the United Nations, through a deliberative process involving its 193 Member States, as well as global civil society, the goals are contained in paragraph 54 United Nations Resolution A/RES/70/1 of 25 September 2015. On 5 December 2014, the UN General Assembly accepted the Secretary-General's Synthesis Report which stated that the agenda for the post-2015 SDG process. Bangladesh has ratified for the SDGs and recently General Economic Division of Planning Commission, Ministry of Planning, GoB, have published a paper on "*Mapping of Ministries/Divisions by SDGs' Targets*" which provides the goal specific Bangladesh targets. Among the 17 goals of SDG the following 5 Goals specific targets are relevant for this report:

Goal 01: End poverty in all its forms everywhere.

Specific Targets:

- ❖ By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day.

- ❖ By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.
- ❖ 1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.
- ❖ 1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.
- ❖ 1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

Goal 04: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Specific Targets:

- ❖ Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.
- ❖ By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, Small Island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries.
- ❖ By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and Small Island developing States.

Goal 08: Promote sustainable, inclusive and sustainable economic growth, full and decent work for all.

Specific targets:

- ❖ Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors.
- ❖ Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization

and growth of micro-small-and medium-sized enterprises, including through access to financial services.

- ❖ By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.
- ❖ 8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training.
- ❖ Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.

Goal 09: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Specific targets:

- ❖ Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.
- ❖ Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.
- ❖ Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.
- ❖ By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.

- ❖ By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.
- ❖ By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons.
- ❖ By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

- ❖ Strengthen efforts to protect and safeguard the world's cultural and natural heritage
- ❖ Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.
- ❖ By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels.

2.2.6 National Disaster Management Plan

The Disaster Management Vision of the Government of Bangladesh is to reduce the risk of people, especially the poor and the disadvantaged, from the effects of natural, environmental and human induced hazards, to a manageable and acceptable humanitarian level, and to have in place an efficient emergency response system capable of handling large scale disasters.

1. Disaster management would involve the management of both risks and consequences of disasters that would include prevention emergency response and post-disaster recovery.
2. Community involvement for preparedness programmes for protecting lives and properties would be a major focus. Involvement of local government bodies would be an essential part of the strategy. Self-reliance should be the key for preparedness, response and recovery.
3. Non-structural mitigation measures such as community disaster preparedness training advocacy and public awareness must be given a high priority; this would require an integration of structural mitigation with non-structural measures.

2.2.7 National Land Use Policy, 2001

The policy suggests the following measures in land use planning:

- Formulation and execution of Land Use Plan in order to ensure planned use of land.
- Introduction of 'land use zoning' based on particular characteristics of land.
- Prevention of unplanned expansion of residential areas, and control of indiscriminate growth of industrial and commercial activities.
- Implementation of land conservation programs aimed at prevention of desertification and weathering of land and conservation of fertility of land.
- Zoning has to be ensured in order to prohibit the encroachment of cultivable agriculture lands in village areas.
- Conservation and development of land and watershed areas.

2.2.8 National Urban Policy (Draft), 2014

The policy suggests that the following measures should be taken in urban planning process:

- Development of a hierarchy in urban structure with inclusive partnerships of people through decentralization of regionally balanced and planned urbanization.
- Preservation and conservation of water bodies, rivers, natural canals, water flow channel, open space, playground, park etc. and reclaiming the illegally occupied water bodies and water flow channel.
- Determination and implementation of urban management strategies and administration system to increase the complimentary role of urban and rural areas for sustainable development.

2.2.9 National Population Policy

- The main objective of National Population Policy is to improve the living standard of the people through a balance between population and development.
- The national population policy aims to reduce influx of population from rural to urban areas through decentralization of population activities and while employment can be created in all the sectors of the Upazila, some economic sectors have higher potential for employment generation. The industrial, commercial and service sectors generally have higher potential in the creation of employment with higher wages and benefits. The policies and strategies for these sectors are provided in this section. The agriculture sector is expected to remain strong in the future for growth and employment and policies and strategies for this sector have already been discussed.

2.2.10 Industrial Policy, 2010

- Land selected for the purpose of Economic Zones and industrial parks will be those deemed marginal for agriculture, such as unproductive and barren land. For this purpose, fertile agricultural land cannot be used. Land Zoning Policy should be followed in this regard.

2.2.11 National Tourism Policy, 2010

- To preserve, protect, develop and maintain tourism resources;
- To build a positive image of the area concerned;
- To identify sectors for private capital investment;
- To arrange entertainment and recreation;
- Prohibition of development without governmental permission within an area declared as tourism spot by the government.

2.2.12 Other Sectoral Policies and Acts related to Land Use Planning

The sectoral composition of the economy in Bangladesh has changed significantly over the last several decades. The share of agriculture in the economy has been reduced significantly while industry and services have been increasingly contributing to the GDP growth. Services have contributed particularly strongly to GDP growth in the current decade. In terms of employment and livelihood, the agriculture sector, however, will remain important as it has always been. The national food security can only be guaranteed if the high value agricultural lands of the country can be saved from conversion into other uses.

The poverty has also been significantly reduced along with the sustained economic growth over more than the last twenty years. The country is expecting to achieve seven percent economic growth in the current financial year and even higher in the future.

2.3 Linkage of National Plans and Policies with Development Plan of 14 Upazilas Project

The Project has been designed in such a way to complement the National Plans and Policies to actively support development plan of the country. The essential aspect of the project is to attain physical infrastructural development of the project areas, including sectoral balanced development with emphasis on emancipation of vulnerable people of the concerned areas. As such, it may be aptly said that the Project will be able to establish a direct and unhindered link with the national plans and policies with development plan of the 14 Upazilas under the project.

CHAPTER THREE: FORMAL ECONOMIC SURVEY

3.1 Introduction

Agriculture is the backbone of rural economy on Bangladesh. It is also the major source of employment in rural areas. Markets help in marketing agriculture and other products and provide access in inputs required for agricultural products. Ensuring food security for the vast population of Bangladesh is directly associated with the agricultural development in the country. The governments of Bangladesh have therefore been giving priorities to agricultural development with a view to ensuring food and nutritional security, poverty alleviation, and increased generation of employment. Whereas a profitable, sustainable, and environment-friendly agricultural system is required to achieve these objectives, agriculture in the country faces by a number of challenges every year. These challenges include population growth, climatic hazards, loss of arable land, lack of quality seeds, food habit of people (about 90 percent is rice based), inadequate credit support to the farmers, unfair pricing, insufficient investment in agricultural research and agricultural mismanagement in terms of irrigation, use of fertilizer and pesticides. The majority are small and marginal farmers who are endowed with poor financial resources and cannot afford high cost of frontier technology.

Present situation most of the hats/bazaars/markets located on Northern area of Sonatala Upazila under Bogra District. It goes on to outline market management and leasing systems and legal framework that governs market operation.

In this report the Formal Economic Sector (Table 3.1) includes Hats, Bazars, Markets, Growth Centers, Industries, Banks/Bima and NGOs. These economic units are concentrated mostly within the Upazila centers and Union Parishad centers.

The Informal Economic Sector includes agricultural day laborers, small traders, urban street vendors, paid domestic workers and home produced cloths, handicrafts, small tea stall, ferry-wala, and vegetables seller and van-rickshaw puller. Informal jobs mostly fall outside the domain of the government's labor market regulation. Table 3.1 has shown the overall issues that are covered in this report.

Table 3.1: Formal-Informal Sector Activities Types

Economic Employment Status	Category Name
Formal Economic Sector The economic activities that is included in the national input-output. Their Output and Employment impacts are taken care of	<ul style="list-style-type: none"> - Professional (Bank/Bima, NGO, CBO, etc.), - Business Centers (Katcha Bazar, Hat, Growth Centers, Retail Market, Wholesale Market, and Other etc.), - Shopping Center,

Economic Employment Status	Category Name
GDP, GNP and National Accounting System.	<ul style="list-style-type: none"> - Industry, - Traders and Consumer Groups, - Types of Industrial Products Marketing area, etc.
Informal Economic Sector This sector is beyond Govt. Control and exempted from tolls and taxes. This sector Output and Employment impacts are not taken into GDP and National Accounting System.	<ul style="list-style-type: none"> - Means of rural Livelihoods, - Unregistered Economy, - Informal Trade Category, - Fixed Place of Retailers, - Road side/Footpath Markets, - Mobile hawkers, - Daily Wage Earners Groups, - Rickshaw/Van Pullers, - Home Servant/made servant, - Homemade Cloths and Food sellers etc.

3.2 Section-A: Hat/Bazar/Market

Distribution of markets over a region plays an impotent role in local economy. As the spatial distribution of Bazar/Hat (Market area) give the idea how much a farmer/producer need to travel. Gradual growth pattern in the local Bazar/Hat over the years usually provides the indication of increasing economic capacity of the locality. On the other hand, most of the financial organization and other formal sector units usually concentrate within the jurisdiction of local hat bazaar. Thus information set regarding the local hat/bazaar in a necessary element for developing development plan.

Table 3.2: Location and Description of Hat/Bazar in Sonatala Upazila

Sl. No	Name of Markets	Union	Rural/Urban	Area in acre	Annual Lease amount BDT	No. of permanent shops as in 2015	No. of temporary shops as in 2015	No. of permanent shops as in 2010	No. of temporary shops as in 2010	No. of permanent shops as in 2005	No. of temporary shops as in 2005
1	Sonatala Bazar	Sonatala	Urban	3	-----	400	180	350	140	320	120
2	College Bazar	Jorgacha	Rural	3	74000	530	220	490	205	463	180
3	Madhupur Bazar	Madhupur	Rural	2	92000	390	80	370	70	350	55
4	Horikhali Bazar	Madhupur	Rural	1	261000	230	40	215	35	200	25
5	Digdair Bazar	Digdair	Rural	1	113000	410	85	385	70	365	55
6	Korpur Bazar	Digdair	Rural	1	1 65785	470	160	440	135	420	120
7	Tekani Bazar	Tekani	Rural	2	242000	310	40	300	32	285	30
8	Pakulla Bazar	Pakulla	Rural	1	431800	280	35	265	30	250	25
9	Kachari Bazar	Jorgacha	Rural	2	324550	355	40	330	35	310	30
10	Balua Haat	Balua	Rural	4	893755	665	110	620	90	580	75

Source: Field Survey, 2016

Table 3.2 shows the spatial distribution of Hat/Bazar in Sonatala Upazila and Table 3.3 shows the growth pattern of these Hat/Bazars over a decade.

From the Table 3.2 it is evident that among 10 Hat/Bazars available in Sonatala Upazila only Sonatala Bazar located in the Sonatala Union is predominantly has the criterion of urban market. The other 9 Haat/Bazar is predominantly has the rural characteristics.

The Hat/Bazar listed in the Table 3.2 have occupied maximum 4 acre (Balua Haat) of land area to minimum 1 acre (4 market areas i.e. Horikhali, Digdair, Korpur and Pakulla Bazar). Sonatala, Collage Bazar have 3 acre of land area where as Madhupur, Kachari Bazar and Tekani Bazar has 2 acre of land.

The Annual Leasing amount is the direct indicator of size of economic activity. According to the Table 3.2 Balua Haat picks the economic concentration having BDT 8,93,755, followed by Pakulla Bazar (BDT 4,31,800) and Kachari Bazar (BDT 3,24,550). Note that, usually urban market attract much complex set of economic activity, thus hard to measure the economic concentration by the Annual Leasing amount. Only urban market Sonatala Bazar does not have a value in Table 3.2.

Table 3.3: Growth of Permanent and Temporary shops in different bazaar of Sonatala Upazila

Sl. No	Name of Markets	Union	Number of Permanent Shops				Number of temporary Shops					
			No. in 2015	Growth percentage over previous period (%)	No. in 2010	Growth percentage over previous period (%)	No. in 2005	No. in 2015	Growth percentage over previous period (%)	No. in 2010	Growth percentage over previous period (%)	No. in 2005
1	Sonatala Bazar	Sonatala	400	14	350	9	320	180	29	140	17	120
2	College Bazar	Jorgacha	530	8	490	6	463	220	7	205	14	180
3	Madhupur Bazar	Madhupur	390	5	370	6	350	80	14	70	27	55
4	Horikhali Bazar	Madhupur	230	7	215	8	200	40	14	35	40	25
5	Digdair Bazar	Digdair	410	6	385	5	365	85	21	70	27	55
6	Korpur Bazar	Digdair	470	7	440	5	420	160	19	135	13	120
7	Tekani Bazar	Tekani	310	3	300	5	285	40	25	32	7	30
8	Pakulla Bazar	Pakulla	280	6	265	6	250	35	17	30	20	25
9	Kachari Bazar	Jorgacha	355	25	330	6	310	40	14	35	17	30
10	Balua Haat	Balua	665	7	620	7	580	110	22	90	20	75

Source: Field Survey, 2016

From the Table 3.3 it is evident that within the last decade from 2005 to 2015 both the Permanent and temporary shops in the only Urban Market Sonatala Bazar experienced highest growth rate. The other rural markets also experienced more or less positive growth in both

permanent and temporary shops; the only exception is the Kachari Bazaar which experienced a negative growth of 23 percent. Table 3.3 also shows that the growth rates in temporary shops are comparatively greater than the permanent shops.

3.2.1 Ownership of Land/Hat/Bazar

As per hat bazaar policy guideline published on February 07, 2008 by the LGRD&C, Local government division all hat/bazaar/market are to be built on khas land and in almost all market lands should be available for expansion. So, all markets are on theory owned by the Government. However, in reality such development takes place, concentrating on a khas land provided by the government and the adjacent private land eventually is converted to commercial use and become an integral part of the market area. Thus most of the Hat/Bazar though established in the khas land, also included some of the private land creating a mixed ownership pattern. Table 3.4 shows that, all the Hat/bazaar under consideration has mixed ownership pattern.

Table 3.4: Ownership of Land/Hat/Bazar

Name of Hats/Bazars	Land in Acres	Owner of Land		
		Government	Private	Mixed
Sonatala Bazar	3	0	0	Yes
College Bazar	3	0	0	Yes
Madhupur Bazar	2	0	0	Yes
Horikhali Bazar	1	0	0	Yes
Digdair Bazar	1	0	0	Yes
Korpur Bazar	1	0	0	Yes
Tekani Bazar	2	0	0	Yes
Pakulla Bazar	1	0	0	Yes
Kachari Bazar	2	0	0	Yes
Balua Hat	4	0	0	Yes

Source: Field Survey, 2016

3.2.2 Regulation Process of Hat/Bazar/Market

Two types of committees have been identified that govern the Market operation in Sonatala. The following are the names and formation of these committees:

Tender Evaluation Committee

The Upazila has a Tender Evaluation Committee. They are responsible to call tender and evaluate schedule and finally give yearly lease every year of Hat/bazaar/market. The Tender Evaluation Committee comprises of 06 members, as follows:

- a) Upazila Nirbahi Officer - Chairman of the Committee
- b) Upazila Agriculture Officer - Member of the Committee

- c) Upazila Engineer - Member of the Committee
- d) Upazila Rural Development Officer - Member of the Committee
- e) Concerned UP Chairman - Member of the Committee
- f) AC Land - Member-Secretary of the Committee.

Upazila Market Management Committee (UMMC)

The Committee composition is as follows:

- g) Upazila Nirbahi Officer - Chairman of the Committee
- h) Upazila Engineer - Member of the Committee
- i) Concerned UP Chairman - Member of the Committee
- j) District Commissioner will nominate one person from concerned Upazila
- k) District Commissioner will nominate one person from concerned Upazila Govt. Official
- l) UNO will nominate two members secretary from Market Management Committee of the Upazila.
- m) AC Land - Member-Secretary of the Committee.

Though the committees have been formed in all the market areas but usually those are found to be limitedly functional in most of the cases.

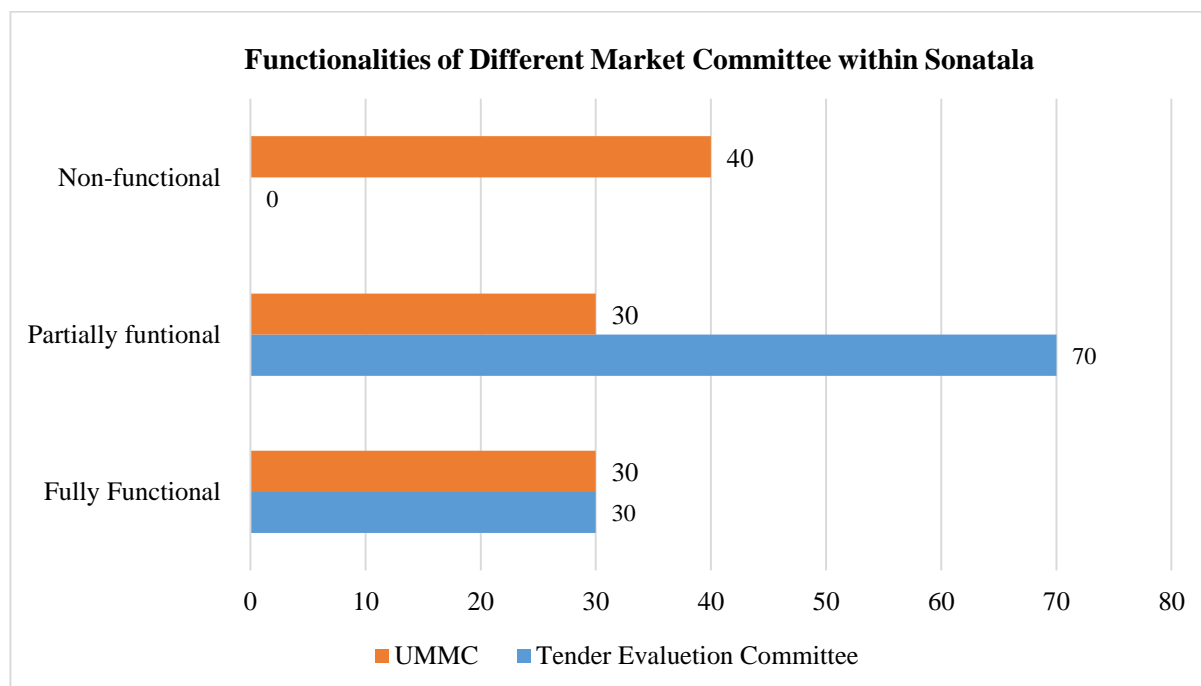
Table 3.5: Functionalities of Different Market Committee within Sonatala

Name of Hats/Bazars	Status of Tender Evaluation Committee			Status of UMMC		
	Committee Formed	Functional	Partially functional	Committee Formed	Functional	Partially functional
Sonatala Bazar	Yes	Yes	NA	Yes	Yes	NA
College Bazar	Yes	NA	Yes	Yes	NA	Yes
Madhupur Bazar	Yes	Yes	NA	Yes	NA	NA
Horikhali Bazar	Yes	NA	Yes	Yes	NA	NA
Digdair Bazar	Yes	NA	Yes	Yes	Yes	NA
Korpur Bazar	Yes	Yes	NA	Yes	NA	Yes
Tekani Bazar	Yes	NA	Yes	Yes	NA	Yes
Pakulla Bazar	Yes	NA	Yes	Yes	Yes	NA
Kachari Bazar	Yes	NA	Yes	Yes	NA	NA
Balua Haat	Yes	NA	Yes	Yes	NA	NA

Source: Field Survey, 2016

According to Table 3.5 it is evident that though all the committee is formed, in majority of the cases those committee remains partially functional. As showed in the Figure 3.1 in case of tender evaluation committee out of 10 Bazar 70 percent of the committee is partially functional, whereas only 30 percent are fully functional. In case of UMMC 40 percent of the committees

are non-functional, where as 30 percent are partially functional and remain 30 percent are functional.



Source: Field Survey, 2016

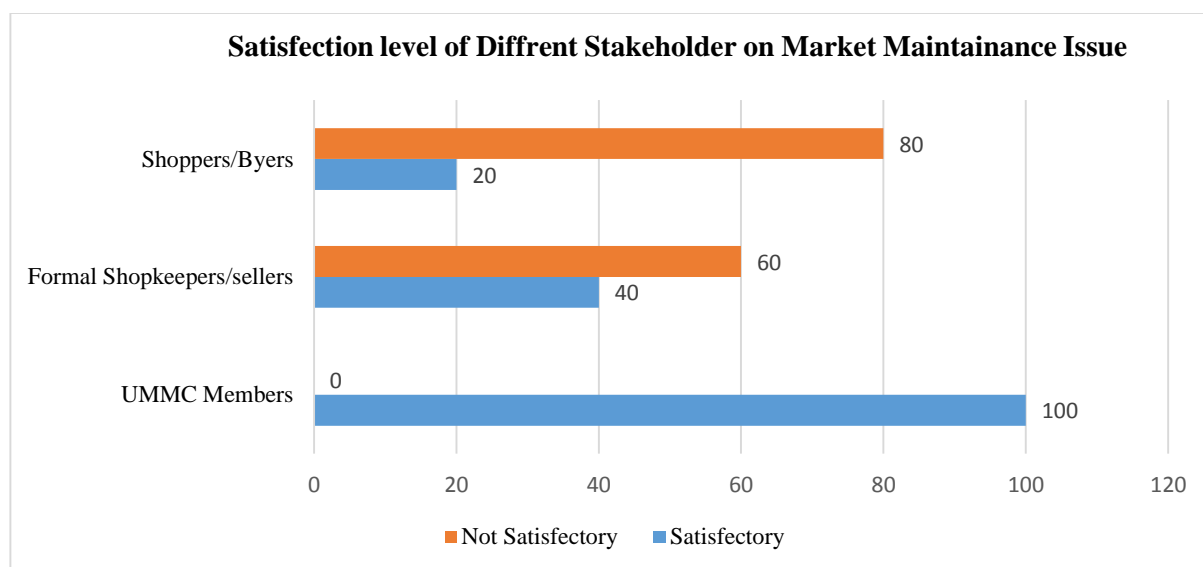
Figure 3.1: Functionalities of Different Market Committee within Sonatala

3.2.3 Leasing and Revenue Collection of Hat/Bazaar/Market

Government policy for hat/bazaar/market for rural and urban dictates that they would be leased out to an individual. This person, known as *Ijarader*, has the responsibilities to levy toll on market users at rate fixed by the government and also ensure cleanliness of market). Leasing is done through auction or tender and Government can then be assured of a certain level of income from market. Revenue from lease money are shared among central government, revenue fund of upazila and union development funds with a proportion being return to the market for its maintenance and development.

3.2.4 Market/Bazar Maintenance Work

According to the Table 3.5 all the market area of Sonatala has an already established UMMC and the maintenance work has been properly by the UMMC. Figure 3.2 draws an interesting contrast regarding the opinion on market maintenance issues. According to the chart 100 percent of the members from market management committee opinioned that the maintenance work are in satisfactory level. On the other hand 80 percent of the Shoppers/Byers showed dissatisfaction and 60 percent of the Shopkeepers/Sellers showed dissatisfaction in this regard.

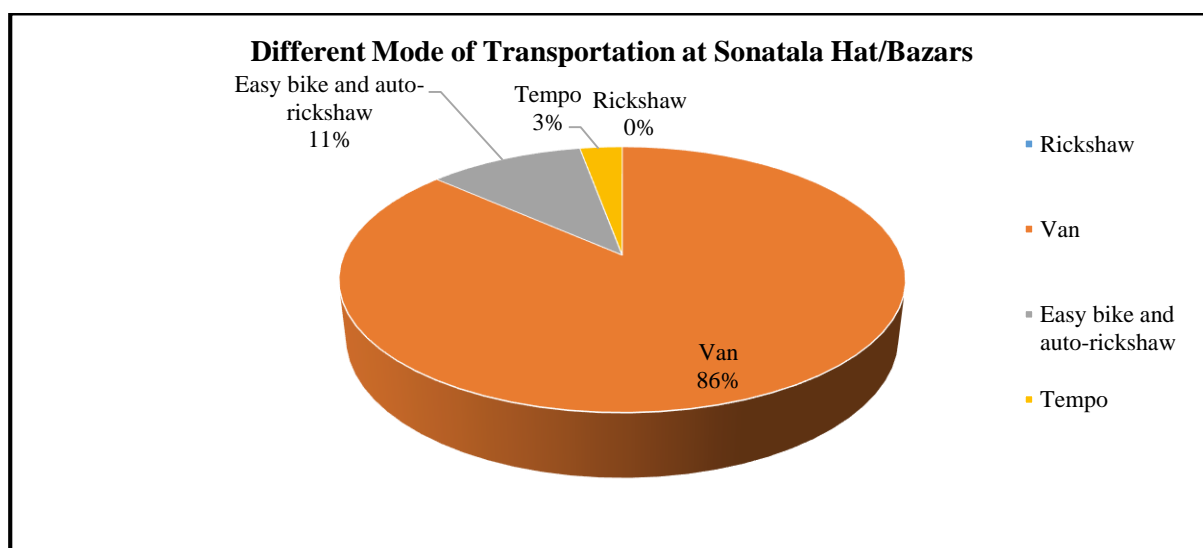


Source: Field Survey, 2016

Figure 3.2: Satisfaction Level of Different Stakeholder on Market Maintenance

3.2.5 Transportation System (Hat/Bazar/Market)

Figure 3.3 shows the mode of travel to the different Hat/Bazars within the Sonatala Upazila. From the figure it is apparent that rickshaw van is the most frequently used (in 86 percent of total transportation mode) transportation system. In the local markets and in the rural areas Rickshaw van is usually popular because of its flexibility to operate in the narrow and muddy path, comparatively cheap and the carrying capacity is convenient for the local micro-producers and the vendors. Followed by the Rickshaw Van, Easy bike and Auto-Rickshaw is the second popular mode of transportation. Other mode includes Tempos.

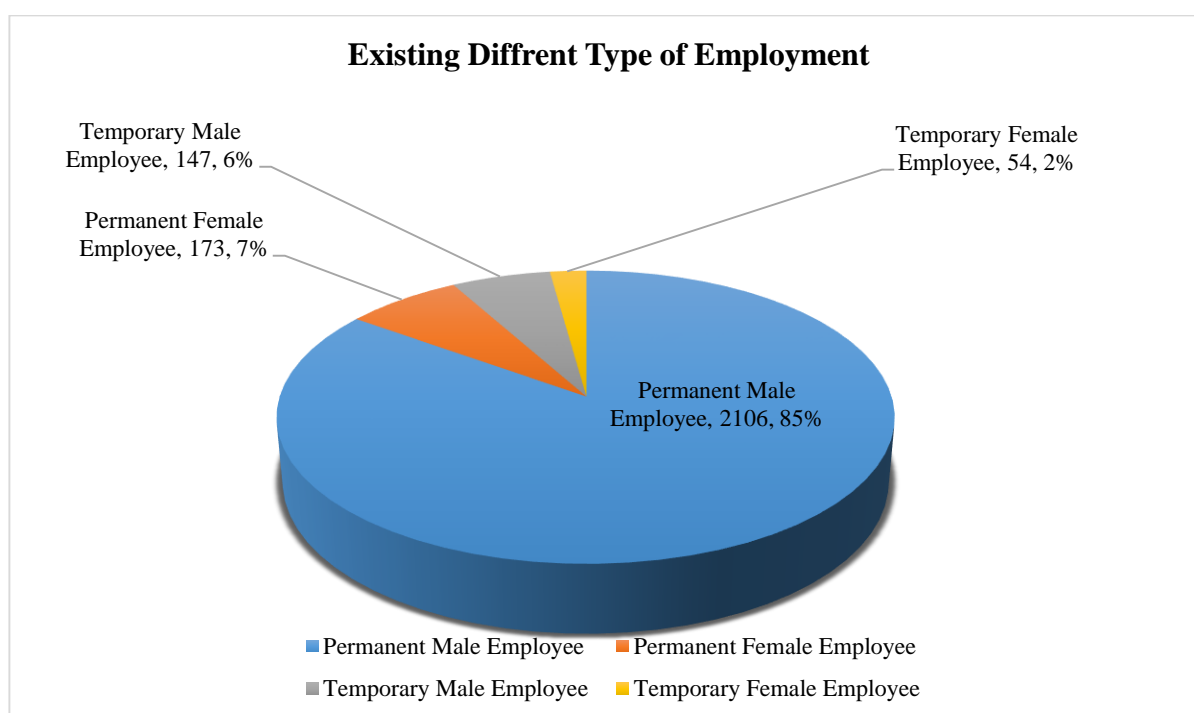


Source: BBS, 2011

Figure 3.3: Different Mode of Transportation at Sonatala Hat/Bazars

3.2.6 Employment Creation of Last Year from Permanent and Temporary Shops of the Hat/Bazaar/Market

Figure 3.4 shows the existing employment status of different Hats/Bazaars/Market at Sonatala upazila. Two broader types of employment type have been found in Sonatala Upazila i.e. Employment in the Permanent Shops and Employment in the Temporary Shops. The Employment in the Permanent Shops depicts the employment opportunity created by the Permanent Registered Shop of the Hats/Bazaars/Market. This type of employment has less seasonal variation in number. On the other hand, employment in the temporary shops is the employment generated by temporary shops which is in many cases seasonal and for a short time venture. Thus the number of this type of employment varies with the seasonal variations.



Source: BBS, 2011

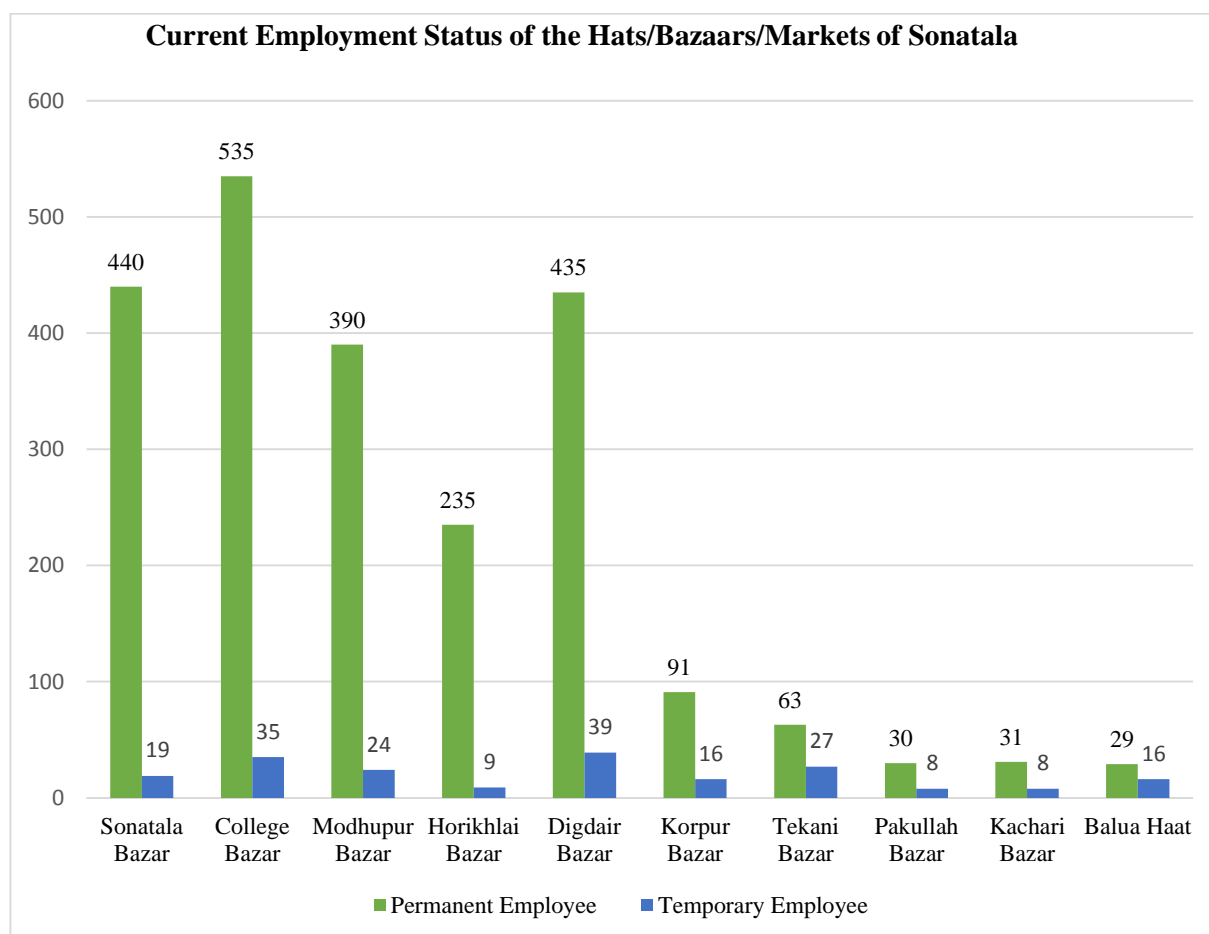
Figure 3.4: Different Type of Existing Employment

From the Figure 3.4 it is evident that overall 85 percent of the market based employment is male permanent employee. Total 91 percent of the employment is for the male. On the other hand 9 percent (combining both permanent and temporary) is for female employee. This structure provides the generic understanding how much spaces or provision need to provide for the public service considering the gender.

In all the market areas employment in the permanent shops is grater having a percentage share lowest 62 percent in Balua Haat to highest 98 percent at Sonatala Bazaar (Figure 3.5). With 535 permanent employment and 35 temporary employment Collage Bazar holds the highest amount

of employment as shown in Figure 3.5; followed by Digdair Bazar (435 permanent employment and 39 temporary employment) and Sonatala Bazar (440 permanent employment and 19 temporary employment). Another important aspect evident from the Figure 3.5 is, comparatively smaller markets in respect of employment has more temporary employment ratio. It is evident in the Balua Haat, Kachari Bazar, Pakulla Bazar and Tekani bazar.

Consideration of type of structures in the markets, i.e., permanent structure and temporary structure is an important issue for market area development and design of public service systems.



Source: Field Survey, 2016

Figure 3.5: Current Employment Status of the Hats/Bazaars/Markets of Sonatala

3.2.7 Utility services of hat/bazaar/Market

The market areas under Sonatala Upazila have the access to different utility services. Table 3.6 is showing different utility services available in the market areas.

Table 3.6: Utility Services of Hat/Bazaar/Market

Sl. no	Utility Services available in the Market Area	Yes	No	Comment
1	Have any garbage pit	4	6	70 percent of the bazar does not have any garbage pit; thus the Shops and the marketers usually use road side or adjacent fallow land as garbage pit.
2	Have Sanitation facility	10	0	All the market has sanitation facility. There is no separate toilet for female in any bazar/hat. Maximum toilets are semi-pucca and some are katcha.
3	Have Water supply	10	0	There is no piped water supply system installed in the markets. Some Public and several private Tube well have been serving as the source of water.
4	Electricity connected	9	1	All the market area except Kachari Bazar already has access to electric power.
5	Have any waste dump place	6	4	6 out of 10 have access to the waste dump site. In all the cases these dump site is open; in many cases in the bank of a nearby water body.

Source: Field Survey, 2016

According to the Table 3.6 only 4 (40 percent) out of 10 market has garbage pit. All the market areas have the sanitation facility. There is no separate toilet for female in any bazar/hat. Maximum toilets are Semi-Pucca and some are Katcha. The primary source of the water supply is Tube well. All the market areas except Kachari Bazar already have access to electric power. Six markets out of 10 have access to the waste dump site.

3.2.8 Waste Dumping Site

Location of Waste Dumping Site is a crucial issue for development planning. Availability and access to the Waste Dumping Site is a must for the Hat/Bazar/market since during the functional time, market areas produce a lots of different kind of waste i.e. Plastic waste, Bio-degradable Waste, paper waste.

Distance between the waste generation point and the Waste Dumping Site is a determinant of how much waste will be carried to the dumping site. The more the distance the harder it gets to dump the waste. Table 3.7 shows that 50 percent of the market area has Waste Disposal Place within 50 meter from the periphery of bazar area; whereas 20 present are in between 50 to 100 meter. Thirty percent of the markets have it more than 100 meter distance.

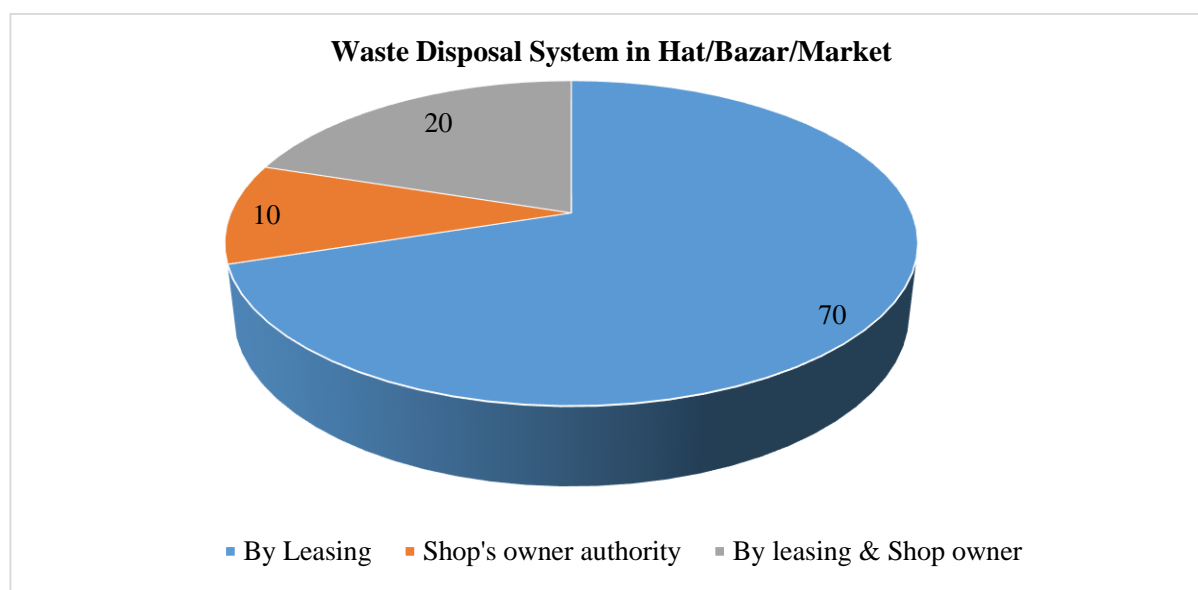
Table 3.7: Distance to Waste Disposal Place

Distance to Waste Disposal Place	Number	Percent (%)
0 - 50 meter	5	50
51 - 100 meter	2	20
More than 100 meters	3	30
Total	10	100

Source: BBS, 2011 (Annex 3.2)

3.2.9 Waste Disposal System in Hat/Bazar/Market

Different waste disposal systems in Hat/Bazar/Markets have been observed during the field survey. Figure 3.6 shows that the waste disposal is done by leasing or Shop's owner initiatives or by combining the both. Out of 10 Hat/Bazar/Markets in Sonatala Upazila, 7 maintain waste disposal by leasing, one by shop's own initiative and 2 by leasing and shop own initiative.

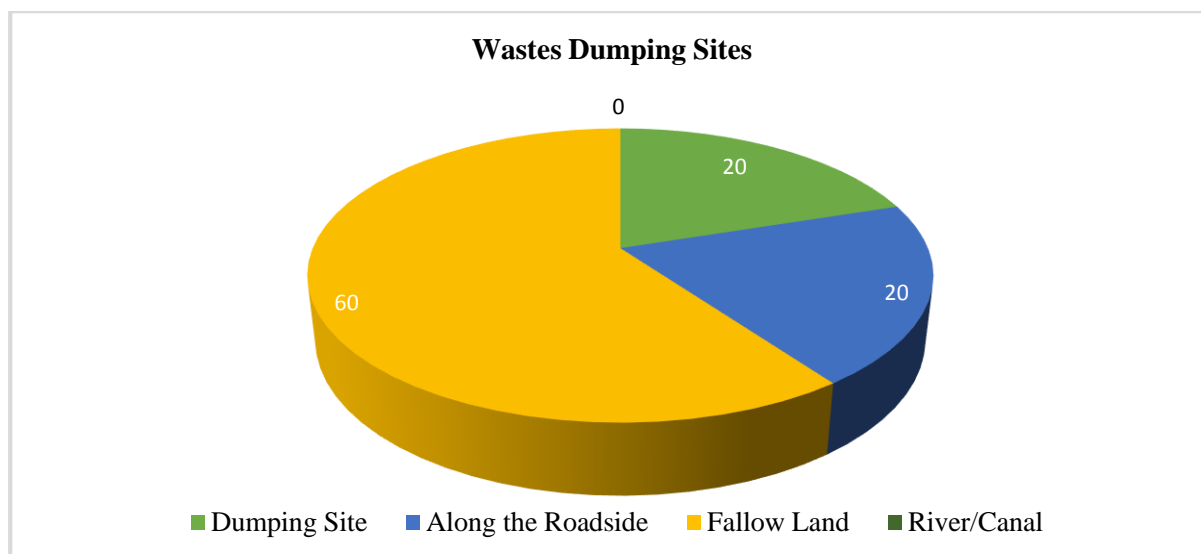


Source: Field Survey, 2016

Figure 3.6: Waste Disposal System in Hats/Bazaars/Markets of Sonatala

3.2.10 Wastes Dumping Sites

Figure 3.7 shows that 10 nos. Hat/bazar/Markets were surveyed, out of it, 2 (20 percent) were found to dump their wastes in designated dumping sites. Other 2 (20 percent) were found to dump alongside of the road and the rest 6 (60 %) in the adjacent fallow land.



Source: Field Survey, 2016

Figure 3.7: Waste Dumping Sites in Sonatala

3.2.11 Sanitation System of Hat/Bazar/Market

Table 3.8 depicts the sanitation facilities in different Hat/Bazar/Market of Sonatala Upazila. According to the Table 3.8, most of the market area has 3 or more toilets (6 out of 10 Bazar). Among the 25 toilets available in 10 bazar 20 (80 percent) toilets are found to be sanitary toilets, and 5 (20 percent) are pit latrines with unhygienic features. Being in the Sonatala Paurashava only Sonatala bazar enjoys 250 m long Drainage System which is absent in the other 9 bazars.

Table 3.8: Sanitation Facility of Hat/Bazar/Market

Sl. No.	Name of Market	Name of Union	Sanitary Toilet	Pit Latrine	Drainage Network (Meter)
1	Sonatala Bazar	Sonatala	3	0	250
2	College Bazar	Jorgacha	2	0	No
3	Madhupur Bazar	Madhupur	1	0	No
4	Horikhali Bazar	Madhupur	3	0	No
5	Digdair Bazar	Digdair	3	1	No
6	Korpur Bazar	Digdair	3		No
7	Tekani Bazar	Tekani	2	1	No
8	Pakulla Bazar	Pakulla	1	1	No
9	Kachari Bazar	Jorgacha	1	2	No
10	Balua Haat	Balua	1	0	
	Total		20	5	250

Source: Field Survey, 2016

An important feature is that there are no separate latrines for the women. In many cases the women come to the bazar use latrines from the household of adjacent neighborhood.

3.2.12 Water Supply System Hat/Bazar/Market

There is no pipelined water supply system in Sonatala Upazila for the bazar areas. The bazar areas do not have access to the open surface water source as well. The only source of water is the tube-well. A total of 17 tube-well has been found in the markets for the use of all. Some tube wells are found sunk indoor for private uses, especially for the hotels and restaurants but those are not accessible to common people. Among the 17 tube-wells 14 (82 percent) tube well is owned by Paurashava or Union Parishad. The other 3 (18 percent) are privately owned.

Table 3.9: Source of Drinking Water

Union		Pipe Line Service	Own Tube-well	Public Tube-well	Open Water-body	Total
Sonatala Bazar	No.	N/A	1	1	0	2
College Bazar	No.	N/A	0	1	0	1
Madhupur Bazar	No.	N/A	0	1	0	1
Horikhali Bazar	No.	N/A	0	1	0	1
Digdair Bazar	No.	N/A	0	2	0	2
Korpur Bazar	No.	N/A	0	2	0	2
Tekani Bazar	No.	N/A	0	1	0	1
Pakulla Bazar	No.	N/A	0	1	0	1
Kachari Bazar	No.	N/A	0	2	0	2
Balua Haat	No.	N/A	2	2	0	4
Total			3	14	0	17

Source: Field Survey, 2016

3.2.13 Electricity Connections

As portrayed in the Table 3.10 all the Market areas except Pakulla Bazar and Kachari Bazar have electricity connections. But the power shortages are a very common phenomena. On an average the bazar area faces 5 hours of load shading. The situation becomes worse during the irrigation seasons as power supply to irrigation is given priority in these seasons.

Table 3.10: Electricity Supply Status

Name of Haat/Bazar/Market	Availability of Electricity		Load-Shedding
	Yes	No	Number of hours
Sonatala Bazar	√		3
College Bazar	√		6
Madhupur Bazar	√		5
Horikhali Bazar	√		8
Digdair Bazar	√		5
Korpur Bazar	√		5
Tekani Bazar	√		4
Pakulla Bazar		√	NA

Name of Haat/Bazar/Market	Availability of Electricity		Load-Shedding
	Yes	No	Number of hours
Kachari Bazar		√	NA
Balua Haat	√		6

Source: Field Survey, 2016

3.2.14 Summary of Economy Survey

Economic Survey was carried out with standard questionnaires and stakeholders' consultation, Group Discussion (GD) and observation. Data on 10 Hat/Bazar/Market in the study area (Sonatala Upazila) were collected through field investigators- interviewed/consulted with range of business owners/traders and buyers; on physical and social infrastructures facilities there are the problems as encountered and reported by the stakeholders. It has been found from the data shown in tables and figures of this section that Hat/Bazar/Markets are managed and conducted by Market Committee, Leaseholders, Upazila Parishad and Personal Property Owners. Almost all the Hat/Bazar/Market/Growth Centers have locally ensured waste management system. No Hat/Bazar/Markets have piped water supply, 80 percent have electricity connections and 100 percent have sanitation facilities. Wastes of the Hat/Bazar/Market/Growth Centers are dumped mostly i.e., 60% in the adjacent fallow land, 20% in designated dumping sites, rest 20% along road side.

3.3 Section-B: Banks and Bimas

3.3.1 Total Bank and Bima

In Sonatala Upazila only 5 nos. banks are currently operational. Name of Banks are Rajshahi Krishi Unnyan Bank, Sonatala, Janata Bank, Sonatala, Sonali Bank, Sonatala, Karmasangsthan Bank, Sonatala, Bogra, Agrani bank, Sonatala, Bogra. On the other hand there are 5 Bima/Insurances located in the Sonatala Upazila as listed in the Table 3.11.

Table 3.11: Names of Banks, List of Bima/Insurances and Locations and Types of Services

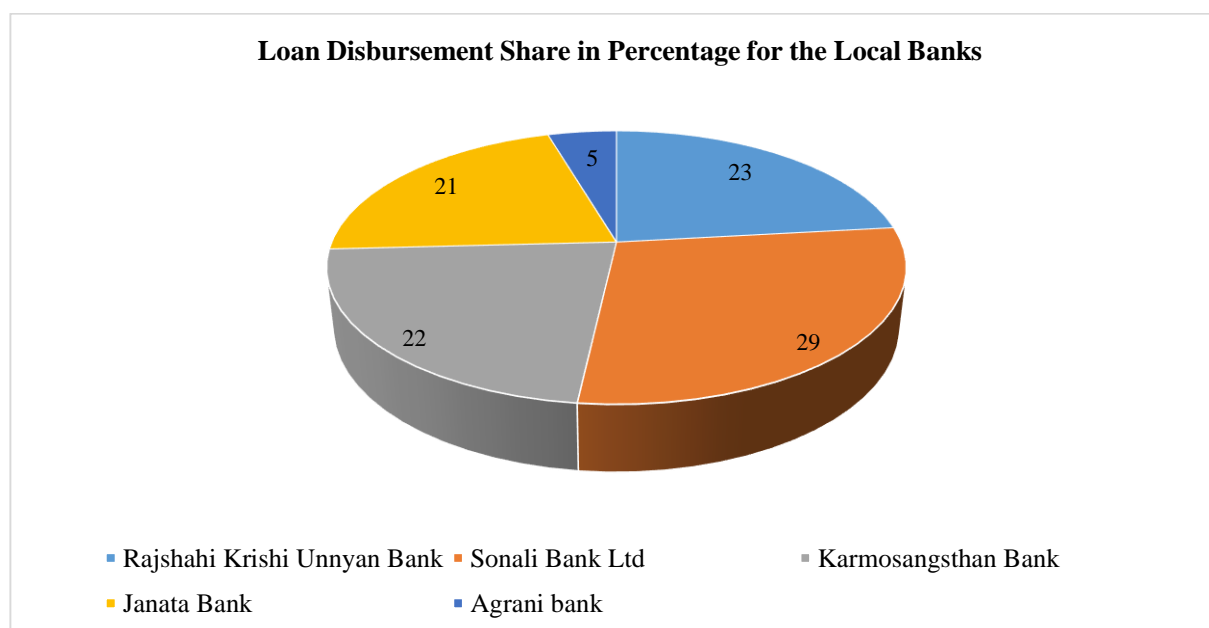
Name of the Organization and Address	Types of Services
List of Banks	
Rajshahi Krishi Unnyan Bank, Sonatala, Bogra	General banking, SME, banking, Mobile banking, Loan on running capital, Industrial loan, Agri. loan, project loan
Sonali Bank, Sonatala, Bogra	General banking, SME, banking, Mobile banking, Loan on running capital, Industrial loan, Agri. loan, project loan etc.
Karmasangsthan Bank, Sonatala, Bogra	Agri. loan, project loan, Project loan etc.
Janata Bank, Sonatala, Bogra	General banking, foreign trade, Mobile banking, Loan on running capital, Agri. Loan etc.

Name of the Organization and Address	Types of Services
Agrani bank, Sonatala, Bogra	General banking, foreign trade, Loan on running capital, Industrial loan, Agri. loan, project loan etc.
List of Bima/Insurances	
Popular Life Insurance Ltd.	Life insurance, health insurance, accident insurance, labour insurance, education insurance, risk insurance etc.
Islami Life Insurance Co. Ltd	Life insurance, Health Insurance, Education Insurance, Risk Insurance, Hajj Insurance, Den-mohor Insurance
Progoti Life Insurance Co. Ltd	Life insurance, Health Insurance, Education Insurance, Hajj Insurance, Pension insurance
National Life Insurance Co. Ltd	Life insurance, Health Insurance, Education Insurance, Risk Insurance, Hajj Insurance, Pension insurance Den-mohor Insurance
Al-Arafa Life Insurance Co. Ltd	Life insurance, Health Insurance, Accident Insurance, Education Insurance, Hajj Insurance, Den-mohor Insurance

Source: Field Survey, 2016

A total of BDT 142.1 lakh loan has been disbursed by the said banks (See Table 3.11) in different types of schemes i.e. General banking, SME, banking, Mobile banking, Loan on running capital, Industrial loan, Agri. loan and project loan.

Figure 3.8 shows that among BDT 142.1 lakh total loan, Sonali Bank share is 29% which make it leading Loaning Bank in Sonatala. Except Agrani bank (5% of the total loan) more or less all the other bank shares a fare percentage of loan disbarment.



Source: Field Survey, 2016

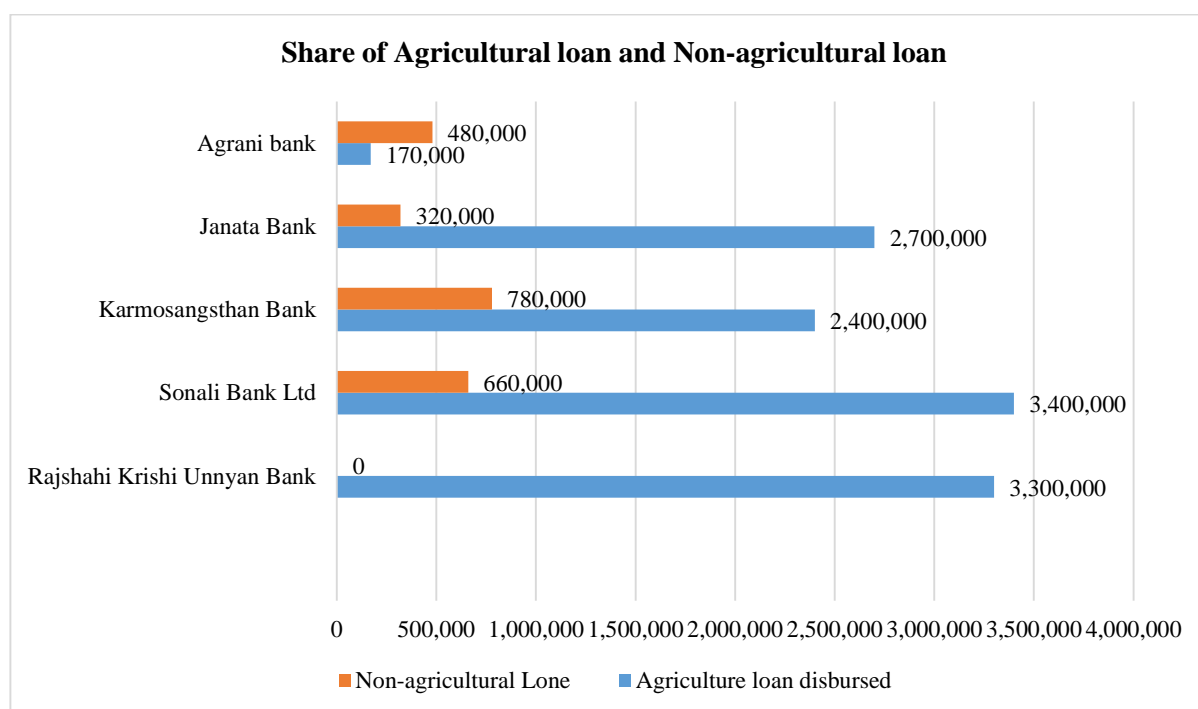
Figure 3.8: Loan Disbursement in Percentage of Local Banks

Table 3.12: Name and General Operations of Banks of Sonatala Upazila

Sl.	Name of Bank	Total no. of account holders	Total Loan Disbursed	Loan Share (In Percentage)	Agriculture loan disbursed	Non-agricultural Lone	Total Due Amount of loan installment
1	Rajshahi Krishi Unnyan Bank	15,000	3,300,000	23	3,300,000	0	0
2	Sonali Bank Ltd	16,000	4,060,000	29	3,400,000	660,000	210,000
3	Karmasangsthan Bank	412	3,180,000	22	2,400,000	780,000	280,000
4	Janata Bank	6,050	3,020,000	21	2,700,000	320,000	120,000
5	Agrani bank	5,000	650,000	5	170,000	480,000	190,000
		42,462	14,210,000	100	11,970,000	2,240,000	800,000

Source: Field Survey, 2016

As described in the Figure 3.9 Sonali Bank leads the disbursement of agricultural loan disbursement following by the Rajshahi Krishi Unnayan Bank. From the figure it is evident that the non-agricultural Loan is comparatively low (only 16.76 percent) comparing to the total Agricultural Loan disbursement.



Source: Field Survey, 2016

Figure 3.9: Share of Agricultural and Non-agricultural Loan

As shown in the Table 3.12 a significant portion (35.71 percent of total non-agricultural loan) of the non-agricultural loan remain due when this survey has been conducted.

3.3.2 Bima/Insurance Companies in the Sonatala Upazila

Table 3.13 shows some basic information regarding insurance and bimas in the Sonatala Upazila. As portrayed in the Table 3.13 the local insurance companies provides different types of schemes i.e. life insurance, health insurance, accident insurance, labour insurance, education insurance, risk insurance etc.

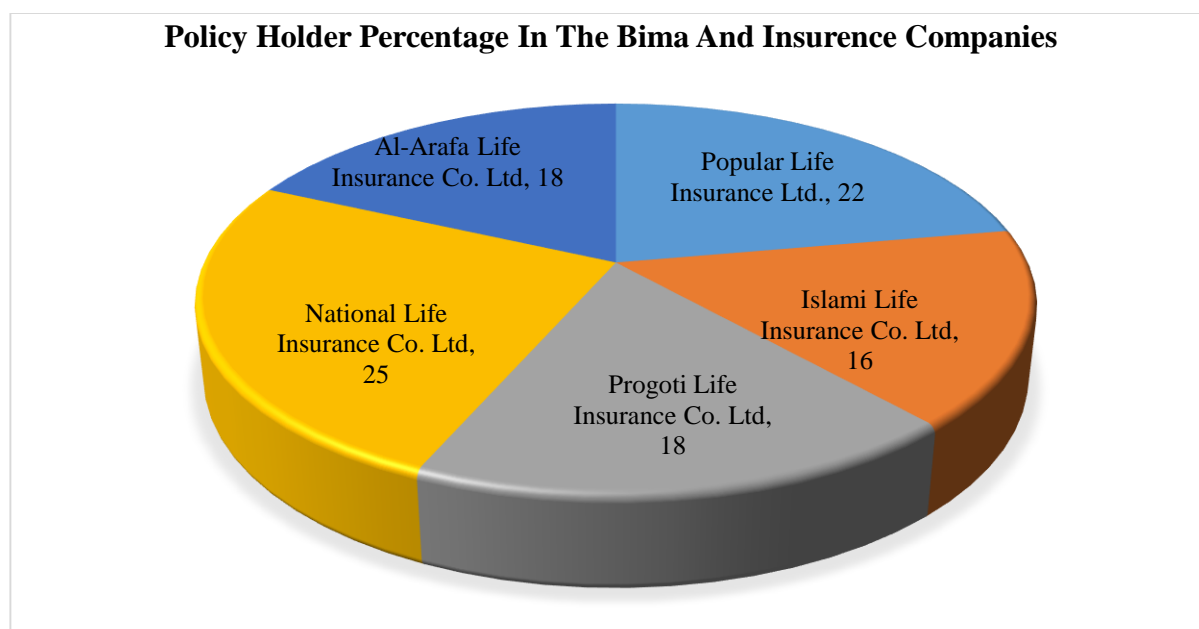
Table 3.13: Name of the Insurance Companies, Number of Policy Holders, Amount of Premium Received and Total Amount of Premium Due

Sl. No.	Name of Insurance Company	Total no. of Policy Holders	Amount of Premium Received	Total Amount of Premium due
1.	Popular Life Insurance Ltd.	22000	672000	148000
2.	Islami Life Insurance Co. Ltd	16000	432000	119000
3.	Progoti Life Insurance Co. Ltd	18000	527000	125000
4.	National Life Insurance Co. Ltd	25000	812000	188000
5.	Al-Arafa Life Insurance Co. Ltd	18000	312000	82000
			275500	662000

Source: Field Survey, 2016

A total of BDT 275500 amount of premium received by the Insurance Companies where as BDT 662000 amount of Premium still due.

Among the available Insurance Companies in Sonatala Upazila National Life Insurance has maximum policy holders acquiring 25% of the total amount. On the other hand Islami Life Insurance has lowest with 16% of total amount.



Source: Field Survey, 2016

Figure 3.10: Policy Holder Percentage in the Bima and Insurance Companies

3.3.3 Summary of Bank and Bima

In the study area (Sonatala Upazila), total nos. of Banks working are five and total nos. of Insurance Company working is five. Figure 3.9 and Figure 3.10 are showing the nature of banking services. Service coverage in Agriculture is 83.24% while in nonagricultural loan 16.76%. It has been found that during the survey time total numbers of Bank account holders are 42,462 for nonagricultural loan and the due/arrear loan is amounting to BDT 8 Lakh. Total Agricultural loan disbursed by the Banks in the Study Area is amounting to BDT 119.7 Lakh.

3.4 Section-C: NGO

3.4.1 Name of NGO and Loan Providing

Several NGOs/CBOs operate in Sonatala Upazila among them six CBOs/NGOs in the Study Area has been surveyed in this regard. Table 3.14 provides the names, types of services of the NGOs surveyed. Different types of services provided by NGO/CBO include, Micro-credit services, good seed distribution, training on land fertility, public awareness building. TMSS having 7,000 stakeholders has most engagement in the study area where as BRAC with 4,200 stakeholders follows it. Polli Unnayan Sangstha having 2500 stakeholders has the lowest engagement in this category.

Table 3.14: Name of NGOs and Loan Providing

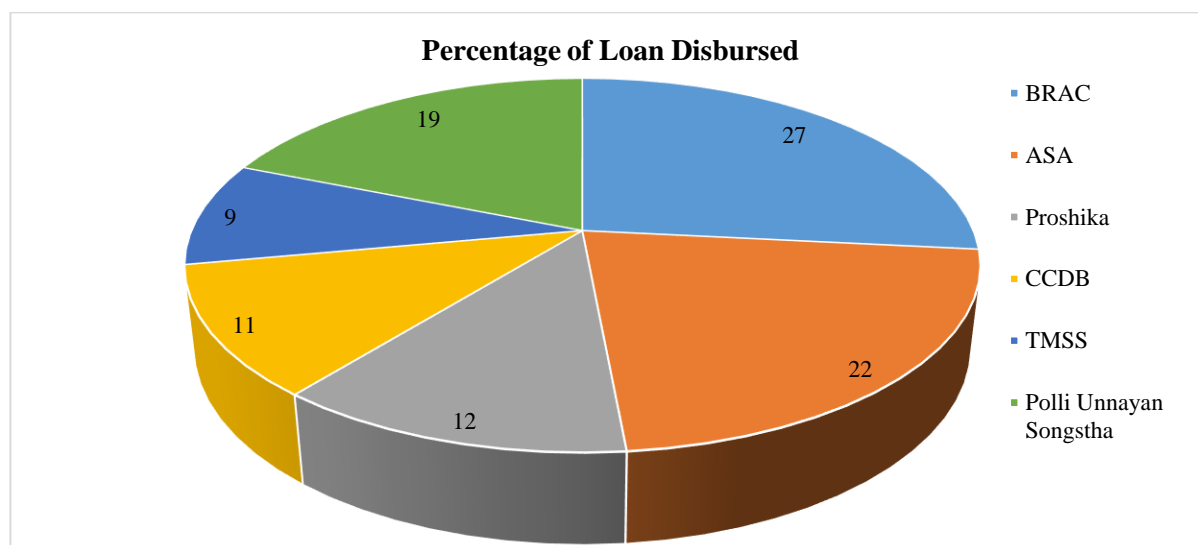
Sl. no	Name of NGOs	Types of Service	Total Stakeholders	Total Loan Disbursed (BDT)	Total Loan Recovery (%)
1.	BRAC	Loan services, Good seed distribution, Training on land fertility, Public awareness building	4200	532000	65%
2.	ASA	Loan service, Public awareness building	3,000	4,38,000	60%
3.	Proshika	Loan service, Public awareness building	3,500	2,46,000	45%
4.	CCDB	Arsenic Reduction, Public awareness building	2,300	2,25,000	30%
5.	TMSS	Loan service, Public awareness building	7,000	1,80,000	35%
6.	Polli Unnayan Sangstha	Training on trade, Good seeds distribution, Public awareness building	2,500	3,78,000	45%
Total			22,500	19,99,000	

Source: Field Survey, 2016

According to the Table 3.14 a total of BDT 1999000 has been disbursed by these five NGOs as loans for different purposes. BRAC is the most efficient with loan recovery over 65%. ASA

also recovered major share of the loan which is about 60%. The rest of the NGOs loan recovery is less than 50%.

Among the six NGOs, BRAC disbursed 27% of the total loan among followed by 22% by ASA and 19% by Polli Unnayan Sangstha (Figure 3.11).



Source: Field Survey, 2016

Figure 3.11: Percentage of Loan Disbursed

3.4.2 Names of NGO and Working Area

Table 3.15 depicts the working areas of different NGOs surveyed. According to the table Polli Unnayan Sangstha has the most coverage whereas CCDB has the least.

Table 3.15: Name of NGOs and Working Areas

Sl. No	Name of NGOs	Working areas
1.	BRAC	Sonatala, Balua Haat, Jorgacha, Pakulla
2.	ASA	Sonatala, Balua Haat, Tekani Chukainagar, Pakulla
3.	Proshika	Sonatala, Digdair, Madhupur Pakulla
4.	CCDB	Sonatala, Balua Haat
5.	TMSS	Sonatala, Balua Haat, Digdair
6.	Polli Unnayan Sangstha	Sonatala, Balua Haat, Jorgacha, Pakulla, Tekani Chukainagar, Madhupur

Source: Field Survey, 2016

3.4.3 NGO's Target Group/Beneficiaries

Table 3.16 is showing beneficiary group of CBO/NGO. It is found that there are four types of target groups of CBO/NGO and they are Lower Income Group (33.33%), Beneficiary for Particular Characteristics (33.33%), Business Group (16.66%), and Lower Class professional Group (16.66%).

Table 3.16: Beneficiary Target Group CBO/NGO

Beneficiary Target Group of CBO/NGO	Frequency	Percent (%)
Lower Income Group	2	33.33
Beneficiary for Particular Characteristics	2	33.33
Business Group	1	16.66
Lower class professional group	1	16.66
Total	6	100%

Source: Field Survey, 2016

3.4.4 Name of NGOs, Nos. of Members and Beneficiary Target Group

In the Table 3.17, types of beneficiary target group of NGOs have been depicted. BRAC, TMSS and Polli Unnayan Sangstha signifies lower income group target group each having one group. ASA has professional-wise target group with 1 group. While CCDB has Business group and Proshika has lower class professional group.

Table 3.17: Name of NGOs, Nos. Members and Target Group Beneficiary

Name of the NGO	Beneficiary Target Group				Total
	Lower Income Group	Profession wise Group People	Business Group	Lower class	
BRAC	1	0	0	0	1
ASA	0	1	0	0	1
Proshika	0	0	0	1	1
CCDB	0	0	1	0	1
TMSS	1	0	0	0	1
Polli Unnayan Sangstha	1	0	0	0	1
Total	3	1	1	1	6

Source: Field Survey, 2016

3.4.5 Summary of NGO

In formal sector, one of the dominant actors is the CBO and NGO's activities. Their involvement in income generation activities providing ample employment opportunities for improving the livelihoods of the community. The area is potentials for CBOs and NGOs to utilize the local resource base for micro credit program and foster community development.

3.5 Section-D: Industries

3.5.1 Introduction

Industrialization is considered to be the most important drivers of growth in an economy. Along this vein, the country has been demonstrating considerable performance in low-value-adding manufacturing. However, recent trends of different indicators that are considered in measuring the development of industrial sector appear to be unsatisfactory. From FY2010-11 to FY2012-

13, the rates of growth in industrial sector have been showing a decelerated trend. As a result, the share of industry in GDP is increasing.

By concept formal sector industry is organized. It follows the legal frame-work of the government e.g.is chartered sector. The data for the industrial sector has been collected from the study area through standard questionnaire and secondary sources.

3.5.2 Ownership Pattern of Industry

Table 3.18 shows the study area has 1086 industries and of those 47% (513 nos.) of the industries is privately owned and 53% (557 nos.) are shared initiatives.

Table 3.18: Ownership Patterns of Industries

Industries	Type of Ownership		Total
	Private	Share Holder	
Brick Field	3	2	5
Small Scale & Cottage Industry	46	21	65
Warehouse (Food, Fertilizer, Jute Godown)	6	9	15
Rice Mill	8	74	82
Furniture Making	40	160	200
Semi-auto Rice Mill	8	1	9
Saw mills	2	10	12
Poultry Farm	40	64	104
Dairy Farm	40	74	114
Handloom	100	20	120
Match Factory	1	0	1
Dying	30	24	54
Oil Mill	0	6	6
Bakery	0	6	4
Tailoring Shop	120	90	210
Pottery	18	4	22
Flour Mill	50	12	62
Plastic Industry	1	0	1
Total	513	557	1086
Percentage	47%	53%	100%

Source: Field Survey, 2016

Among all those industries the following industries listed in the table 3.19 has been surveyed with questionnaire. Of the surveyed industries 60 % (6 nos.) of the industries has been selected from the rural areas; the other 40% (4 nos.) has been taken from the urban area. Different types of industries have been selected for the survey purpose. The major groups are Rice Mills, Match factory, Wood and furniture making, and Brick industries.

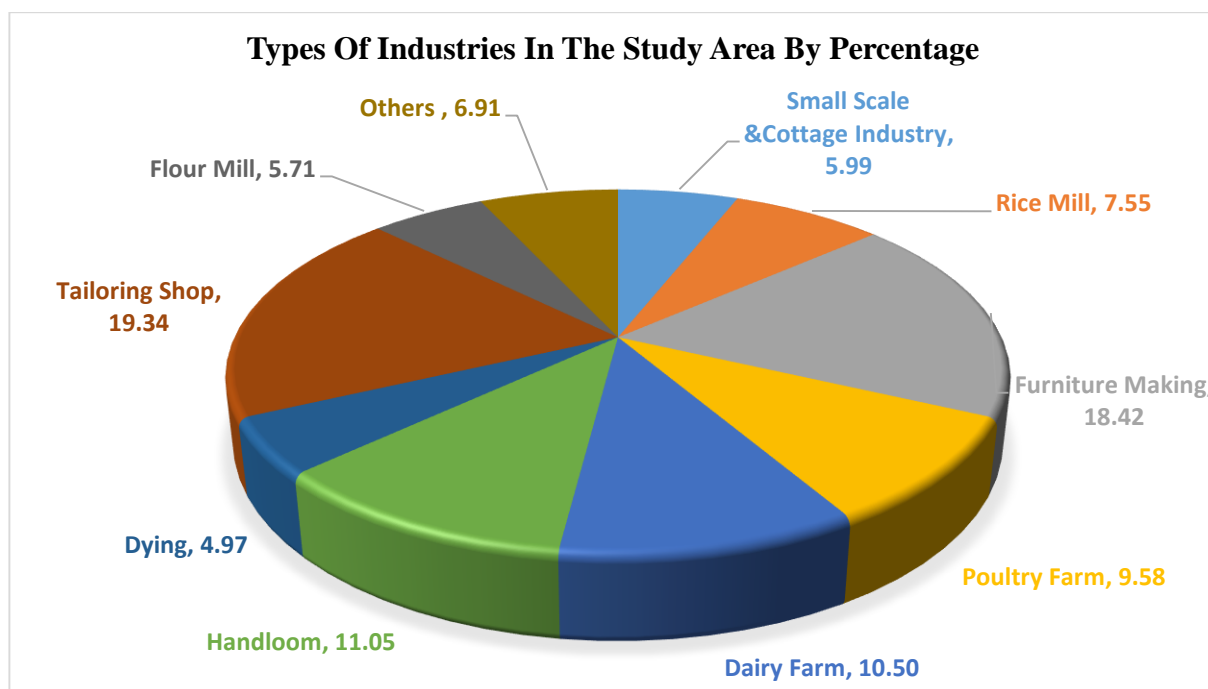
Table 3.19: Name of Industries/Factories/Mills, Location, Area in Acre and Products

Sl. No	Name and Type of Industries/Mills/Factories	Area of Land in acre	Name of Union	Type of Product
1.	Shahin Rice Mill	0.5	Pourashava	Rice
2.	Rana "S" Mill	0.5	Pourashava	Wood
3.	Shampu Rice Mill	0.5	Pourashava	Rice
4.	Match Factory	0.5	Pourashava	Match
5.	Nadia "S" Mill	0.5	Madhupur	Wood
6.	Akas Rice Mill	0.5	Jorgacha	Rice
7.	Mila "S" Mill	0.5	Jorgacha	Wood
8.	Mamun Brick Factory	0.5	Jorgacha	Brick
9.	Nannu Brick Factory	2	Balua Hat	Brick
10.	Shahin Brick Factory	1.5	Balua Hat	Brick
Total Rural		73%	60%	
Total Urban		27%	40%	

Source: Field Survey, 2016

3.5.3 Types of Industry

Figure 3.12 shows 10 types of industries in the study area with their relative percentage weight. Highest no. of industries belongs to tailoring shops with 19.34% and furniture making with 18.42%. Other than this two industries the other industries has a share near around 10% more or less.



Source: Field Survey, 2016

Figure 3.12: Type of Industries in the Study Area by Percentage

3.5.4 Products Industries in Local Market

Table 3.20 showing types of industrial products i.e. brick, rice, wood and match is showing percentage of sharing in local and domestic market. These listed products are both locally and all over the country are marketed. According to the table brick, rice and wood products are also exported to the adjacent districts and all over the countries.

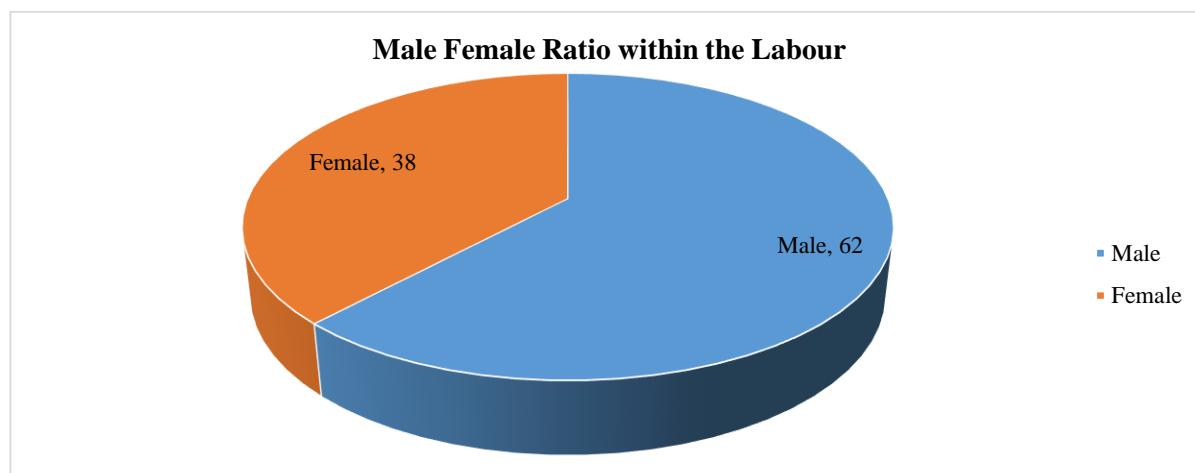
Table 3.20: Products of Industries in Local Market

Type of the Production	Number of production Unit	Marketing of Products Within the District	Marketing of Product Nationwide (In Percentage)	Marketing Product Internationally
Brick	3	78	22	0
Rice	3	43	57	0
Wood	3	55	45	0
Match	1	60	40	0

Source: Field Survey 2016

3.5.5 Type of the Structure, No. of Labors and Housing Facilities

Table 3.21 shows the labor consumption pattern by different types of industries. Within the 10 industries a total of 241 labors are engaged. According to the Figure 3.13 overall male female ratio of the labour at Sonatala Upazila is male 62% against female 38%



Source: Field Survey, 2016

Figure 3.13: Male-Female Ratio within the Labor

Table 3.21: Name of Industries/Factories/Mills, Type of the Structure, No. of Labors and Housing Facilities

Sl. no	Name & Type of Industries/Mills/Factories	Type of Product	No. of Labour		
			Male	Female	Total
1.	Shahin Rice Mill	Rice	5	7	12
2.	Rana "S" Mill	Wood	7	0	7

Sl. no	Name & Type of Industries/Mills/Factories	Type of Product	No. of Labour		
			Male	Female	Total
3.	Shampu Rice Mill	Rice	7	9	16
4.	Match Factory	Match	25	17	42
5.	Nadia "S" Mill	Wood	12	0	12
6.	Akas Rice Mill	Rice	10	6	16
7.	Mila "S" Mill	Wood	8	0	8
8.	Mamun Brick Factory	Brick	21	17	38
9.	Nannu Brick Factory	Brick	30	15	45
10.	Shahin Brick Factory	Brick	25	20	45
Total			150	91	241

Source- Field Survey, 2016

3.5.6 Product Markets and Transport

Table 3.22 shows type of transport used for marketing industrial products. Van, Push Cart, Nasimon, Bus, Truck, and Pickup are generally used. Within the local markets Van, Push cart, Rickshaw and Small Pickup are being used. Most popular is the Van and push cart. On the other hand for nationwide domestic supply Bus, Truck, Pickup is being used for transporting the products. Type of transport to be used depends on the amount of order and location of the market.

Table 3.22: Product Markets and Transport

Sl. No	Name & Type of Industry	Type of Transport for Marketing	
		Local Market	Domestic Market
1.	Shahin Rice Mill	Van, Push cart, Pickup, Nasimon	Bus, Truck, Pickup
2.	Rana "S" Mill	Van, Push cart, Pickup, Nasimon	Bus, Truck, Pickup
3.	Shampu Rice Mill	Van, Push cart, Pickup, Nasimon	Bus, Truck, Pickup
4.	Match Factory	Van, Push cart, Pickup, Nasimon	Truck, Bus
5.	Nadia "S" Mill	Van, Push cart, Pickup, Nasimon	Bus, Truck, Pickup
6.	Akas Rice Mill	Van, Push cart, Pickup, Nasimon	Bus, Truck, Pickup
7.	Mila "S" Mill	Van, Push cart, Pickup, Nasimon	Bus, Truck, Pickup
8.	Mamun Brick Factory	Push cart, Pickup, Nasimon	Bus, Truck, Pickup
9.	Nannu Brick Factory	Push cart, Pickup, Nasimon	Bus, Truck, Pickup
10.	Shahin Brick Factory	Push cart, Pickup, Nasimon	Truck,

Source: Field Survey, 2016

3.5.7 Have the Industry Done EIA

As portrayed in the Table 3.23 among the 10 industries 70% (7 nos.) industries have the EIA have EIA clearance from the Department of Environment (DoE) and 30% (3 nos.) do not take the clearance.

Table 3.23: Did the Industry do EIA

Having EIA	Frequency	Percentage (%)
Yes	7	70%
No	3	30%
Total	10	100.0

Source: Field Survey 2016

3.5.8 Utility Services for the Industries

The industries of Sonatala Upazila have the access to different utility services. The Table 3.24 is showing different utility services available for the industries.

Table 3.24: Utility Services of Industries

Sl. no	Utility Services available in the industries	Yes	No	Comment
1	Have any garbage pit	4	6	None percent of the industries have any garbage pit; thus they usually use road side or adjacent fallow land as garbage pit.
2	Have Sanitation facility	10	0	All the industries have sanitation facility. There is no separate toilet for females. 70 percent (7 nos.) toilets are semi-pucca and 30% (3 nos.) are Katcha.
3	Have Water supply	10	0	There is no piped water supply system installed in the markets. Some Public and several private Tubewell have been serving as the source of water.
4	Electricity connected	9	1	All the market area except Kachari Bazar already has access to electric power.
5	Have any waste dump place	6	4	6 out of 10 have access to the waste dump site. In all the cases these dump site is open;

Source: Field Survey, 2016

3.5.9 Funding Source of Setting up Industries

Table 3.25 shows funding sources for setting up industries. Out of 10 industries funding sources for setting up are, 3 (30%) from personal savings, 3 (30%) from inheritance of property source, 3 (30%) from family savings and bank loan source and 1 (10%) is loan from relatives.

Table 3.25: Source of Capital of Industry in Sonatala Upazila

Source of Capital	Frequency	Percentage (%)
Personal Savings	3	30
Inheritance of Property	3	30
Personal/Family Savings and Bank Loan	3	30
Loan from Relatives	1	10
Total	10	100.0

Source: Field Survey, 2016

3.5.10 Problems of Industries

Table 3.26 has depicted various challenges by the industries in Sonatala Upazila. The problems that are being faced by the industries of Sonatala are infrastructure problems, bad transportation system, bureaucratic complexity, problem of skilled man power, lack of capital and insufficiency of loan.

Table 3.26: Problems of Industries

Problem of Industry	Frequency	Percent (%)
Infrastructural Problem	8	16
Bad Transportation System	9	18
Bureaucratic complexity	6	12
Insufficiency of Skilled Worker	8	16
Lack of Capital & Insufficiency of Loan	19	38
Total	50	100

Source: Field Survey, 2016

Table 3.26 shows that out of 50 mentioned problems from the 10 industries 19 times lack of capital & insufficiency of loan (38%) has been mentioned. Besides, other problems reported are infrastructural problems, 8 times (16%), bad transportation system 9 times (18%), bureaucratic complexity 6 times (12%), insufficiency of skilled workers 8 times (16%).

Though the study does not have the resource to fully prepare the Formal-Informal Sector percentage within the Sonatala Upazila. Table 3.27 shows the estimates of the size of the Formal-Informal Sector percentage in GDP which can be equally applicable for Sonatala.

Table 3.27: Estimates of the Size of the Formal-Informal Sector Percentage (%) of GDP

Sl. No	ISIC Sector	Total Share to GDP (%)	Share to GDP (%) Formal Sector	Share to GDP (%) Informal Sector
1	Agriculture	16.75	0.94	15.71
2	Fishing	4.71	0.66	0.4.05
3	Mining and quarrying	1.2	0.75	0.45
4	Manufacturing	17.5	11.88	5.77
5	Electricity, Gas and Water	1.6	1.5	0.10
6	Construction	9.23	6.98	2.95
7	Wholesale and Retail	14.24	1.32	12.92
8	Hotels and Restraint	0.70	0.47	0.23
9	Transportation, Storage and Communications	9.30	6.98	2.95
10	Financial Intermediation	1.71	1.60	0.10
11	Real Estate, Renting and Business	7.62	0.47	7.15
12	Public Admin and defense	2.81	2.64	0.17

Sl. No	ISIC Sector	Total Share to GDP (%)	Share to GDP (%) Formal Sector	Share to GDP (%) Informal Sector
13	Education	2.51	1.98	0.53
14	Health and Social Works	2.31	1.89	0.24
15	Community, Social and Personal Services	7.12	0.66	6.48
Total		100	36.6	63.4

Source: Informal Sector in Bangladesh: Implications For Growth and Poverty (Selim Rahamn, Economics Dept. DU, 2010)

3.5.11 Summary of Industry

Ten industrial units have been taken for surveying in study area. Different types of data are collected such as types of industries and pattern of ownerships, physical and social infrastructure e.g. communication network, electricity, water supply connections, sanitation system, EIA & waste management status, capital funding source, goods\commodities and marketing areas (local, domestic and exporting), and finally problems being faced by the entrepreneurs for establishment of industries in Sonatala. According to PRA report there is ample opportunities for developing small and medium types industries (agro-processing industries in particular) if interior and peripheral road communication and other enabling environment is improved.

CHAPTER FOUR: INFORMAL SECTOR ECONOMIC SURVEY

4.1 Status of Informal Trading Centers

It is reported that about 10% of trading centers have permanent establishment, 67.5% temporary establishments, 15% trades/business/shopping by non-motorized vehicles and 7.5% by head or floating/mobile. Total 40 stakeholders were consulted/interviewed of where 4 are permanent traders/business man, 34 are temporary traders/sellers, 9 are on non-motorized vehicles and 2 are on head/floating. So highest nos. of population of informal sector sitting place/working place is temporary (73.6%), second highest is through non-motorized vehicles (19.6%) and lastly through head or floating 4.3%.

Table 4.1: Status of Informal Trading Centers

Status of Informal Sector's Trading Center	Frequency	Percent
Permanent	4	10
Temporary	27	67.5
Through Non-motorized vehicle	6	15
Through Head or Floating	3	7.5
Total	40	100

Source: Field Survey, 2016

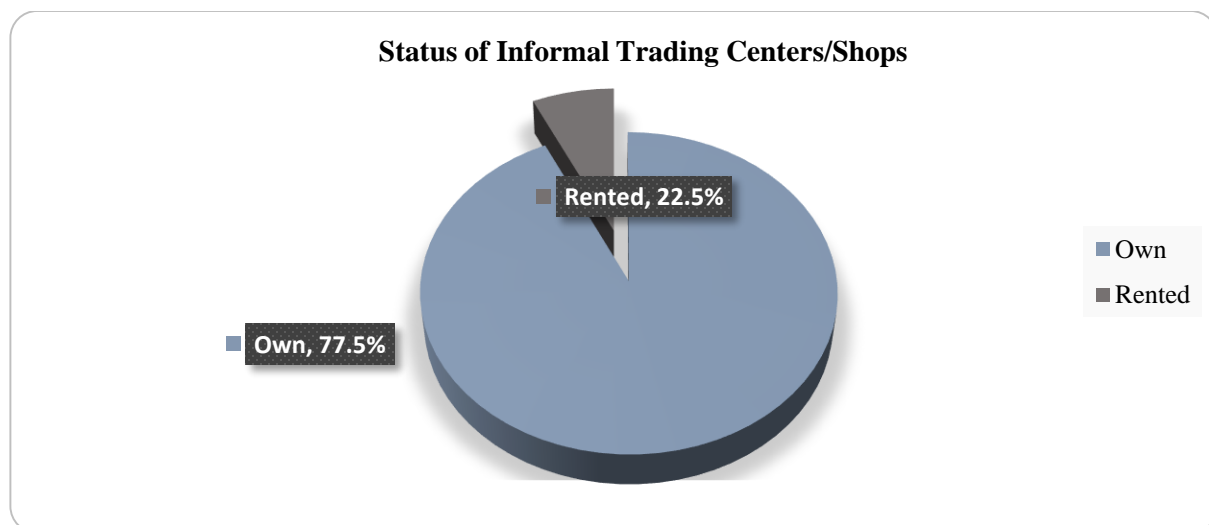
4.2 Owner House and Hired Status

It has been shown in Table 4.2 that informal sector businesses are carried on in 85% cases in owners holding and in 15% cases in hired/rented spaces. Figure 4.1 shows that status of informal sector working place/shops in Sonatala Upazila 22.5% is owner holding and 77.5% is rented holding.

Table 4.2: Trading Houses Ownership Status

Owner of house	Frequency	Percent
Own	34	85
Hired	6	15
Total	40	100

Source: Field Survey, 2016



Source: Field Survey, 2016

Figure 4.1: Status of Informal Trading Centers/Shops

4.3 Period of Informal Business

Total 40 stakeholders were interviewed of informal sector and of them 26 people responded (65%) that they do/carryout their trade only in monsoon and 14 people responded (35%) carrying out business whole year. That is 35% traders are off from business in monsoon season.

Table 4.3: Period of Informal Business/Activities

Time Period For Informal Activities	Frequency	Percent
Monsoon	26	65
Whole year	14	35
Total	40	100

Source: Field Survey, 2016

4.4 Number of Traders Having Loan\Number of Loan

Of the informal traders/Business people 13 out of 40 (32.5%) responded that they do their business taking loan from different sources whereas 27 people out of 40 (67.5%). do not take any loan. That is to say about 68% informal sector traders\business man have no access to loan market.

Table 4.4: Number of Traders Having Loan/Number of Loan

Having Loan	Frequency	Percent
Yes	13	32.5
No	27	67.5
Total	40	100

Source: Field Survey, 2016

4.5 Informal Sector Traders Monthly Income

Table 4.5 is showing informal sector traders\sellers duration of works and monthly income of concerned stakeholders. For instance 14 traders were consulted those who have 12 months business. 3 of them replied their monthly income is amounting Tk. 20000 or more, 2 persons replied monthly income is Tk. 15000, 6 persons replied monthly income is Tk. 10000, another 2 person and 1 person replied their monthly income is Tk. 8000 and Tk. 6000 respectively. The lowest monthly income is Tk. 3000 whose business is 4 month in a year.

Table 4.5: Informal Sector Traders Monthly Income Statement

Duration of working period	Total monthly income (in Taka)												Total
	3000	3500	4000	4500	5000	5500	6000	7000	8000	10000	15000	≥20000	
2 Month	0	0	0	1	0	0	1	0	0	0	0	0	2
4 Month	1	0	2	0	1	0	0	1	2	0	0	0	7
6 Month	0	0	1	0	2	0	4	1	1	0	0	0	9
10 month	0	0	0	0	0	0	0	0	1	3	4	0	8
12 Month	0	0	0	0	0	0	1	0	2	6	2	3	14
Total	1	0	3	1	3	0	6	2	6	9	6	3	40

Source: Field Survey, 2016

4.6 Informal Sector Traders Monthly Expenditures

Table 4.6 shows the monthly expenses on various purposes of informal sector traders\sellers. It is observed from the responses of 40 interviewees that their minimum entertainment expenses are BDT. 200 and maximum BDT 3500. Expense for cloth is BDT. 250 to 3000, medical expenses are amounting to BDT. 150 to 2500 and educational expense is amounting to BDT 500 to 2500.

Table 4.6: Informal Sector Monthly Expenditure Statement

Expenses	Frequency	Minimum	Maximum
Expense on entertainment	36	200	3500
Cloth expense	40	250	3000
Medical expense	40	150	2500
Educational expense	31	500	2500

Source: Field Survey, 2016

4.7 Source of Informal Sector Capital and Amount

It is shown in Table 4.7 and 4.8 that source of capital is mainly from relatives\friends and loan. 13 nos. interviewees\respondents disclosed that they received 92.30% business capital from friends\relatives and 1 disclosed receiving business loan from multipurpose cooperative society. From Table 4.8, it is found that out 13 household 12 disclosed that they are receiving business

capital ranging from BDT. 5000 to 20000 from friends and relatives and only one household says that received loan.

Table 4.7: Source of Informal Traders

Source of capital	Frequency	Percent (%)
Relatives/Friend	12	92.30
Business Loan	1	7.70
Total	13	100

Source: Field Survey, 2016

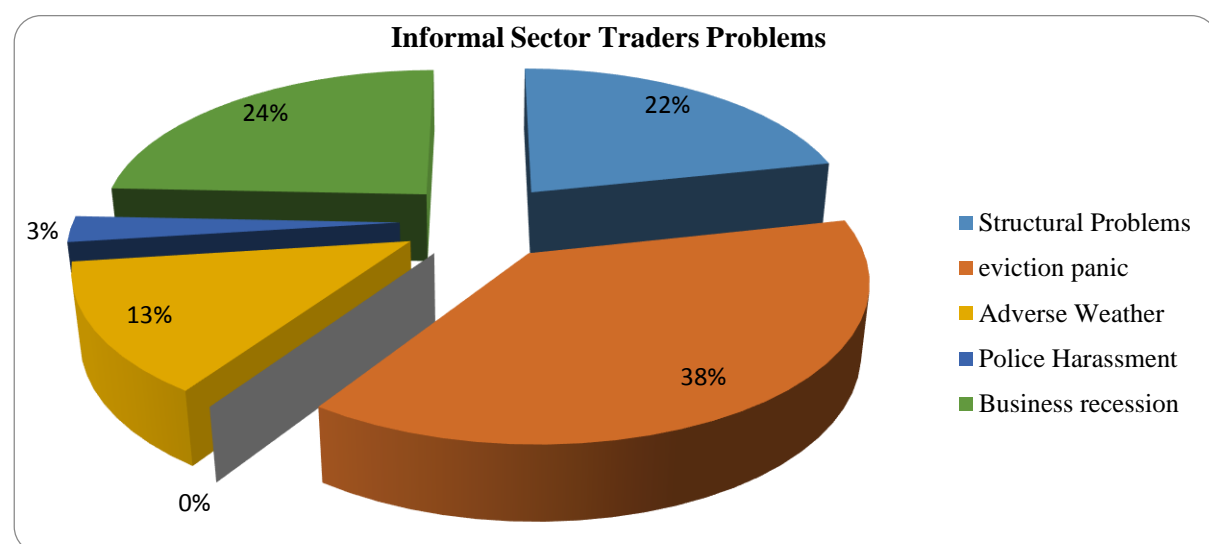
Table 4.8: Amount of Capital from Different Sources

Amount of capital (BDT)	Source of Capital (No. of Households)		Total
	Relatives/Friend	Loan	
5000	2	0	2
8000	1	0	1
10000	4	0	4
12000	1	0	1
15000	2	0	2
20000	2	1	3
Total	12	1	13

Source: Field Survey, 2016

4.8 Type of Problems Facing Informal Sector Business Location

Problems encountered by informal sector traders (Figure 4.2) in respect of their working/Trading space are: adverse weather, eviction panic, extortion, police harassment, structural problem, business recession, and adverse weather. Respondents disclosed 22% are facing structural problems, 38% eviction panic, 3% police harassment, 13% adverse weather and 24% business recession.



Source: Field Survey, 2016

Figure 4.2: Informal Sector Trades Problem

4.9 Summary Informal Sector Economic Activities

In the study area, 40 (Chapter Table 4.1) traders in informal sector traders were interviewed. Types of informal traders were interviewed are Betel-nut business, Crockery Seller, Fish Sellers, Fruit Sellers, Garments Sellers, Hawkers, Raw materials Sellers, Shoe Sellers, Small business and Vegetable Sellers etc. Among these fruit trader, Fish traders, garment product sellers, vegetables sellers, small business\traders have lion shares in the market. But the informal sector traders have to frequently shift their occupation due to adverse weather panic, police harassment, extortions, eviction panic etc. Out of this 40 samples 26 (65%) says that they do the business only in monsoon, 14 (35%) says that they do the business all the year round (Table 4.3). In fact, informal sector traders are off from trading\business after monsoon season. Informal sector traded goods 67.5% are consumed by Low Class Group, 30% by Lower Middle Class group and 2.5% are consumed by Higher Middle Class group. Informal sector trader's monthly income and expenditures are shown in Table 4.5 and Table 4.6. Main problems in the informal sector are traders' adverse weather, structural problems, police harassment and eviction panic.

CHAPTER FIVE: INFORMAL SECTOR AGRICULTURAL ECONOMIC SURVEY

5.1 Introduction

The land of Sonatala Upazila is intensively used for agricultural purposes. Wide ranges of crops grow here in Rabi and kharif season. Land resources of this Upazila have been brought into orchard and poultry farms as commercial basis. The study is to determine the present scenario of informal economic sector concentrating on agriculture and assessment of the potential sustainable future development of the sector.

In view of the above reality, a comprehensive study was conducted in all the unions of upazila of Sonatala to assess present situation of land uses, related problems and potentialities of agricultural development and to find out possible ways to solve the problems. Therefore, a sustainable land management was considered to develop better crop production considering all available parameter and characteristics of the area.

5.2 Objective the Study

The main objective of the study is to assess the present cropping pattern and cropping intensities (single, double and triple crop area), land utilization and flood level. The main study questions are to determine the growth or decline of agricultural land during last ten years (from 2005-2016), and their causes for growth or decline covering a possible quality of existing and future agricultural land for the project area. The study is to determine the present scenario in agriculture practices and assessment of potential sustainable future development of the sector.

5.3 Approach and Methodology

A multi-disciplinary, participatory and interactive method has been followed in carrying out the study. Both primary and secondary data were reviewed. The secondary data collected and reviewed on land use from DAE Union and Upazila Office documents.

The primary data were collected through KII (Key Informant Interview) and field visit. KII information was collected from 10 Sub-Assistant Agriculture Officers under 10 Unions through interviewed. Structural and semi-structural questionnaire was used for data collection. Data collection and consolidation occurred simultaneously.

Data consolidation activities, such as editing, coding, classifying and data entry into the computer software for analysis were carried out simultaneously. Frequency tables (one, two or multiple ways) were prepared for interpretations and analyses using SPSS for data analysis.

5.4 Description of Present Situation

The land of Sonatala Upazila is intensively used for agriculture, settlements, fisheries & housing, poultry and other infrastructural development. Sonatala Upazila falls into 2 agro-ecological zones of the Upazila are:

- a) Tista Meander Floodplain AEZ-3; and
- b) Active Brahmaputra-Jamuna Flood plain AEZ-7 (BARC1997).

The land of this upazila is intensively used for agricultural purposes. Wide range of crops grow here in Rabi and kharif season like paddy, jute, wheat, maize, sugarcane, potato, spices, oilseeds, vegetables etc. Fruits grow well here are mango, jackfruit, coconut, banana, litchi, papaya, palm etc. Land resources of this upazila have been brought into mango orchard and poultry farms as commercial basis. Most of the people of this upazila are directly and indirectly dependent on agriculture. It is reported that natural disasters like prolonged drought, decreasing ground water, heavy rain, early rain, erosion, cold, fog and hail-storm damage crops of this upazila. Shifting agricultural land to non-agricultural purposes and land degradation is common phenomena in this Upazila. Protecting agricultural land, minimizing land degradation and introducing modern technology are the basic needs to cope-up with the increasing demand of food for the growing population of this Upazila

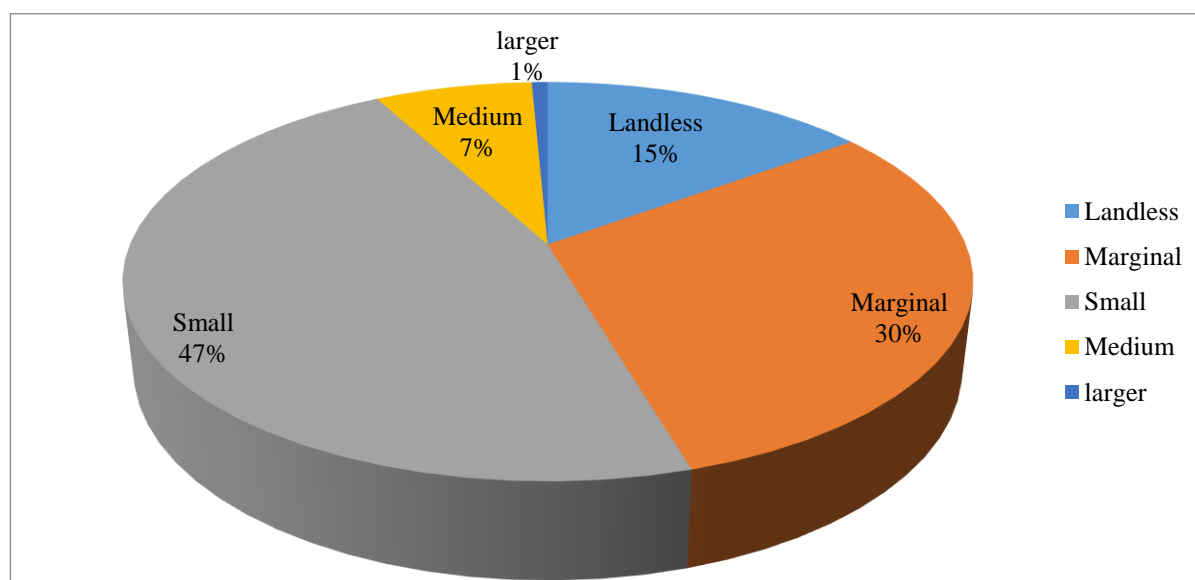
5.5 Sonatala Upazila and Union Wise Farm Families

Farmers in Sonatala Upazila lead their livelihood from agricultural activities. It is the main source of their employment and income. Sonatala Upazila has 7 Unions and 1 municipality. It has 22 agricultural blocks under DAE. It has total mauza 101 and 131 villages. Farm family is categorized according to farmer holding own land. There are five categories of farm family in Bangladesh. These are: landless (0.05-0.50 acre land), marginal (0.51-1.50 acre land), small (1.51-2.50 acre land), medium (2.51-7.50 acre land) and larger (above 7.50 acre land). Union and category wise farm family under Sonatala Upazila is shown in Table 1. On an average about land less 7022, marginal 14585, small 21961, medium large 3369 farm families and remaining 340 are larger farmers under Sonatala Upazila. The highest percentage of farm families are small farmers (47%) followed by marginal (30.00%), landless (15%), medium farmers (7%) and remaining are 1% larger farmers (Fig-1). where most of them are small and marginal. With the increasing number of population the pressure on land is increasing day by day. As a result, the number of small, marginal and landless farm families is gradually increasing that create pressure on livelihood in the Upazila.

Table 5.1: Union and Category Wise Farm Family under Sonatala Upazila

Name of Union	Landless (%)	Marginal (%)	Small (%)	Medium (%)	Larger (%)	Total
	(.05 -.50 acre)	(.51-1.50 acre)	(1.51-2.50 acre)	(2.51-7.50 acre)	(above 7.50 acre)	
Balua Union	1520(18.41)	2530(30.64)	2720(32.94)	1352(16.37)	135(1.64)	4257
Sonatala Sadar	584(14.37)	1582 (38.93)	1721(42.35)	177 (4.35)	00 (0.00)	4064
Madhupur Union	590(11.37)	1375(26.51)	3074(59.26)	145(2.80)	3 (0.06)	5187
Tekani Chukainagar	1050 (19.18)	1710 (31.23)	2442 (44.60)	255(4.66)	18 (0.33)	5475
Digdair Union	1310 (16.49)	2460(30.96)	3512 (44.20)	583 (7.34)	80(1.01)	7945
Jorgacha Union	1205 (17.20)	3025(43.17)	2325(33.18)	400(5.71)	52(0.74)	7007
Pakulla Union	405 (7.56)	1365(25.48)	3212(59.95)	364(6.79)	12 (0.22)	5358
Sonatala Municipality	358 (8.99)	538(13.50)	2955 (74.17)	93(2.33)	40 (1.00)	3984
Total	7022 (14.85)	14585 (30.85)	21961 (46.45)	3369 (7.13)	340 (0.72)	47277

Source: SAAOs and UAO Sonatala Upazila, DAE 2016



Source: SAAOs and UAO Sonatala Upazila, DAE 2016

Figure 5.1: Percentage of Category wise Farm Family under Sonatala Upazila

5.6 Present Upazila Land Use

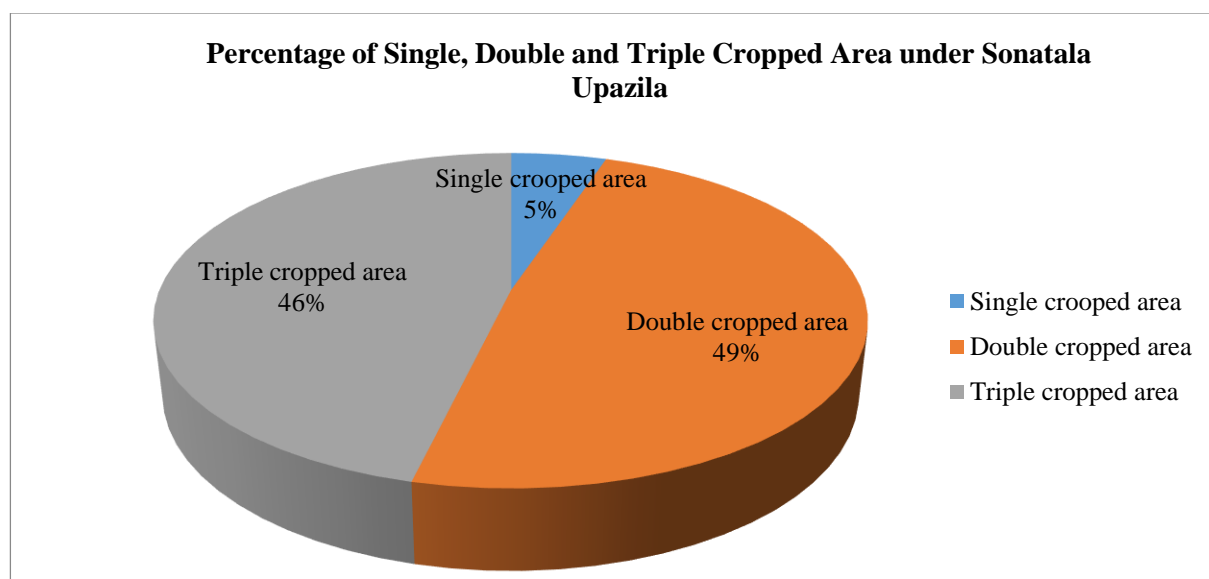
Multiplicity of cropping systems has been one of the main features of the Upazila. Farmers are harnessing their livelihood by producing various crops round the year. At the same time, the pressure of population on land and other natural resources along with rapid urbanization is a major factor for changing land-use patterns rapidly which has adverse effect upon Upazila's agricultural land. However, there has been a positive change in adoption of modern technologies like high-yielding varieties of rice and other crops, irrigation and mechanized cultivation in this area. It is recognized that a change has taken place in production of different crops including fruit and vegetable in this region.

The land of Sonatala Upazila is dominant in agriculture and also intensively used for poultry, fish culture, settlements with homestead forest and other infrastructural activities. Sonatala Upazila gets high potentials for its land and agricultural production. This Upazila holds an important arena in Bogra district with her natural resources and ecosystem. The scenario of Sonatala Upazila present different land utilized is shown in Table 5.2. Types of lands are 3120 ha high land, 7715 ha medium high land, 2360 ha medium low land and 145 ha low land respectively. This Upazila has 369 ha permanent fallow land. Land were not fallows in Rabi season but 7850 ha Kharif-1 and 300 ha kharif-11 season were fallows under Sonatala Upazila. The soil P^H is 5.4---7.9 and soil texture is sand/silt loam K-bearing minerals medium (SRDI February 1997). This Upazila covers 13340 ha of net cropped area of which about cultivated area is 32500 ha. The highest land area is 6380 ha is used as double crop and followed by triple crop of 6075 ha and remaining 675 ha is used as single crops. Other land use: Permanent Fruit Garden 118ha, Forest 90ha and Fish cultivation 782 ha. Percentage of single, double & triple cropped area used in Sonatala Upazila is shown in Figure 5.2. The highest percentage is double cropped area (49%) followed by triple cropped area (46%), single crop area (5%) under Sonatala Upazila. The cropping intensity of Sonatala Upazila is 244%.

Table 5.2: Present Land Used under Sonatala Upazila

Sl. No	Upazila Land use	Total Area (ha)
1	Total Agricultural land	13340
2	High Land	3120
3	Medium high land	7715
4	Medium low land	2360
5	Low land	145
6	Permanent fallow land	369
7	Current fallow land (with fallow period) →Rabi fallow	-----
8	→Kharif-1, →Kharf-11	7850 300
9	Net cropped area	13340
10	Single cropped area	675
11	Double cropped area	6380
12	Triple cropped area	6075
13	Total cropped area	32500
14	Cropping Intensity (%)	244
15	Irrigated land area (%)	100
16	Forest area	90
17	Water land (River, Ponds and others)	782
18	Permanent Fruit Garden	118

Source: UAO Sonatala Upazila, DAE 2016



Source: UAO Sonatala Upazila, DAE 2016

Figure 5.2: Percentage of Single, Double and Triple Cropped Area under Sonatala Upazila

5.6.1 Single, Double and Triple Cultivated Cropped Area

Cultivation of single, double and triple crops depends on land seasonal flood inundation period. Triple crops cultivated that land above the seasonal flood level and longer period under flood water lands single crops were grown. All 7 Unions and 1 Municipality percent of land used for single, double and triple crops under Sonatala Upazila is shown in Figure 5.3. Figure 5.3 shows that highest percentage of single cropped area were used in Pakulla Union (22%) followed by Tekani Chukainagar (13%) and Digdair (11%), Similarly, the highest percentage of double cropped area were used in Tekani Chukainagar (69%) followed by Digdair Union (58%) and Sonatala Municipality(49%). Further, highest land used for triple crops in Balua Union (54%) followed by Sonatala Sadar (47%) and Jorgacha Union (46%) and Municipality area (46%) under Sonatala Upazila. Union Wise Land Used of Single, Double and Triple Cropped Area and cropping intensities under Sonatala Upazila is shown in Table 5.3.

Table 5.3: Municipality and Union wise Single, Double and Triple Cropped Area in Sonatala Upazila

Name of Union	Present Land Used in ha (%)					
	Cultivated Area	Single Cropped Area	Double Cropped Area	Triple Cropped Area	Net Cropped Area (ha)	Cropping intensity (%)
Balua Union	4970	90(4.52)	820(41.21)	1080(54.27)	1990	249.75
Sonatala Sadar	2306	78(8.45)	407(44.10)	402(47.45)	923	249.84
Madhupur Union	3186	98(7.30)	644(47.99)	600(44.71)	1342	234.13

Name of Union	Present Land Used in ha (%)					
	Cultivated Area	Single Cropped Area	Double Cropped Area	Triple Cropped Area	Net Cropped Area (ha)	Cropping intensity (%)
Tekani Chukainagar	2562	164(13.12)	860(68.80)	226(18.08)	1250	205
Digdair Union	4791	237(10.73)	1290(58.40)	682(30.87)	2209	216.88
Jorgacha Union	6171	194(7.35)	1240(46.99)	1205(45.66)	2639	238.31
Pakulla Union	4225	450(22.22)	950(46.92)	625(30.86)	2025	208.64
Sonatala Municipality	2580	50(4.90)	500(49.02)	470(46.08)	1020	252.94

Source: SAAOs DAE under Sonatala Upazila

5.6.2 Cropping Pattern

Cropping patterns include mixed farming, multiple cropping, sole cropping, monoculture and crop rotation. The type of cropping pattern used will depend on the crop type as well as soil quality and availability of rainfall. A cropping pattern is the yearly sequence and spatial arrangement of crops and fallow on a given area. Mixed farming involves the raising of crops, animals and trees. Multiple cropping is the growing of more than one crop on the same land in the period of a year, and sole cropping, or solid planting, is when one crop variety is grown at normal density, alone and in pure stands. The repeated growing of the same sole crop on the same land is monoculture, and crop rotation is the repetitive cultivation of an ordered succession of crops or crops and fallow on the same land.

Land types are the dominant factor guiding choice of crops and cropping patterns in Bangladesh as well as in the area. Selection of crops and cropping patterns largely depends on the topographic position of land in relation to seasonal flood depth and its duration. The term 'Cropping pattern' as it applies to the area of reclamation can be defined as the acreage distribution of different crops in any one year in a given farm area such as a water agency, or farm. Thus, a change in a cropping pattern from one year to the next can occur by changing the relative acreage of existing crops, and/or by introducing new crops, and/or by cropping existing crops'. Information that defines a cropping system consists of the number of crops on a given field per year including the accompanying cropping periods from sowing to maturity for each crop cycle and whether each crop is grown under rain fed or irrigated conditions.

Lands, which are above normal inundation level, can provide a wide range of opportunities for growing both of perennial and year round annual crops in the area. The scenario of present cropping pattern under Sonatala Upazila is predominantly Boro (HYV/Hybrid) and T. Aman (HYV/LV) Rice, Jute, potato, Wheat, Maize, Vegetables, Oilseeds, Pulses, Spices, Fruits Garden based. Detailed upazila cropping patterns by season are presented in Table 5.4. Study finding shows that 11 different cropping pattern are practiced by Sonatala Upazila farmers. Sonatala

Upazila present major cropping pattern area is Boro (HYV/Hybrid) → Fallow→T.Aman (HYV) which is practiced 48.75% of the Net Cultivable Area (NCA). Potato

→Boro→T.Aman is the cropping pattern covering about 11.09% of the NCA. Mustard→Boro→T. Aman (HYV/LV) is covering about 9.65 % of the NCA. Further, Wheat/Maize→ Jute→T.Aman which is practiced about 5.77% of the Net Cultivable Area (NCA).Boro (HYV)→ Jute→T.Aman which is practiced about 8.25 of the NCA. Similarly, Boro (HYV/Hybrid) → Fallow→Fallow which is practiced 4.69% of the Net Cultivable Area (NCA). Both winter and summer vegetables cropping pattern covering about 2.62% of the NET Cultivable Area. This finding clearly indicated that Sonatala Upazila soil is very fertile and principal crop is Boro, T. Aman& potato, Wheat, Maize, jute and farmers also cultivated multiple crops such as vegetables, chili, Pulses and different fruits (Mango, Litchi, Papaya and Guava) production

Table 5.4: Present Cropping Pattern under Sonatala Upazila

Major Cropping Pattern			Area (ha)	Contribution (%)
Rabi	Kharif-1	Khari-2		
Boro (HYV/Hybrid)	Fallow	T. Aman (HYV)	6500	48.75
Boro (HYV/Hybrid)	Fallow	Fallow	625	4.69
Winter vegetables	Summer vegetables	T.Aman(HYV)	350	2.62
Winter vegetables	Fallow	T.Aman(HYV)	150	1.12
Mustard/groundnut	Boro (HYV/Hybrid)	T. Aman (LIV)	1300	9.75
Pulses	Jute	T.Aman	442	3.31
Wheat/Maize	Fallow	T. Aman (HYV)	770	5.77
Potato	Boro (HYV/Hybrid)	T.Aman	1479	11.09
Boro (HYV/Hybrid)	Jute	T.Aman(HYV)	1100	8.25
Chili /Boro	T.Aus	Fallow	500	3.75
Fruits Garden (Orchard)	Fruits Garden(Orchard)	Fruits Garden (Orchard)	118	0.88
Total			13340	100

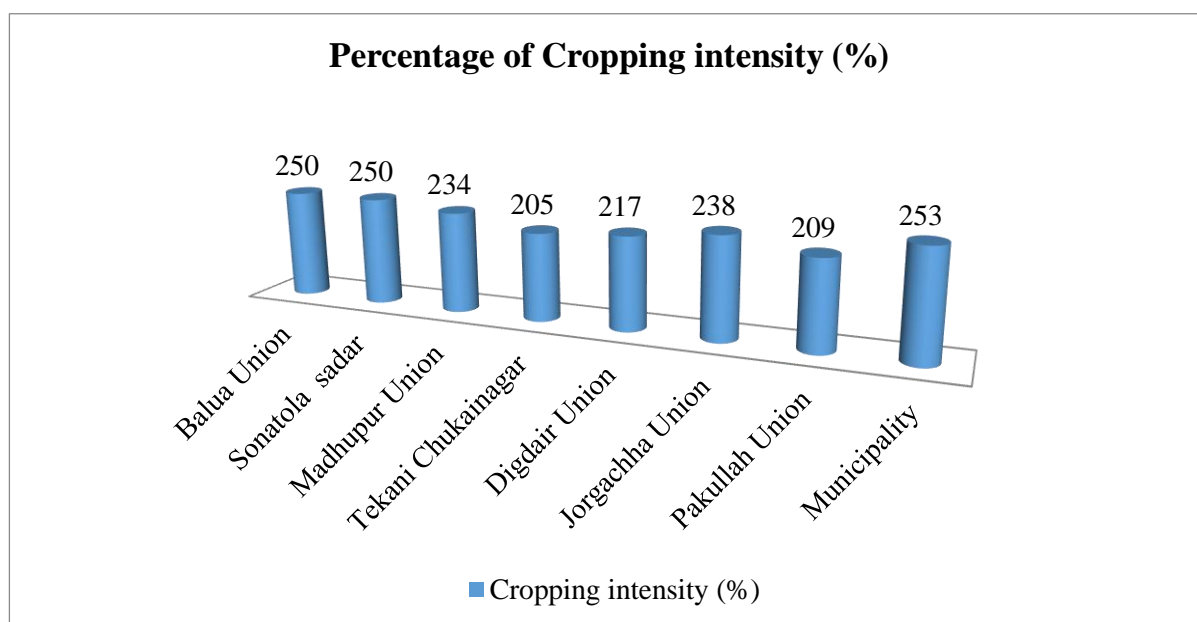
Source: SAAOs and UAO Sonatala Upazila, DAE 2016

5.6.3 Cropping Intensity

Cropping Intensity Index refers to the changes in the cropping intensity of crop compared to a given base year. Cropping intensity is the number of times a crop is planted per year in a given agricultural area. It is the ratio of effective crop area harvested to the physical area. Cropping intensity is an important index of utilization of land. Crop intensity index assesses farmers actual land use in area and time relationship for each crop or group of crops compared to the total available land area and time, including land that is temporarily available for cultivation. It is calculated by summing the product of area and duration of each crop divided by the product

of farmers total available cultivated land area and time periods plus the sum of the temporarily available land area. For a specific crop, the cropping intensity is the number of times that crop is grown in one year on the same field. It is distinguish single, double and triple cropping systems respectively.

Diversify cropping pattern are practiced in Sonatala Upazila. The present Union wise (7 Unions) and Municipality (1) cropping intensity is shown in Figure 5.3. The average cropping intensity under Sonatala Upazila is 244% which is higher than cropping intensity of 4 Unions and also less than 2 Unions and Municipality (Fig.4). The highest cropping intensities were achieved in Sonatala Municipality (253%), Followed by Balua Union (250%) and Sonatala Sadar Union (250%) and lowest cropping intensity under Tekani Chukainagar (205%). The average cropping intensity under Sonatala Upazila is 244% which is less than Bogra district (260%) and higher than national average cropping intensity (190%) (Krishi Diary 2016. Figure 4 shows all the 7 unions and 1 municipality under Sonatala Upazila cropping intensities is higher than national average cropping intensity (190%).



Source: SAAs and UAO Sonatala Upazila, DAE 2016

Figure 5.3: Union wise Cropping Intensities under Sonatala Upazila

5.6.4 Present Cropped Area

Diversify crop cultivation largely depends on land types, crop variety and irrigation facilities. Paddy, Jute, Wheat, Maize, potato, mustard, groundnut, Chili, onion, winter and summer vegetables, and pulses, and various fruits crops (Banana, Litchi, Mango and Papaya) are grown in 7 Unions and 1 Municipality under Sonatala Upazila. Sonatala Upazila present scenario of

diversified cropped area, yield rate and production levels are shown in Table 13. The present total different cultivated cropped area is 30433 ha of which rice cropped area are 19550 ha and the rest 10883 ha is covered by non-rice crops (Jute, Potato, Chili, W & S. vegetables, pulses, and oilseeds and Fruits etc.). The rice and non-rice cropped area are about 64% and 36% respectively of the total cropped area. The highest land area was used for Boro (HYV/Hybrid), T. Aman (HYV) rice, Jute and oilseeds crops cultivation.

5.6.5 Present Crop Production

Crops yield depends on variety, balance use of fertilizer, pest's control, irrigation and other management. HYV/Hybrid rice or others crops gives higher yield in compared to local variety crops. Total crop production is 155745.8 metric tons of which rice production is 65156.4 metric tons and non-rice production is 90589.4 metric tons (Table 5.5). Among the rice crops the contributions of T. Aus, T. Aman (LV), T. Aman (HYV) and Boro (HYV) and Boro (Hybrid) are about 7%, 1%, & 30%, and 57% & 4% respectively. The highest contribution among the non-rice crops are potato (41%) followed by Jute (22%), winter vegetables (14%) and Spices (8%) respectively (Table 5.5).

Table 5.5: Present Cultivated Area, Yield and Production under Sonatala Upazila

Crop Grown	Crop area(ha)	Yield/ha (mt)	Production (mt)	Contribution (%)
T. Aus (HYV)	1660	2.92	4847.2	7.44
T. Aman(LV)	415	1.62	672.3	1.03
T. Aman(HYV)	7130	2.75	19607.5	30.09
Boro (HYV)	9795	3.82	37416.9	57.43
Boro (Hybrid)	550	4.75	2612.5	4.01
Sub Total Rice	19550		65156.4	100.00
S. Vegetables	225	18.5	4162.5	4.59
W. vegetables	540	25	13500	14.90
Wheat	630	2.8	17.64	0.02
Maize	140	8	1120	1.24
Jute	2140	9.52	20372.8	22.49
Potato	2375	15.8	37525	41.42
Spices (Onion & Garlic etc.)	1705	4.22	7195.1	7.94
Oil seeds (Mustard, Til, Groundnut	2568	1.25	3210	3.54
Pulses	442	1.08	477.36	0.53
Fruits (Orchard)	118	25.5	3009	3.32
Sub-Total	10883		90589.4	100.00
Total	30433		155745.8	

Source: SAAOs and UAO, Sonatala Upazila, DAE 2016

5.7 Major Types of Crops Cultivated

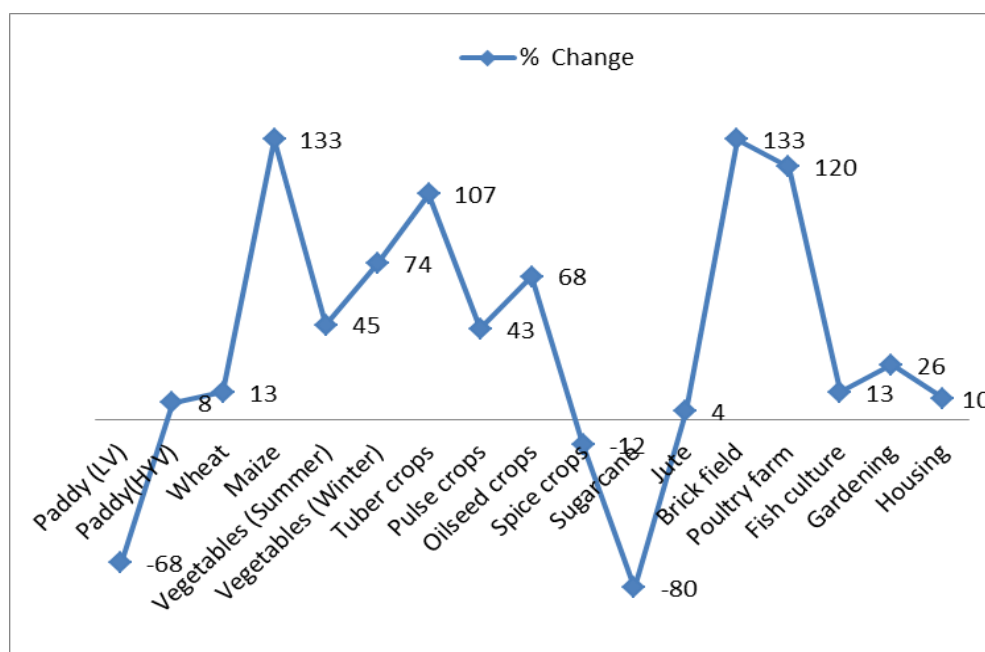
- a. **Main Crops:** Rice and Wheat is a primary crop and a staple food of this area. Here the growth of rice production is much faster. Paddy (Boro rice (HYV/Hybrid), T. Aus (HYV) and T. Aman (HYV/LIV), Jute, Wheat, Maize, Vegetables, Mustard, Groundnut, Spices (Onion, Chili) and Pulses etc. Jute, Onion and Chili are the main cash crops of this Upazila. It is an eco-friendly fiber. Jute cultivation requires less labor and less input. Despite the relative decline in importance of jute in agriculture, potential still exists for the fiber to increase its contribution to the economy through productivity increases and diversification. Farmers need to cultivate BJRI innovative variety of Jute such as HC-95, HS-14 for better yield. Yield increase, availability of better quality seeds, and improved provision of extension and credit support to grower's for this crop. Jute leaf is a common and favorable vegetable item to the farmer.
- b. **Maize Cultivation:** Now-a day's Maize is very important cash crops in Bangladesh. Low risk in maize production is another privilege taken by farmers. Marginal and poor farm families are showing interest in maize cultivating. This is possible due to the adaption of modern maize varieties since production has been expanding fast. Its price, demand, and supply are increasing in domestic market. Pop-corn as an alternative food has been getting priority. It has diversified usages in small business and poultry feed production. Farmers can earn more by maize cultivation. For getting better yield farmers need to cultivate BARI Hybrid Bhuta-1, 8, 9, 10, 11 varieties. Lack of capital as well as high price of inputs is a barrier to its higher production.
- c. **Potato:** It is widely commercially cultivated in winter with huge potential in Sonatala area. The soil and climate conditions of Sonatala area are favorable for potato production. Both potato and Sweet potato are grown under Sonatala Upazila. It is one of the cash crops for Sonatala farmers. Sunny land with cool and moisture in soil is appropriate for potato cultivation. Potato, a tuber crop, is cooked and eaten as a vegetable. In the context of nutrient, potato is comparable with rice and wheat. But unavailability of quality inputs (seeds, fertilizer and pesticide), lack of knowledge on proper cultivation techniques and finally low investment capacity of the farmers are some of the major challenges in potato farming.
- d. **Oilseed Crops:** Farmers of Sonatala Upazila generally cultivate mustard before Boro cultivation. Mustard, Groundnut and Til are popularly cultivated in Sonatala Upazila. Mustard as an oilseed crops takes first place in respect of cultivated area in Bangladesh. Mustard oilcake is a nutritious food for cattle. This oilcake also used as organic fertilizer and the dry mustard plants can use as fuel.

- e. **Vegetables:** The soil and climate conditions of 12 Unions and Municipality area are favorable for multiple vegetables production. Tomato, Sweet potato, Brinjal,, Radish, Cauliflower, Cabbage, Bean, Chili, Lalshakh, Loncho, Kolmi, Peas, Kochu, Bitter gourd, Pumpkins, Gourd, Rai Shakh, Ladies finger, Palong, Spinach, Cucumber etc. Encouraging homestead level vegetables cultivation could be alternative source of household income generation. It is widely cultivated in winter with huge potential in Sonatala Upazila. But unavailability of quality inputs (seeds, fertilizer and pesticide), lack of knowledge on proper cultivation techniques and finally low investment capacity of the farmers are some of the major challenges in vegetables production.
- f. **Spices:** Chili, Turmeric, Ginger, Onion and Garlic etc. are the major spices crops. The soil and climate conditions of this Sonatala area are favorable for Chili and Onion production.
- g. **Fruits:** Mango, Jackfruit, Litchi, Banana, Coconut, Betel Nut, Country Goose Berry, Guava, Plum, Kul and Papaya etc. are grown in this Upazila. Many farmers were established commercial fruit garden of Mango, Litchi, Papaya and Guava etc.

5.8 Growth or Decline of Agricultural Land during Last Ten Years

Quantification of various parameters in relation to land use and farming is really a very difficult task, specially, in Bangladesh where record keeping is poor either by an organization or by individual. Beside this difficulty in mind a sincere attempt has been made to collect land use last ten year data (2005 to 2015) from Upazila Agriculture Office and discussion with 1 Municipality and 7 Unions all Sub- Assistant Agriculture Officers of Sonatala Upazila and review the other documents. The growth or decline of agricultural land use during last ten years under Sonatala Upazila is shown in Table 5.6 & Figure 5.4. Table 19 finding shows 68% local variety rice was decreased during last ten years. The main reason for decreased local variety rice area due to yield is less in compared to HYV rice and farmers dictated to switchover cultivated HYV and Hybrid rice. The HYV/Hybrid paddy cultivation area 8% was increased. The reason for increased HYV rice cultivated area due to higher yield many farmers were cultivated HYV and Hybrid rice. Remarkable significant highest changed or increased during 10 years was occurred in Maize (133%) followed by tuber crops (107%) and winter vegetables (74%) and oilseeds increased but highest decreased in sugarcane (-80%) followed by local paddy (-68) and spices crops cultivation (-12%). The main reasons for increases are produce crop market demand and price is high. Table 5.6 & Figure 5.4 shows, among the other purposes remarkable significant changed were occurred in Brick field (133%) and followed by poultry farm (120%), Gardening (26%), fish cultivation (13%) and Housing (27%) respectively. This

finding clearly indicated crop land day by day has gradually decreased which will be reflected on overall agriculture crop production.



Source: SAAOs, UAO, ULO, UFO and Upazila Statistic Office of Sonatala Upazila, 2016

Figure 5.4: Percent Changed of Land Used from 2005-2015 under Sonatala Upazila

Table 5.6: Growth or Decline Agriculture Land Use during the Last 10 Year

Sl. No.	Agricultural land use	Land Use (2005) in ha	Land Use (2015) in ha	% Change
1	Paddy (local varieties)	1970	630	-68.02
2	Paddy(HYV)	16360	17735	8.4
3	Wheat	560	630	12.5
4	Maize	60	140	133.33
5	Vegetables (Summer)	155	225	45.15
6	Vegetables (Winter)	310	540	74.19
7	Tuber crops	1150	2375	106.52
8	Pulse crops	310	442	42.58
9	Oilseed crops	1530	2568	67.84
10	Spice crops	1945	1705	-12.34
11	Sugarcane	50	10	-80
12	Jute	2050	2140	4.39
14	Other purposes			
	-Brick field	6	14	133.33
	-Poultry farm	10	22	120
	-Fish/shrimp culture	690	782	13.33
	-Gardening	360	455	26.39
	-Housing	1325	1460	10.18

Source: SAAOs, UAO, ULO, UFO and Upazila Statistic Office of Sonatala Upazila, 2016

5.9 Major Problems of Crop Production in Sonatala Upazila (7 Unions and 1 Municipality)

Agriculture survey findings and Participatory Rural Appraisal August 2016 study report findings show among farmers some problems are common in different unions under Sonatala Upazila such as flood, water logging, drought, bad communication and unavailability of wholesale market and insufficient infrastructure. Major problems are:

- a) Occurrence of sudden flood and damaged field crops;
- b) Lack of modern agricultural machineries;
- c) Less availability of quality different HYV crop seeds;
- d) River erosion and silted;
- e) Most of the old canals of the union were found closed due to construction of unplanned development of infrastructures (Market, houses, farms, etc.), which are creating barriers to natural water flow and main cause of drainage congestion;
- f) Kutchra irrigation drainage system and wastage of irrigation water;
- g) Indiscriminate use of water by setting up irrigation pump;
- h) Lack of seed store for high value crops;
- i) Lack of cold storage and vegetable cool-chamber;
- j) Lack of vegetables and fruits whole sale market infrastructure;
- k) Less availability of power tiller/tractor, harvester, sprayer & foot pump and high price;
- l) Lack of modern technologies;
- m) Pests and diseases;
- n) Power failure in Boro crop season;
- o) Damage of perishable vegetables due to undeveloped road system and lack of Vehicles for transportation;
- p) Farmers did not get their expectable market price for produce crops such as rice;
- q) Chili and vegetables;
- r) Agricultural labor crisis during planting & crops harvesting time and also high wage rate;
- s) Farmer's knowledge gap on crop production technology;
- t) There is no agro processing center and industries under Unions level;
- u) Poor use of organic matter and soil nutrients deficiency and decrease of Agricultural;
- v) Land due to human intervention of unplanned infrastructural development activities.

5.10 Summary of Informal Sector Agricultural Economic Survey

The AEZ of Sonatala Upazila has been identified as (a) Tista River Meander Floodplain (AEZ-3, and (b) Active Brahmaputra-Jamuna Flood plain (AEZ-7). The Upazila has 331.61 acre khas land. It consists of 1 Municipality and 7 Unions and also 101 Mouzas and the number of village is 131.

The highest percentage is double cropped area (49%) followed by triple cropped area (46%), single crop area (5%) under Sonatala Upazila. The cropping intensity of Sonatala Upazila is 244%.

Sonatala Upazila present major cropping pattern areas are:

1. Boro (HYV/Hybrid) → Fallow → T.Aman (HYV) which is practiced 48.75% of the Net Cultivable Area (NCA).
2. Potato → Boro → T.Aman is the cropping pattern covering about 11.09% of the NCA.
3. Mustard → Boro → T. Aman (HYV/LV) is covering about 9.65 % of the NCA.

Total crop production is 155745.8 metric tons of which rice production is 65156.4 metric tons and non-rice production is 90589.4 metric tons. The highest contribution among the non-rice crops are potato (41%) followed by Jute (22%), winter vegetables (14%) and Spices (8%) respectively

Remarkable significant highest changed or increased during 10 years was occurred in Maize (133%) followed by tuber crops (107%) and winter vegetables (74%) and oilseeds increased but highest decreased in sugarcane (-80%) followed by local paddy (-68) and spices crops cultivation (-12%). Among the other purposes remarkable significant changed were occurred in Brick field (133%) and followed by poultry farm (120%), Gardening (26%), fish cultivation (13%) and Housing (27%) respectively. This finding clearly indicated crop land day by day has gradually decreased which will be reflected on overall agriculture crop production.

The major problems are: Sudden flood & water Logging, Less availability of quality different HYV crop seeds, and River erosion, and siltation of canals and river, and Kutcha drainage system, Indiscriminate use of water by setting up irrigation pump, Lack of seed store for high value crops, Lack of cold storage and vegetable cool-chamber, Lack of vegetables and fruits whole sale market infrastructure, Less availability of agriculture machineries (power tiller/tractor, harvester, sprayer & foot pump) and high price, Post-harvest loss of litchi, mango and potato and other vegetables is high. There is no agro processing center and industries under Unions level.

CHAPTER SIX: POLICY FRAMEWORK AND CONCLUSIONS

6.1 PRA Survey Findings on Economic Issues

6.1.1 PRA Objectives

To involve the local people in the planning process by letting the local people identify their own problems and potentials, development needs (issues-options) and planning priorities for next 20 years. To match PRA findings matching with technical analysis of different sector findings, particularly for spatial analysis and GIS mapping, and to supplement other data sources. To make participants' sense of ownership of the project and its activities towards realizing participatory planning approach.

6.1.2 Identification of Problems and Potentials/Economic Issues

For Sonatala the major problems identified through PRA are in the rural area are:

- ✓ lack of utility services;
- ✓ poor communication system and broken roads;
- ✓ lack of educational infrastructure;
- ✓ lack of industrialization; and
- ✓ Lack of adequate number of organized hat-bazar.

On the other hand, main potentials factors are:

- ✓ availability of hardworking and skilled/semi-skilled manpower;
- ✓ Sufficient raw materials (Brick-Sand, Wood etc.);
- ✓ growing trend of industrialization and credit facilities; and
- ✓ availability of agricultural land and role of NGOs in the local development.

For Sonatala Paurashava, main problems observed are:

- ✓ poor communication system and broken road;
- ✓ lack of proper drainage system;
- ✓ lack of amenities i.e. water supply, waste dumping site;
- ✓ lack of educational infrastructure; and
- ✓ load shedding and lack of supply in electricity and lack of gas connection.

On the other hand, main potentials were availability of agricultural land, availability of demesne land, hardworking man power, government initiatives, Role of NGOs in the development process.

6.1.3 Development Priorities

Participants identified prioritized development issues for 20 years and categorized it into three categories, respectively- short term, mid-term and long term. Development priorities were identified through ToP. For Sonatala Upazila, participants identified improving livelihood facilities as key areas. They also mentioned about improvement on amenities and credit facilities.

For Sonatala Paurashava participants identified almost same priorities as Sonatala Upazila. They added the initiatives of promoting poultry & fisheries culture, promotion of dairy industry, prevention of load shedding, new gas and electricity connection etc.

6.1.4 Discussion

Core issues raised from PRA were kind of similar in both urban and rural areas. The only difference found due to geographic position and rural-urban format. Key issues covered the areas of livelihood, communication, agricultural and education. Interestingly, these issues are equally applicable for rest of the country. The findings of PRA effectively reflected participants or community voice.

In view of above core issues expressed by surveyed people of Sonatala Upazila, it is essential to give utmost importance to these identified issues for formulation of policy-strategy and options for development of 20 years (2016-2036) Development Plan of the Study area in line with achieving the targets of Middle Income Country as well achieving sustainable development goals.

6.2 Survey Findings on Formal-Informal Issues

6.2.1 Formal Sector

- ✓ Ten hat/bazar/markets were surveyed in the study area.
- ✓ Waste management system has been found not satisfactory. Sixty percent of the waste generated from Hat/ Bazars/ Market is dumped in the adjacent fallow land.
- ✓ Hat/Bazar/Markets are managed and conducted by Market Committee, Leaseholders, Upazila Parishad, and Personal Property Owners.
- ✓ No Hat/Bazar/Markets have piped Water Supply,
- ✓ Eighty percent have electricity connections.

6.2.2 Banks and Bimas

- ✓ Total number of Banks working in the area is 5 (five) and total number of Insurance Company working is also 5 (five).

- ✓ Banks' loan service coverage in Agriculture is 83.24% and nonagricultural 16.76.
- ✓ Total numbers of Bank account holders are 42,462.
- ✓ In the nonagricultural loan the due/arrear loan is amounting to BDT 8 Lakh.
- ✓ Total Agricultural loan disbursed by the Banks in the Study is amounting to BDT 119.7 Lakh.

6.2.3 NGOs and CBOs

- ✓ Six NGOs are surveyed in the study area.
- ✓ Different types of services includes Loan services, Good seeds distribution, Training on land fertility, Public awareness building.
- ✓ Four types of Target groups of CBO/NGO and they are Lower Income Group (33.33%), Beneficiary for Particular Characteristics (33.33%), Business Group (16.66%) and Lower Class professional Group (16.66%).

6.2.4 Industries

- ✓ Ten industries were interviewed/consulted in the study area. Highest number of Industries belongs to Tailoring Shops with 19.34% and Furniture making with 18.42%. Other than these two types of industries the other industries has a share around 10%.
- ✓ Out of 10 surveyed industries, 3 (30%) were established from personal savings, 3 (30%) from inheritance of property source, 3 (30%) from family savings and bank loan source, 1 from (10 loan from relatives. Male-Female ratio at Sonatala Upazila within the industrial labor is Male 62% against female 38%.
- ✓ Transport used for marketing are: Van, Push Cart, Nasimon, Rickshaw Small Pickups, Bus, Truck, and Pickup. Within the local markets Van, Push cart, Rickshaw and Small Pickup is being used. Most popular is the Van and push cart. On the other hand for nationwide domestic supply Bus, Truck, Pickups are being used for the transport. Which transport will be used depends on the amount of order and location of the market.
- ✓ Seventy (7 nos.) industries have the EIA clearance from the Department of Environment (DoE) and 30% (3 nos.) did not take the clearance.
- ✓ Problems of industries include insufficient infrastructure, bad transportation system, bureaucratic complexity, insufficiency of skilled worker, Lack of capital & insufficiency of loan.

6.2.5 Informal Sector Survey Findings

- ✓ In the Study area, 40 Traders in informal sector were interviewed;

- ✓ Types of informal traders were interviewed\had talk were betel-nut sellers, crockery seller, fish sellers, fruit sellers, garments sellers, hawkers, raw materials sellers, shoe sellers, small businessman and vegetable sellers etc.;
- ✓ Out of this 40 samples 26 (65%) informed that they do the business only in monsoon, 14 (35%) says that they do the business all the year round;
- ✓ Of the informal sector traded goods 67.5% are consumed by low income group, 30% by lower middle income group and 2.5% are consumed by higher middle income group;
- ✓ Main problems faced by the informal sector traders in terms of market space utilization are, adverse weather, structural problems, police harassment and eviction panic.

6.3 Agricultural Survey Findings on Economic Issues

- ✓ The Upazila is located in (a) Tista River Meander Floodplain (AEZ-3, and (b) Active Brahmaputra-Jamuna Flood plain (AEZ-7) with 331.61 acre khas land.
- ✓ The highest percentage is double cropped area (49%) followed by triple cropped area (46%), single crop area (5%) under Sonatala Upazila. The cropping intensity of Sonatala Upazila is 244%.
- ✓ Sonatala Upazila present major cropping pattern are:
 1. Boro (HYV/Hybrid) → Fallow → T.Aman (HYV) which is practiced 48.75% of the Net Cultivable Area (NCA).
 2. Potato → Boro → T.Aman is the cropping pattern covering about 11.09% of the NCA.
 3. Mustard → Boro → T. Aman (HYV/LV) is covering about 9.65 % of the NCA.
- ✓ Total crop production is 155745.8 metric tons of which rice production is 65156.4 metric tons and non-rice production is 90589.4 metric tons.
- ✓ The major problems identified are, sudden flood & water logging, less availability of different quality HYV crop seeds, river erosion, siltation of canals and river, Kutcha drainage system, indiscriminate use of water by setting up irrigation pump, lack of seed store for high value crops, lack of cold storage and vegetable cool-chamber, lack of vegetables and fruits whole sale market infrastructure, and less availability of agriculture machineries (power tiller/tractor, harvester, sprayer & foot pump) and their high price.

CHAPTER SEVEN: RECOMMENDATIONS

7.1 Recommendations

Socio-economic survey report reveals that Sonatala Upazila is in Bogra district and the study area does not have gas connection and limited electricity connections. So, its potential for establishing agro-based small and medium enterprises (SME) has not been fully utilized.

PRA report reveals that agricultural land in the study area is fertile and land is available for further expansion of modern agricultural activities applying modern integrated farming system.

PRA Participants have identified and prioritized development issues for the next 20 years and categorized it into three categories, (1) Short Term, (2) Medium Term and (3) Long Term. Development priorities were identified through ToP. For these developments, necessary measures for improvement of transportation, broken roads, waste management, load shedding, etc. should be taken into consideration which will pave the way for enabling environment for rapid urbanization and industrialization consistent with the proposed Fourteen Upazilas Development Plan.

They also mentioned about preventing river erosion, gas and electricity connection etc. Necessary steps/actions should be taken for the above identified problems as the short, medium and long-term basis depending on the urgency of the issues.

Policy recommendations for accelerating the Upazila Urbanization process would be to take up utilities providing services project within medium term basis (by 10 years' time horizon) e.g. Electricity, Gas and water supply connections and along with provision of adequate extension.

Skilled manpower and managerial/administrative staff should be increased for strong monitoring and supervision system of the urban Physical and social infrastructures and this initiative will accelerate and strengthen the urbanization process of Upazila Development Plan Project.

For urban expansion, small towns and cities require to be connected with high ways by flyovers and over bridges, since further encroach of agricultural land for urban use or human settlements are discouraged as national policy.

It is inevitable that enforce stringent regulatory regimes including enforcement of strict land-use regulations and different relevant laws, maintenance of law and order by different government agencies and judicious use of different fiscal measures (VAT, Taxes, different duties and surcharges) would help harmonious growth of urbanization in the study area.

7.2 Conclusions

All formal-informal sector survey data is collected for preparation of Sonatala Upazila Development Plan. The Development Plan will identify strategic programs on the basis of survey findings (Stakeholders' perspective) for all relevant sectors and sub-sectors. It is expected that future detailed plan will be formulated in line with this 20 years strategic plan and implemented by different sectoral agencies during next 20 years' time horizon.

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Annexure-I: Sample Questionnaires



গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

গৃহায়ন ও গণপূর্ত মন্ত্রণালয়

নগর উন্নয়ন অধিদপ্তর

প্রিপারেশন অফ ডেভেলপমেন্ট প্ল্যান ফর ফরটিন উপজেলাস প্রকল্প, প্যাকেজ নং-৪

আনুষ্ঠানিক অর্থনৈতিক কর্মকাণ্ড জরিপ প্রশ্নমালা (সি.বি.ও)

পরামর্শক প্রতিষ্ঠান: মডার্ন ইঞ্জিনিয়ার্স প্ল্যানার্স এ্যান্ড কনসালট্যান্টস্ লিঃ

প্রশ্নমালা নংঃ জরিপের তারিখঃ সময়ঃ

তথ্য প্রদানকারীর নাম :

(শুধুমাত্র দাপ্তরিক কাজের জন্য)

তথ্য লিপিবদ্ধকারীর নাম ও স্বাক্ষরঃ

তারিখ :

.....

তথ্য নিরীক্ষকের নাম ও স্বাক্ষরঃ

তারিখ :

.....

☐

সকল তথ্য নেয়া হয়েছে

☐

অসম্পূর্ণ

১. সি. বি. ও (কমিউনিটি বেইজড অর্গানাইজেশন)

১.১ সি.বি.ও.-র নাম :

১.২ সি.বি.ও.-র ঠিকানা :

১.৩ প্রতিষ্ঠানের কর্মকাণ্ড পরিচালনার ব্যাপ্তি (কোড) :

কোড ১.৩ : প্রতিষ্ঠানের কর্মকাণ্ড পরিচালনার ব্যাপ্তি

১. সারাদেশ	২. সিটি কর্পোরেশন এলাকা	৩. ওয়ার্ড ভিত্তিক
৪. গ্রাম ভিত্তিক	৫. স্বল্প আয় শ্রেণির জন্য	৬. বিভাগ ভিত্তিক
৭. জেলা ভিত্তিক	৮. অন্যান্য	

১.৪ সেবার ধরন (কোড) :

কোড ১.৪ : সেবার ধরন

১. বিভিন্ন ট্রেডে প্রশিক্ষণ	২. উন্নত বীজ সরবরাহ	৩. সামাজিক বনায়নে উদ্বুদ্ধকরণ
৪. তামাক প্রক্রিয়াজাতকরণ	৫. পানির আর্সেনিক দূরীকরণ বা সতর্কীকরণ	৬. চারাগাছ বিতরণ
৭. ঋণ প্রদান	৮. ভূমির উর্বরতা হ্রাস ও প্রতিকার বিষয়ে প্রশিক্ষণ	৯. বিভিন্ন জনগুরুত্বপূর্ণ বিষয়ে জনসচেনতা সৃষ্টি
১০. অন্যান্য :		

১.৫ কর্মকাণ্ডের সুবিধাভোগী শ্রেণি কোড :

কোড ১.৫ : সুবিধাভোগী শ্রেণি

১. নিম্ন আয়ের জনসাধারণ	২. পেশা ভিত্তিক জনগোষ্ঠী	৩. ইস্যুভিত্তিক সুবিধাভোগী
৪. বিশেষ বৈশিষ্ট্য এলাকাভিত্তিক সুবিধাভোগী	৫. অন্যান্য	

১.৬ সমিতির মোট সদস্য সংখ্যা : জন

তথ্য প্রদানের জন্য ধন্যবাদ



গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

গৃহায়ন ও গণপূর্ত মন্ত্রণালয়

নগর উন্নয়ন অধিদপ্তর

প্রিপারেশন অফ ডেভেলপমেন্ট প্ল্যান ফর ফরটিন উপজেলাস প্রকল্প, প্যাকেজ নং-৪

আনুষ্ঠানিক অর্থনৈতিক কর্মকান্ড জরিপ প্রশ্নমালা (ব্যাংক ও বীমা)

পরামর্শক প্রতিষ্ঠান: মডার্ন ইঞ্জিনিয়ার্স প্ল্যানার্স এ্যান্ড কনসালট্যান্টস্ লিঃ

প্রশ্নমালা নংঃ জরিপের তারিখঃ সময়ঃ

সাক্ষাৎকার গ্রহণকারীর নামঃ সাক্ষাৎকার গ্রহণকারীর স্বাক্ষর :

(শুধুমাত্র দাপ্তরিক কাজের জন্য)

তথ্য প্রদানকারীর নাম :

তথ্য নিরীক্ষকের নাম ও স্বাক্ষরঃ তারিখ :.....

☐ সকল তথ্য নেয়া হয়েছে

☐ অসম্পূর্ণ

১.১ প্রতিষ্ঠানের ধরন : ☐ ব্যাংক ☐ বীমা

১.২ প্রতিষ্ঠানের নাম ও ঠিকানা :
.....
.....

২. ব্যাংক

২.১ সেবা প্রদানের খাত (কোড) :

কোড ১.২ : সেবার খাত

১. সাধারণ ব্যাংকিং	২. বৈদেশিক বাণিজ্য	৩. এস.এম.ই ব্যাংকিং	৪. মোবাইল ব্যাংকিং	৫. ই-ব্যাংকিং
৬. চলতি মূলধন ঋণ	৭. শিল্প ঋণ	৮. কৃষি ঋণ	৯. প্রকল্প ঋণ	১০. অন্যান্য

২.২ মোট গ্রাহক সংখ্যাঃ

৩. বীমা

৩.১ সেবা প্রদানের খাত (কোড) :

কোড ১.২ : সেবার খাত

১. সাধারণ বীমা	২. জীবন বীমা	৩. যানবাহন বীমা	৪. স্বাস্থ্য বীমা	৫. গৃহ বীমা
৬. শস্যঝুঁকি বীমা	৭. অগ্নি বীমা	৮. গবাদি পশু বীমা	৯. দৃষ্টি বীমা	১০. নৌ-বীমা
১১. শ্রম বীমা	১২. শিক্ষা বীমা	১৩. ঝুঁকি বীমা	১৪. অন্যান্য:.....	

৩.২ মোট গ্রাহক সংখ্যাঃ

তথ্য প্রদানের জন্য ধন্যবাদ



গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

গৃহায়ন ও গণপূর্ত মন্ত্রণালয়

নগর উন্নয়ন অধিদপ্তর

প্রিপারেশন অফ ডেভেলপমেন্ট প্ল্যান ফর ফরটিন উপজেলাস প্রকল্প, প্যাকেজ নং-৪

আনুষ্ঠানিক অর্থনৈতিক কর্মকাণ্ড জরিপ প্রশ্নমালা (মার্কেট/কাঁচা বাজার/হাট)

পরামর্শক প্রতিষ্ঠান: মডার্ন ইঞ্জিনিয়ার্স প্ল্যানার্স এ্যান্ড কনসালট্যান্টস্ লিঃ

প্রশ্নমালা নংঃ জরিপের তারিখঃ সময়ঃ.....

তথ্য প্রদানকারীর নাম :

(শুধুমাত্র দাপ্তরিক কাজের জন্য)

সাক্ষাৎকার গ্রহণকারীর নাম ও মোবাইল নম্বর :

সাক্ষাৎকার গ্রহণকারীর স্বাক্ষর :

তথ্য নিরীক্ষকের নাম ও স্বাক্ষর :

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সকল তথ্য নেয়া হয়েছে

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অসম্পূর্ণ

১. মার্কেট/কাঁচা বাজার/হাট

১.১ মার্কেট/হাট/বাজারের নামঃ

১.২ এই মার্কেট/হাট/বাজার কোন সংস্থার কর্তৃত্বাধীন (কোড) :

কোড ১.২ : মালিকানা

১. ব্যক্তি মালিকানাধীন	২. উপজেলা পরিষদ	৩. স্থানীয় সরকার প্রকৌশল বিভাগ	৪. সিটি কর্পোরেশন
৫. সমবায় সমিতি	৬. জেলা পরিষদ	৭. অন্য কোন সরকারি প্রতিষ্ঠান	৮. অন্যান্য

১.৩ এই মার্কেট/হাট/বাজার কিভাবে পরিচালিত হয়? (কোড) :

কোড ১.৩ : পরিচালনার ধরন

১. সমিতির মাধ্যমে	২. উপজেলা পরিষদ কর্তৃক সরাসরি	৩. ইজারাদার কর্তৃক
৪. মালিক কর্তৃক	৫. সিটি কর্পোরেশন কর্তৃক সরাসরি	৬. অন্যান্য

১.৪ ইজারাদার দ্বারা পরিচালিত হলে বর্তমান অর্থ বছরে ইজারার পরিমাণ : টাঃ

১.৫ মার্কেট/হাট/বাজারের আয়তন : একর/বিঘা

১.৬ মার্কেট/হাট/বাজারে কত সংখ্যক দোকান আছে?

১.৭ কত ধরনের ব্যবসা হয় এই মার্কেট/বাজার বা হাটে? (সম্ভব হলে পাশে দোকানের সংখ্যা লিখুন)

মুদি দোকান	ক্রোকারি সামগ্রী	মাংস বিক্রির দোকান
ষ্টেশনারি দোকান	হাঁড়ি-পাতিলের দোকান	গরু/ছাগলের হাট
কনফেকসনারি দোকান	সেলুন	প্লাস্টিক আসবাব ও সামগ্রী
মোবাইল বিক্রয় ও মেরামত	সজির বাজার	মাইক ভাড়া
মোবাইল কার্ড ও ফ্লেক্সিলোড	মাছের বাজার	সি আই সিট
ঘড়ি ও ইলেক্ট্রনিক্স সামগ্রী	চাপকল ও এর যন্ত্রাংশ	কামারের দোকান
জুতার দোকান	স্যালো ইঞ্জিন মেরামত	রেস্তুরা
তৈরি পোষাকের দোকান	হার্ডওয়্যার সামগ্রী	পাইপের দোকান
কাপড়ের দোকান	স্যানিটারি সামগ্রী	নির্মাণ সামগ্রী
দর্জি দোকান	মটর সাইকেল মেরামত	স্বর্ণের দোকান
সিমেন্ট	রড	অন্যান্য

১.৭ (ক) হাট বসার ধরন (কোড) :

কোড ১.৭(ক) : হাট বসার ধরন

১. দৈনিক	২. সাপ্তাহিক	৩. সপ্তাহে দুই/তিন দিন
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১.৭ (খ) বাজার বসার ধরন (কোড) :

কোড ১.৭(খ) : বাজার বসার ধরন

১. দৈনিক	২. সকাল	৩. সন্ধ্যা
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১.৭ (গ) এই মার্কেট/হাট/বাজার এর বিদ্যুৎ সরবরাহঃ

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আছে

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নাই

১.৭ (ঘ) এই মার্কেট/হাট/বাজার এর খাবার পানি সরবরাহ (কোড) :

কোড ১.৭(ঘ) : খাবার পানি সরবরাহ

১. টিউবওয়েল	২. পুকুর	৩. সিটি কর্পোরেশনের পাইপ লাইন	৪. সরবরাহ নাই
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১.৭ (ঙ) এই মার্কেট/হাট/বাজার এর গণ শৌচাগার ব্যবস্থা (কোড) :

কোড ১.৭(ঙ) : গণ শৌচাগার ব্যবস্থা

১. স্যানিটারী টয়লেট	২. পিট ল্যাট্রিন	৩. ব্যবস্থা নাই
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১.৮ এই মার্কেটে মাসিক লেন-দেনের পরিমাণ?

১.৯ মাসে কি পরিমাণ ভাড়া বা টোল আদায় হয়?

১.১০ বর্জ্য অপসারণের দায়িত্ব কার? (কোড) :

কোড ১.১০ : বর্জ্য অপসারণকারী

১. ইজারাদার	২. দোকানদার মালিক সমিতি	৩. সিটি কর্পোরেশন	৪. মার্কেট/হাট/বাজার কমিটি
৫. দোকানের মালিক	৬. বেসরকারি সাহায্যসংস্থা	৭. জেলা পরিষদ	৮. অন্যান্য :

১.১১ কিভাবে বর্জ্য অপসারিত হয় (কোড) :

কোড ১.১১ : বর্জ্য অপসারণের মাধ্যম

১. নিজস্ব লোক দ্বারা	২. নিজস্ব ভ্যানে করে	৩. কমিউনিটি ভ্যানে করে
৪. বেসরকারি সংস্থার ভ্যানে করে	৫. বেসরকারি সংস্থার ট্রাকে করে	৬. সিটি কর্পোরেশনের গাড়িতে
৭. বর্জ্য অপসারণের ব্যবস্থা নেই	৮. অন্যান্য :	

১.১২ কোথায় বর্জ্য ফেলা হয় (কোড) :

কোড ১.১২ : বর্জ্য ফেলার স্থান

১. নিকটস্থ ডাষ্টবিনে	২. বর্জ্য ফেলার নির্দিষ্ট স্থানে	৩. রাস্তার পার্শ্বে	৪. নিচু/পতিত জমিতে
৫. নদীতে বা খালে	৬. অন্যান্য :		

১.১৩ মার্কেট/হাট বাজারে/যাতায়াতের ব্যবস্থা (কোড) :

কোড ১.১৩ : যাতায়াত ব্যবস্থা

১. রাস্তা	২. নৌ পথ	৩. রাস্তা নেই	৪. অন্যান্য :
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১.১৪ আপনার প্রতিষ্ঠানের নিম্নবর্ণিত প্রতিবেদন থাকলে সরবরাহ করার অনুরোধ করা হলো :

- বাৎসরিক প্রতিবেদন
- মার্কেটের লে আউটপ্ল্যান
- পরিবেশ সংক্রান্ত প্রতিবেদন
- প্রতিষ্ঠান পরিচালনার বাজেট
- প্রতিষ্ঠানের উন্নয়ন, ট্রেনিং বা কর্মকর্তা কর্মচারীদের গুণগত মান উন্নয়নের জন্য নীতিমালা

- ভূমি উন্নয়ন, পানি নিষ্কাশন, পয়নিষ্কাশন, পরিবহন সংক্রান্ত প্রতিবেদন

১.১৫ পরিচালনা কমিটি/সমিতির বক্তব্য

১.১৫.১ মার্কেট/হাট-বাজার ব্যস্থাপনায় কোন সমস্যা থাকলে উল্লেখ করুন :

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১.১৫.২ সমস্যা উত্তরণের সম্ভাব্য সমাধান বা দিক নির্দেশনামূলক কিছু বলুন :

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তথ্য প্রদানের জন্য ধন্যবাদ



গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

গৃহায়ন ও গণপূর্ত মন্ত্রণালয়

নগর উন্নয়ন অধিদপ্তর

প্রিপারেশন অফ ডেভেলপমেন্ট প্ল্যান ফর ফরটিন উপজেলাস প্রকল্প, প্যাকেজ নং-৪

আনুষ্ঠানিক অর্থনৈতিক কর্মকাণ্ড জরিপ প্রশ্নমালা (এন.জি.ও.)

পরামর্শক প্রতিষ্ঠান: মডার্ন ইঞ্জিনিয়ার্স প্ল্যানার্স এ্যান্ড কনসালট্যান্টস্ লিঃ

প্রশ্নমালা নংঃ জরিপের তারিখঃ সময়ঃ

তথ্য প্রদানকারীর নাম :

(শুধুমাত্র দাপ্তরিক কাজের জন্য)

সাক্ষাৎকার গ্রহণকারীর নামঃ সাক্ষাৎকার

গ্রহণকারীর স্বাক্ষর ও
.....

তথ্য নিরীক্ষকের নাম ও স্বাক্ষরঃ তারিখ :.....
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☐

সকল তথ্য নেয়া হয়েছে

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অসম্পূর্ণ

১. এন.জি.ও. (নন গভমেন্ট অর্গানাইজেশন)

১.১ এন.জি.ও.-র নাম :

১.২ এন.জি.ও.-র ঠিকানা :

১.৩ প্রতিষ্ঠানের কর্মকাণ্ড পরিচালনার ব্যাপ্তি (কোড) :

কোড ১.৩ : প্রতিষ্ঠানের কর্মকাণ্ড পরিচালনার ব্যাপ্তি

১. সারাদেশ	২. সিটি কর্পোরেশন এলাকা	৩. ওয়ার্ড ভিত্তিক
৪. গ্রাম ভিত্তিক	৫. স্বল্প আয় শ্রেণির জন্য	৬. বিভাগ ভিত্তিক
৭. জেলা ভিত্তিক	৮. অন্যান্য	

১.৪ সেবার ধরন (কোড) :

কোড ১.৪ : সেবার ধরন

১. বিভিন্ন ট্রেডে প্রশিক্ষণ	২. উন্নত বীজ সরবরাহ	৩. সামাজিক বনায়নে উদ্বুদ্ধকরণ
৪. তামাক প্রক্রিয়াজাতকরণ	৫. পানির আর্সেনিক দূরীকরণ বা সতর্কীকরণ	৬. চারাগাছ বিতরণ
৭. ঋণ প্রদান	৮. ভূমির উর্বরতা হ্রাস ও প্রতিকার বিষয়ে প্রশিক্ষণ	৯. বিভিন্ন জনগুরুত্বপূর্ণ বিষয়ে জনসচেনতা সৃষ্টি
১০. অন্যান্য :		

১.৫ কর্মকাণ্ডের সুবিধাভোগী শ্রেণি

কোড ১.৫ : সুবিধাভোগী শ্রেণি

১. নিম্ন আয়ের জনসাধারণ	২. পেশা ভিত্তিক জনগোষ্ঠী	৩. ইস্যুভিত্তিক সুবিধাভোগী
৪. বিশেষ বৈশিষ্ট্য এলাকাভিত্তিক সুবিধাভোগী	৫. অন্যান্য	

১.৬ সমিতির মোট সদস্য সংখ্যা : জন

১.৭ গ্রাহক কর্তৃক মোট বাতসরিক প্রিমিয়াম গ্রহণের পরিমাণ : টাকা

১.৮ গ্রাহককে টাকা সরবরাহ করার পরিমাণ (বাতসরিক) : টাকা

১.৯ গ্রাহকদের সংখ্যা (পুরুষ : মহিলা) : জন

তথ্য প্রদানের জন্য ধন্যবাদ

Annexure-II: Some Photographs of Collecting Data during Field Survey



Training session



Informal Activities



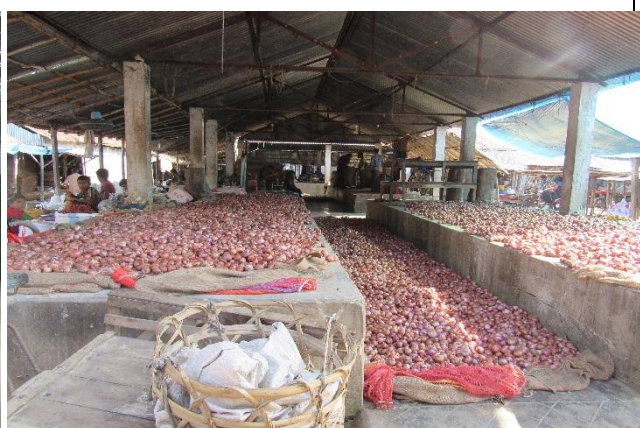
Kutchra Bazar



Wood Industry



Formal Activities



Sariakandi Bazar