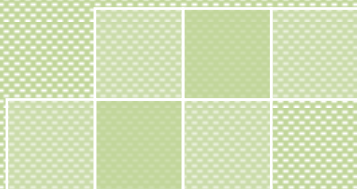




**Regenerative Agriculture and Sustainable
Livelihood for Vulnerable Ecosystems
(RESOLVE)**

Baseline Survey Report, 2012
Shariatpur, Bangladesh



Regenerative Agriculture and Sustainable Livelihood for Vulnerable Ecosystems (RESOLVE)

Area: Shariatpur, Bangladesh

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1. INTRODUCTION

Among all the vulnerable countries, Bangladesh is one of the most vulnerable to climate risks. Most of lands of the country are low-lying which is less than 6 meters above the sea level . About 80 percent of its land is floodplain. Climate change has increased the frequency and severity of extreme events in Bangladesh such as cyclone, floods, hailstorms, droughts and salinity intrusion that threatens various sectors of the economy. All these natural calamities are occurring with adverse consequences to life, property, and the economy. Of all potential impacts from climate change faced by Bangladesh, the risks to the agriculture sector stand out among the most important. Agriculture is a key economic sector in Bangladesh in terms of contributions to GDP and employment for the rural poor.

According to calculations by the British global risk analytic company, Maplecroft, Bangladesh and India are the two most vulnerable countries for the impacts of climate change over the next 30 years. The countries with the most risk are characterised by high levels of poverty, dense populations, exposure to climate-related events; and their reliance on flood and drought prone agricultural land. Geographically, the northern and central regions of Bangladesh are floodplain, formed through siltation carried by the three mighty rivers namely the Padma, the Jamuna and the Brahmaputra from upstream.

Historically, the regions are being inundated every year and local ecosystems are influenced by periodic flooding. In spite of people's sufferings due to the impact of these floods, they are making the cultivable lands fertile through siltation and thereby shaping the life and economy of those areas. However, climate change has modified the scenario. Different climate change impacts such as recurring but unpredictable extent of floods, increasing river bank erosion, early/late drought in dry season, increased salinity as a result of back water effect, downing ground water level have been contributing to add to the vulnerability of the people living in these regions. Despite these well observed climate change impacts, the regions are found under continuous insufficient attention from the government. Contextual analysis suggests that unless urgent actions are taken, climate change will undermine all efforts to ensure the food security of the regions.

RESOLVE project stands for "Regenerative Agriculture and Sustainable Livelihoods for Vulnerable Ecosystems". It has been designed to achieve the goal of making communities more resilient to climate shocks while ensuring food security through a combination of intervention strategies: direct poverty reduction through practicing adaptive agriculture techniques and technologies; diversifying livelihoods (on-farm, off-farm and non-farm) of the rural poor; working with grassroots and civil society; conducting research and evidenced-based lobby and advocacy at various strategic levels (national, regional and global); managing knowledge and innovative techniques; and maintaining and/or creating linkages to foster cross learning among different stakeholders (Figure 1-for the project's conceptual framework).

There is an urgent need for adopting a strategy that could mutually ensure food security while decreasing vulnerabilities to climate change impacts. The RESOLVE project is innovative in its approach by applying and demonstrating an ecosystem approach during its implementation. Other than segregating action, the project will use an integrated approach that includes field intervention, capacity building, and advocacy initiatives; with strong cross-cutting concerns for gender equity and of raising the voices of the most vulnerable households. It will improve the resilience to current climate variability and future climate change of food insecure households by developing and supporting cost-effective strategies at both household and community levels; and advocating for policies and measures at the local, national and regional levels, that will improve food security in the context of climate change.

The aim of RESOLVE project is implementing a pilot project in climate vulnerable and poverty stricken Sirajgonj, Gaibandha, Shariatpur and Rajshahi districts for a duration of 2 years (2011-2012), which will follow another two programme phases of 3 years each; phase 1 (2013-2015) and phase 2 (2016-2018). The model will be replicated and scaled up in different locations in the same agro ecological zones (AEZs) or districts in phase 1 and in other AEZs (districts) in phase 2. Since a graduation cycle of a household generally takes 3-5 years, therefore each new phase will be started by replication and/or scaling up in keeping continuation with existing beneficiaries through a phase out strategy.

The project is an attempt to predict how the welfare of livelihood groups may change in the future based on a vulnerability analysis, incorporating the climate change impacts. As such, action will be localised in 'climatic hot spots' in Bangladesh where not only people's vulnerability will be compounded but also their livelihoods will be addressed which are currently being eroded due to climate change impacts. In Bangladesh, the climatic hot spots have been identified by country level research through assessing the extent to which communities will be geographically exposed to specific change (using agro-ecological zoning mapping) and their capacity to adapt to the impacts (using poverty map and analysis). As most of the people living in climatic hot spots are dependent on agriculture, it is pertinent to set project objectives by giving priority to adaptation in agriculture that will ensure food security.

Four non-government development organisations and one research organisation grouped together to conduct the project based on the experiences on local context. Having long-standing experience in the selected areas, these organisations will implement proposed activities-Gana Unnayan Kendra (GUK) in Gaibandha, Gono Kalyan Sangstha (GKS) in Sirajgonj, and Shariatpur Development Society (SDS) in Shariatpur and Unnayan Onneshan will provide technical support to the implementing organisations.

It is impossible to come up with a final decision based on a baseline survey only. It is just a prerequisite for being informed for decision making. Without having a clear picture of socio-ecological context of the project areas, intervention strategies may not be able to produce the desired outputs. Moreover a measurable and verifiable system has to be developed to ensure transparency and accountability in activities so that the survey could play an important role. Through the baseline survey, existing socio-economic condition of the right holders could be explored and after a project cycle these information will help to measure their progress towards moving from existing Condition

A to expected Condition B; and also the effectiveness of the intervention strategies. In this sense a baseline survey report is the reference point for monitoring and evaluation.

A nongovernmental organisation named SDS will implement RESOLVE activities in Gosairhat Upazila in Shariatpur. Overall goal of the study is to prepare a socio-economic profile of right holders based on the existing situation. Moreover, another 100 households have also been surveyed in order to prepare a reference point to measure the progress of the right holders compared to those who are out of RESOLVE intervention.

2. THE APPROACH AND METHODS OF THE STUDY

The baseline survey is conducted by using multidisciplinary approaches. . A semi-structured questionnaire has been developed considering socio-economic condition of the area based upon secondary literature and consultation with key stakeholders. The questionnaire then has been tested in the field to review its performance whether the questionnaire is comprehensive enough to collect required data or need any inclusion or exclusion. A number of observations have been suggested by the field data collectors from the field test and the questionnaire has been finalised by taking their suggestion into account. Other than the household survey, the study also used BCAS feasibility study on the RESOLVE generated areas as reference point. A number of Focus Group Discussions (FGDs) have been carried to assess local people’s awareness regarding climate change impacts and their attempts to confront those. The study has surveyed among 450 households by using the questionnaire. The target group are termed as right holders based on the understanding that they are climate victim but not responsible for causing climate change. Therefore, development towards a prosperous life is their right) and rest 100 households have been taken from outside RESOLVE intervention.

2.1 Selection of Project Area and Right Holders

The households who are climatically more vulnerable in professions and position within the community, have lower amount of own properties, are the target group for RESOLVE project. Since the project is designed to improve the life and livelihood of the poorer part of the community; smallholders, landless farmer and women headed households have been selected as target groups in Nalmori union of Gosairhat Upazila in Shariatpur district. It can be mentioned that these targeted groups are the most vulnerable to climate change in terms of physical, human, natural and social capital.

Table 1: Target group and their vulnerability to climate change

Right holders	Characteristics	Vulnerability by climatic hazards
(i) Smallholders	<ul style="list-style-type: none"> • Owner of 10 decimal size of farmland or less • Cultivating seasonal crops (paddy), chilli & vegetables in own land & other land through share cropping • Day labouring • Livestock & poultry rearing • Per year household income? 	<ul style="list-style-type: none"> • Geographically living in lower part of the Meghna river (end side of Barisal , Shariatpur and Chandpur and closed to Riverbank of the Meghna) • Living in poor housing • Livelihood being maintained by seasonal paddy, chilli & other robi crops cultivation in government khasland, own and share cropping in private owner land • Every year livelihood are facing tidal surge, flood & storms, drought • Existing livelihood options, household farming, household based IGA & house damaged

(ii) Landless	<ul style="list-style-type: none"> • Daily earning by wages • off farm & on farm labouring • Cultivating crops (paddy) and chilli by leases and share cropping • No own farmland • Living with kind land (locally called Rayat) • Isolate Char dwellers • Seasonal unemployment (jobless) • Per year income less than 27,000 (306 Euro) • Livestock & poultry rearing 	<ul style="list-style-type: none"> • Geographically living in lower part of the Meghna river (end side of the Barisal and Shariatpur board and closed to Riverbank of the Meghna) • Livelihood maintained by seasonal paddy, chili & other <i>Robi</i> crops cultivation in government khasland and share cropping in private own land • Every year livelihood are facing tidal surge, flood & storms, drought • Existing livelihood options, household farming, household based IGA & house damaged
(iii) Fisherman/ fisher folk	<ul style="list-style-type: none"> • Fishing labour with landlord fisher man • No own fishing inputs & logistics • Fishing in open water sheds/rivers • Seasonal fishing • Day labouring in lean period • per year income less than Tk. 20,000 (227 Euro) • Livestock & poultry rearing 	<ul style="list-style-type: none"> • Geographically living in lower part of the Meghna river (end side of Barisal , Shariatpur and Chandpur and close with Riverbank of the Meghna) • Livelihood maintained by fishing • Some of fishermen seasonally engaged for chilli & other <i>Robi</i> crops cultivation by share cropping. • Every year livelihood face by tidal surge, flood & storms, drought • Existing livelihood options, household farming, household based IGA & house damaged
(iii) Women headed household	<ul style="list-style-type: none"> • Seasonal crops harvesting (like chilli harvesting) • Livestock & poultry rearing • Fishing net sewing • Making hogla mat • Made service in other landlord farmers • Per year income less than Tk. 15000 (170 Euro) 	<ul style="list-style-type: none"> • Geographically living in lower part of the Meghna river (end side of Barisal , Shariatpur and Chandpur and close with Riverbank of the Meghna)

2.2 Secondary Data

Secondary data on population, households etc. of villages under the Gosairhat upazila have been obtained from the published documents of Bangladesh Bureau of Statistics (BBS). The census report of 1991, 2001 and 2011, the Household Expenditure Survey (2007) as well as other relevant documents have been used to gather information on physical aspects, natural resources, agriculture and livestock, economic condition etc. from the Bangladesh District Gazetteers.

2.3 RESOLVE Villages

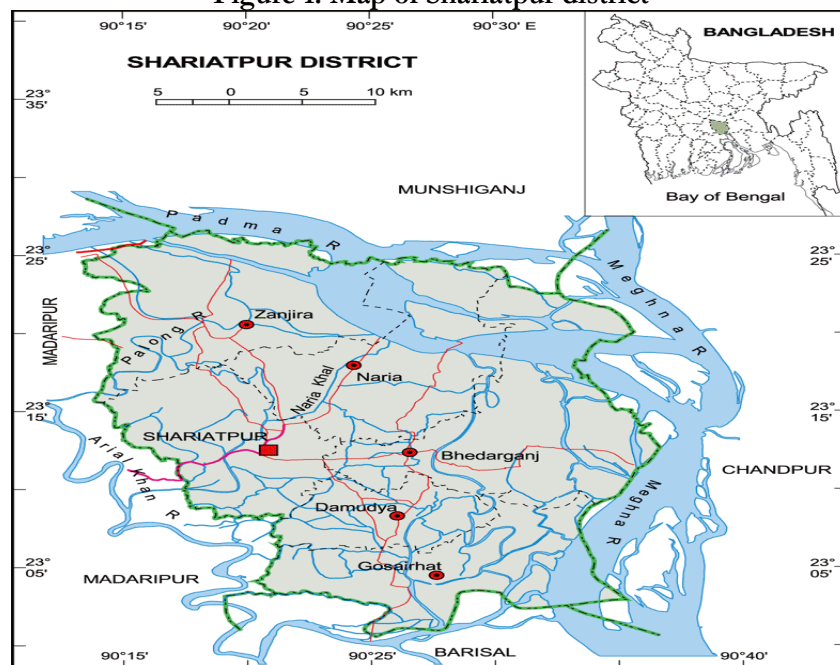
Considering their severe vulnerability to climate change and higher rate of poverty, three villages named Pachkati, Char Bhuiya and Kulchuri Patarchar of Nalmori union under Gosairhat upazila of Shariatpur have been selected purposively to implement RESOLVE. Due to climate change, their occupation and living place are becoming more and more vulnerable day by day. Total 550 households have been surveyed in the baseline study; out of which 450 households have been covered under RESOLVE and the rest 100 households, who are not intervened by RESOLVE, will be used as reference points to measure the progress of the right holders compared to them.

2.3.1 Geographic and demographic profile of Gosairhat upazila

Total area of Gosairhat upazila is 177.86 sq km and bounded by Damudya and Bhedarganj upazilas on the north, Muladi and Hizla upazilas on the south, Haimchar upazila on the east, and Kalkini upazila on the west. The main rivers are Meghna and Jayanti. Gosairhat thana was established in 1921 and it moved into an upazila in 1983. Gosairhat upazila is prearranged into 8 union parishads, namely Idilpur, Nagerpara, Nalmuri, Goshairhat, Goriber Char, Kodampur, Shamantasar and Kuchaipatty.

The area is divided into 101 mouzas and 252 villages. There is an Upazila Health Complex consists of a 31 bedded hospital and 7 family planning clinics.

Figure 1: Map of Shariatpur district



The population of Gosairhat upazila is 140,061 and the number of household is 28,295. The average household size is 4.9. The number of male is 70,223 and the number of female is 69,838. The sex ratio is 99 females per 100 males. There are 95 percent Muslim and 5 percent Hindu and other religion. The average population size of each union is 17,507. As of 2001, the population

density of Gosairhat upazila was 787 inhabitants per square kilometer. Most populated mouza is Dasherjungal. In 2006 Kuchaipatty union from adjacent Hizla upazila of Barisal District was separated and annexed with Gosairhat Upazila.

Main occupations are agriculture which belongs to 51.1 percent, fishing is 1.04 percent, agricultural labourer 26.98 percent, wage labourer 2.69 percent, commerce 6.34 percent, service holders 3.09 percent and others 8.76 percent. Total cultivable land is 10526.51 hectares, uncultivated land 948.6 hectares. Most of the cultivable land is under double cropping (51 percent). On the other hand, 29 percent and 20 percent land is under single and treble cropping respectively. Total 65 percent land is under irrigation. Per capita land ownership is 0.04 hectares and a considerable percentage of the people are landless (14 percent). Paddy is the major crop of the upazila and it is cultivated in 75 percent of the cultivable land. Moreover, chili is abundantly produced in the newly accreted char land. Jute cultivation is becoming popular among medium farmers recently.

The urban area of Gosairhat upazila encompasses upazila headquarters. The literacy rate of Gosairhat upazila is not satisfactory. As of 2001 census, average literacy rate of Gosairhat upazila is 32.0 percent, where national average is 46.2 percent. The male literacy rate is 34.3 percent and female is 28.3 percent. There are 45 government primary schools and 28 non-government primary schools, 9 non-government high schools, one degree college and 8 madrasahs in this upazila. The oldest institution of education in the upazila is the Idilpur Pilot High School that was established in 1894. Education is mainly offered in Bengali. English is also taught as a compulsory subject. A large number of Muslim families send their children to attend part-time courses or even to pursue full-time religious education, which is imparted in Bengali and Arabic in Madrasahs and Maktabs.

3. DEMOGRAPHIC FEATURES OF RESOLVE VILLAGES

The percentage of household of male headed in controlled group is 59.4 more than that of the uncontrolled group. 17.6 percent are male headed and 82.4 percent are female headed households among 450 right holders (Figure 2). On the other hand, among 100 uncontrolled households, 77.0 percent households are male headed and 23.0 percent is female headed. The female headed household in controlled group is 59.4 percent higher than that of the uncontrolled group.

Figure 2: Percentage of household head of male and female between controlled and uncontrolled group.

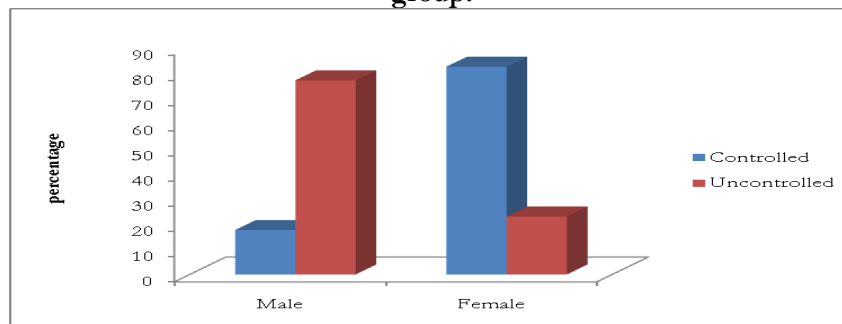


Table 2: Family composition of controlled group

Total member of household	Frequency	Percent
2	16	3.6
3	52	11.6
4	89	19.8
5	114	25.3
6	94	20.9
7	54	12
8	22	4.9
9	8	1.8
10	1	0.2
Total	450	100

Table 3: Family Composition of Uncontrolled group

Total member of household	Frequency	Percent
1	8	8
2	18	18
3	25	25
4	25	25
5	16	16
6	4	4
7	3	3
8	1	1
Total	100	100

Total population size of the right holders' family is 2314; out of which male members consists of 48.88 percent and female member 51.12 percent. In case of family composition, 25.3 percent right holder has highest five family members, 20.9 percent right holder has six family members each whereas only 3.6 percent has two family members and 11.6 percent right holder has three family members. There is a matter of concern that around 18.7 percent right holder has more than six family members. However, baseline survey revealed that total 352 family members belong to 100 uncontrolled households, within which 18 percent household has only two family members, 25 percent has three, 25 percent household has four family members, 16 percent has five, 4 percent household has six family members, 3 percent household has seven family members and the rest 1 percent household has eight family members.

Table 4: Distribution of family members by age and sex of the right holders

Household members by age	Members by sex		Total number	Percentage by sex	Total percentage
Number of family members between age 0-5	Number of male members between age 0-5	200	397	8.64	17.16
	Number of female members between age 0-5	197		8.51	

Number of members between age 6-14	Number of male members between age 6-14	343	719	14.82	31.07
	Number of female members between age 6-14	376		16.25	
Number of members between age 15-59	Number of male members between age 15-59	556	1105	24.03	47.75
	Number of female members between age 15-59	549		23.73	
Number of members age 60+ and above	Number of male members age 60+ and above	32	93	1.38	4.02
	Number of female members age 60+ and above	61		2.64	
Total		2314	2314	100	100

Table 5: Distribution of family members by age and sex of uncontrolled group

Household members by age	Members by sex		Total number
Number of members between age 0-5	Number of male members between age 0-5	15	37
	Number of female members between age 0-5	22	
Number of members between age 6-14	Number of male members between age 6-14	44	91
	Number of female members between age 6-14	47	
Number of members between age 15-59	Number of male members between age 15-59	98	212
	Number of female members between age 15-59	114	
Number of members age 60+ and above	Number of male members age 60+ and above	5	12
	Number of female members age 60+ and above	7	
Total		352	352

Table 6: Female members in right holders' household

Number of female member in your family	Frequency	Percent
1	218	48.4
2	180	40
3	41	9.1
4	10	2.2
5	1	0.2
Total	450	100

The survey revealed that 48.4 percent right holder has only one female member, 40 percent right holder has two, 9.1 percent right holder has three female members, 2.2 percent right holder has four female members and 0.2 percent right holder has five female members.

4. OCCUPATIONAL STRUCTURE

4.1 Primary Occupation

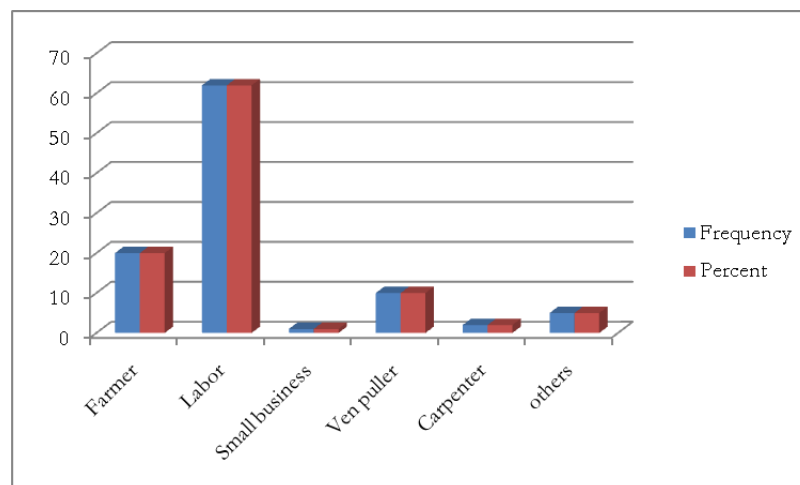
From the baseline survey, it is found that 50.9 percent household head of the right holder's primary occupation is agriculture, 34.7 percent is wage labourers and 14.4 percent is fishermen. On the other hand, 20 percent household is found to be engaged in agriculture and 62 percent is labour, 10

percent household is van-puller, 2 percent is carpenter, 1 percent is engaged in small business and 5 percent household involves in other occupation in the uncontrolled group.

Table 7: Distribution of primary occupation of right

Main occupation of household head	Frequency	Percent
Farmer	229	50.9
Labor	156	34.7
fishermen	65	14.4
Total	450	100

Figure 3: Primary occupation distribution of holder's uncontrolled group



4.2 Secondary Occupation

Majority of the right holders are engaged only with one occupation. However, some of the right holders change their occupation depending on seasonality. From the survey, it is found that 3.6 percent right holder is using agriculture as their secondary occupation and 69.1 percent becomes day labours based on seasonality. 7 percent is fisherman and 26.7 percent involves in other occupation particularly in lean period.

Table 8: Distribution of secondary occupation of right holders

	Frequency	Percent
Farmer	16	3.6
Labor	311	69.1
Fishermen	3	0.7
others	120	26.7
Total	450	100

5. EDUCATION

Table 9: Distribution of family members' education according to age and sex within right holders group

Composition of educational qualification by age	Composition of educational qualification by age and sex	Number	Total number
Number of members who are illiterate, age above 15	Number of male members who are illiterate, age above 15	32	93
	Number of female members who are illiterate, age above 15	61	
Number of members who can only sign, age above 15	Number of male members who can only sign, age above 15	457	903
	Number of female members who can only sign, age above 15	446	
Number of members who can only write & read, age above 15	Number of male members who can only write & read, age above 15	28	56
	Number of female members who can only write & read, age above 15	28	
Number of members who have education below class 5	Number of male members who have education below class 5	60	121
	Number of female members who have education below class 5	61	
Number of members who have education between class 5 and class 10	Number of male members who have education between class 5 and class 10	14	29
	Number of female members who have education between class 5 and class 10	15	
Number of members who have education SSC and above	Number of male members who have education SSC and above	0	0
	Number of female members who have education SSC and above	0	
Total		1202	1202

Table 10: Distribution of family members' education according to age and sex within uncontrolled group

Composition of educational qualification by age	Composition of educational qualification by age and sex	Number	Total number
Number of members who are illiterate, age above 15	Number of male members who are illiterate, age above 15	42	93
	Number of female members who are illiterate, age above 15	51	
Number of members who can only sign, age above 15	Number of male members who can only sign, age above 15	41	92
	Number of female members who can only sign, age above 15	51	
Number of members who can only write & read, age above 15	Number of male members who can only write & read, age above 15	0	0
	Number of female members who can only write & read, age above 15	0	
Number of members who have education below class 5	Number of male members who have education below class 5	29	56
	Number of female members who have education below class 5	27	
Number of members who have education between class 5 and class 10	Number of male members who have education between class 5 and class 10	11	

	Number of female members who have education between class 5 and class 10	17	28
Number of members who have education SSC and above	Number of male members who have education SSC and above	8	13
	Number of female members who have education SSC and above	5	
Total		282	282

5.1 Enrollment

Within 450 right holder's households, 639 members have been found to enroll in different schools out of which 50.86 percent is female and 49.14 percent of them is male. This result shows the evidence of growing awareness regarding female education. On the other hand, total 92 members have been found to enroll in the uncontrolled group, within whom 46.74 percent is male and female 52.17 percent is enrolled.

Table 11: Enrollment status of right holders

Current Enrollment in School and Collage	Male/Female		639	Percent
	Current male enrollment	314		49.14
	Current female enrollment	325		50.86
Total		639	639	100

Table 12: Enrollment status of uncontrolled group

Current Enrollment in School and Collage	Male/Female		92	Percent
	Current male enrollment	43		46.74
	Current female enrollment	48		52.17
Total		92	92	100

5.2 Dropout

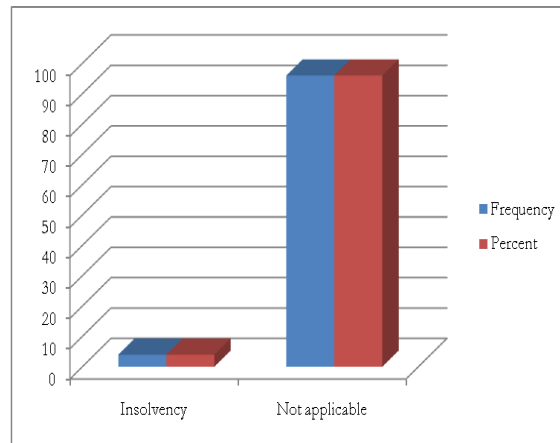
In the right holders' household, dropout rate is 45.1 percent. On the other hand, 4 percent is the dropout rate of the uncontrolled group.

Table 13: Reasons for dropout in right holders

Reasons for dropout	Frequency	Percent
To assist in income earning activity	3	0.7
Insolvency	200	44.4
Not applicable	247	54.9
Total	450	100

To identify the reasons behind this dropout, it is found that in the right holder's group only 3 percent is dropped out of school to assist his/her family income through conducting earning activities. In both cases, economic insolvency is the major reason behind dropout and from the survey it is revealed that 44 percent and 4 percent respectively have been dropped out of schools due to economic insolvency in case of the right holders and the uncontrolled group.

Figure 4: Reasons for drop out in uncontrolled group



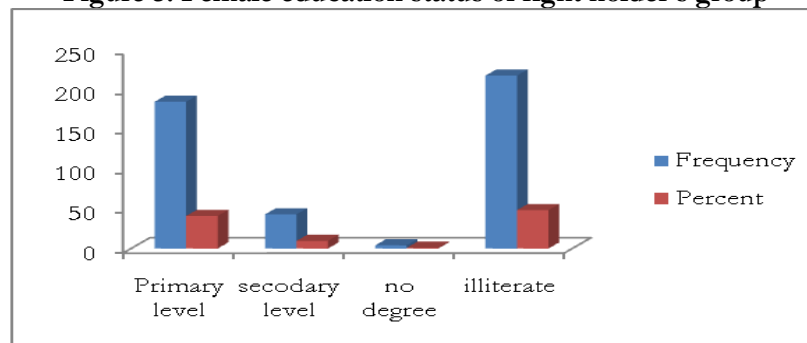
5.3 Adult Education

In the right holders group and uncontrolled group, none of the persons have been found to receive adult education facilities.

5.4 Female Education

Within the right holders, 48.4 percent is illiterate. In case of literate female, 41.1 percent has obtained primary education, 9.6 percent has received secondary education and 0.9 percent female has obtained no degree. On the contrary, 30 percent illiterate female has been identified in the uncontrolled households. 23 percent female has obtained primary education, 15 percent has obtained secondary education, 2 percent has obtained S.S.C level, 2 percent has obtained degree above S.S.C and 28 percent has obtained no degree.

Figure 5: Female education status of right holder's group



Even though female illiteracy rate is higher both in the right holder's and the uncontrolled group, current enrollment is satisfactory in both cases. It seems people of RESOLVE areas are well-aware of girls' education. However, only 31.7 percent girl is notified who are facing difficulties in which 0.4 percent and 31.3 percent girl are facing difficulties due to religious restriction and restriction from family.

Table 14: Obstacles faced by female students in right holders group

	Frequency	Percent
Religious restriction	2	0.4
Restriction from family	141	31.3
Not applicable	307	68.2
Total	450	100

The situation is very satisfactory in the uncontrolled group. In the uncontrolled group, there are no girls who face obstacles in the way of school or college.

Investigation has been conducted to find out the mode of communication used for schooling through the baseline survey. Within the right holders, almost all the students have been found going to school on foot. In case of the uncontrolled group, 54 percent student has been found to go to school on foot and only 4 percent student is by bus. However, the question has not been applicable for 40 percent household in the uncontrolled group as no school-going children have been found in those houses.

6. INCOME AND EXPENDITURE

6.1 Income

Most of the right holders are extremely poor and their annual income is below Tk. 30000 taka (USD 400).The baseline study revealed that 25.3 percent right holder's annual income is less than Tk. 20000, 50.7 percent householder has less than or equal to Tk.30000 and 23.8 percent householder has above Tk.30000.

Table 15: Income information of right holders

Income level	Frequency	Percent
Less than 20000	114	25.3
20000- 30000	228	50.7
31000 +	108	23.8
Total	450	100

Table 16: Income information of uncontrolled group

Income level	Frequency	Percent
Less than 20000	15	15
20000- 30000	25	25
31000 +	60	60
Total	100	100

On the other hand, 40 percent were identified as extremely poor whose income is equal or less than 30000 taka and 60 percent household's income is above 30000 within the uncontrolled group.

6.2 Expenditure

There is a discrepancy between the income and expenditure in the RESOLVE area. Even though more than 25 percent uncontrolled group have an annual income of less than 30000 taka, while 62 percent uncontrolled yearly expenditure is more than 30000 taka. The main reason behind this

additional expenditure come from the aids received from different government and NGO programmes. However, a reverse scenario is discovered in the controlled group where 50.7 percent households have an annual income of less than 30000 Taka while only 30.6 percent household's expenditure was less than 30000 taka and 83 percent household have an annual expenditure of more than 30000 taka.

Table 17: Expenditure status of right holders

Expenditure level	Frequency	Percent
Less than 20000	62	13.8
20000- 30000	137	30.6
Over 30000+	251	55.6
Total	450	100

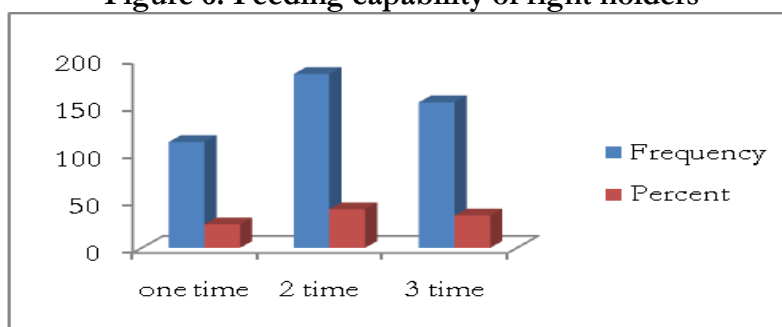
Table 18: Expenditure status of uncontrolled group

Yearly Expenditure	Frequency	Valid Percent
Less than 21001	23	23
21001 to 30000	62	62
More than 30000	15	15
Total	100	100

6.3 Food Intake Capability

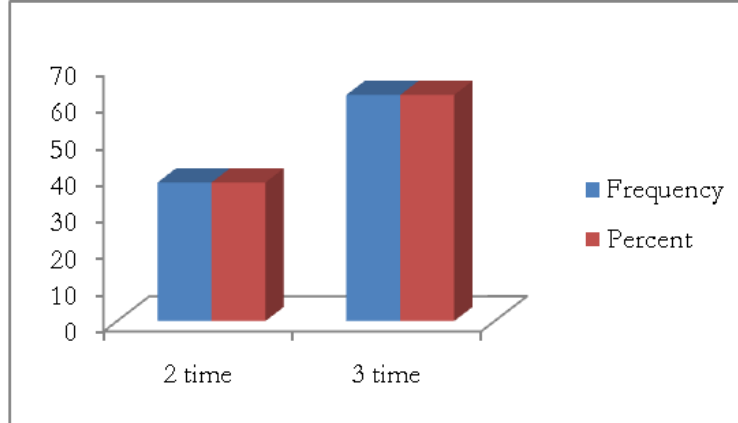
As the right holders are extremely poor, most of them cannot arrange food three times in a day. The baseline data depicts that 24.9 percent of the total households' members can have a meal once each day (that is not square even), 40.9 percent households' members eat twice everyday and only 34.2 percent household's members eat three times each day. Moreover, 65.8 percent household head is incapable to feed his/her family three times a day.

Figure 6: Feeding capability of right holders



Food intake scenario is identical for uncontrolled group as well. Within the uncontrolled group, 62 percent of the total household members eat twice a day and 38.0 percent household head is capable of feeding his/her family members three times in a day in case of the uncontrolled group.

Figure 7: Food taking status of uncontrolled group



7. DESCRIPTION OF DWELLING

7.1 Ownership Pattern

Within 450 right holders, 14.9 percent has their own house, 8.2 percent has rented a house and 76.9 percent is living in others' places. 70.2 percent house has only one room, 27.8 percent house has two rooms, 1.8 percent house has three rooms and only 0.2 percent has four rooms. On the other hand, 77 percent of the uncontrolled group has their own house and 23 percent is living in others' places.

Table 19: Household ownership status of Right holders

Ownership of Houses	Frequency	Percent
Owned	67	14.9
Rent	37	8.2
others	346	76.9
Total	450	100

7.2 House Materials

Within the right holders group, all the households make their floor with mud and roof with tin. This scenario is same for uncontrolled group. For preparing the wall controlled group is usually using straw or *Hoglapata* and uncontrolled group is using bamboo. Roads surrounding the house of both groups are made of mud.

7.3 Source of Light

There is only one sources of light. Both controlled and uncontrolled group are using kerosene as source of light.

7.4 Cooking System

Almost all the houses of both the right holders and the uncontrolled group practice their culinary in open places. Within the uncontrolled groups, only 3 percent has separate place for cooking. All the household use leaves, straws and wood for cooking.

7.5 Fuel System

The right holders are depending on nature for fuel. All the right holders use wood, straw, leaves etc. as fuel and collect those from their surroundings.

It is quite common elsewhere in rural Bangladesh, where female member of the family is responsible for collecting fuel for house and RESOLVE generated area showed the same pattern. Within the right holders group all the female is engaged in collecting fuel. 62.7 percent female spends 30 minutes, 30.4 percent spends 60 minutes and 6.9 percent spends 90 minutes for collecting fuel for their home. Within uncontrolled group the scenario is identical. 15 percent of female spends 30 minutes, 52 percent spends an hour and 18 percent spends 90 minutes to collect fuel.

8. WATER AND SANITATION

8.1 Drinking Water

Over the decades rural Bangladesh has been dependant on using tube well for drinking water. Similarly, almost all the right holders use tube well to meet up their demand of drinking water. However, not all the tube wells are placed adjacent to the right holder's household. Rather they have to walk few minutes to collect pure drinking water. From the survey, it is found that no house hold has tube well in their house premises and they are collecting water spending mention-worthy time .2 percent needs 10 minutes, .4 percent needs 20 minutes, 59.8 percent needs an hour to collect drinking and 39.6 percent needs 45 minutes to collect water from the source. In case of collection frequency, it is found that 1.1 percent households collect once, 58.9 percent collects twice and 40.0 percent of the total households collect thrice a day to meet their demand of drinking water.

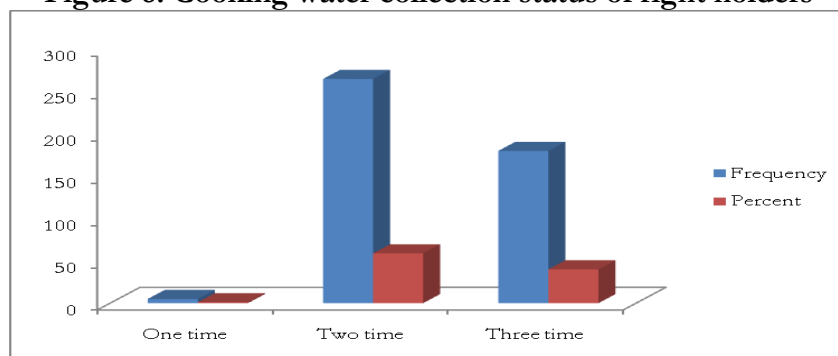
Alternatively, all household depends on tube-wells for drinking water in the uncontrolled group. 22 percent needs 5 minutes, 35 percent needs 10 minutes, and in 0.4 percent needs 45 minutes to collect drinking water from the source. From the baseline survey, it is found that 2.0 percent of the total household collect drinking water twice a day, it is thrice in case of 63.0 percent, 21 percent collects four times a day and 14.0 percent collects five times a day.

8.2 Cooking Water

Most of the households depend on rivers or ponds as sources of water for cooking. From the survey, it is revealed that 99 percent of the total household collects cooking water from river, 1 percent collects from ponds. In case of collection time, it is found that 38.0 percent need 15 minutes, 37.8 percent needs 25 minutes, 19.8 percent needs 30 minutes, and 1.6 percent needs 45 minutes to collect water for cooking. Most of the households collect their cooking water twice a day

(58.9 percent), 1.1 percent collects water once a day and it is thrice in case of 40.0 percent. Usually both female and male members are responsible for collecting water.

Figure 8: Cooking water collection status of right holders



Within the uncontrolled group cooking water collection pattern is similar with the right holders' group. All most all the household collect water from pond and river for cocking.

In case of required time for collecting cooking water, it is found that 35 percent of the total households need 10 minutes; it is 20 minutes in case of 10 percent and 4.0 percent needs an hour. Within the uncontrolled group, female members correspond to the highest percentage (97 percent) for collecting cooking water. 93 percent household collects twice and the rest 7 percent house collects their cooking water thrice a day.

8.3 Availability of Water

As evident from the responses, availability of water till now is a matter of concern in Shariatpur. There are no sufficient tube-wells to provide drinking water the entire household. Maximum households use river water due to the insufficiency of tube well. The situation is the same in the uncontrolled group.

8.4 Bathing and Washing Water Source

The district of Shariatpur is surrounded by river from three sides and therefore, river is unequivocally linked to inhabitants' lives and livelihoods. All the right holders depend on river for washing and bathing purposes.

Within the uncontrolled group, 85 percent household uses rivers/ponds for washing and bathing. Only 15 percent uses tube wells.

8.5 Sanitation System

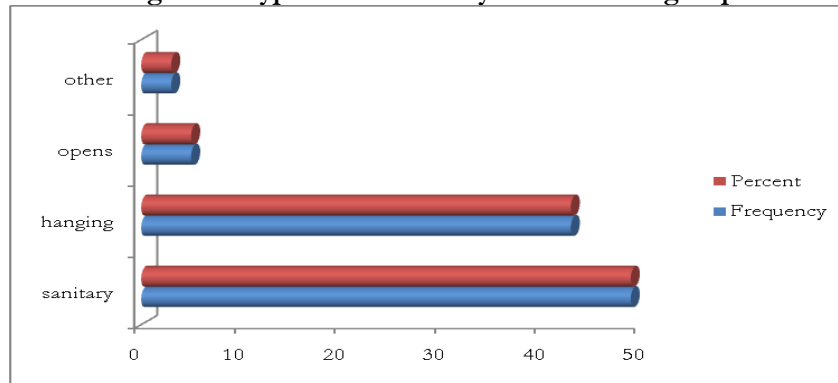
8.5.1 Toilet

In case of sanitation, all the households are using hanging latrine and the number of toilet is only one. In case of distance between toilets and sources of drinking water, it is found that there is a little distance between the toilets and sources of drinking water. As it is a char-land, in rainy season this situation becomes worst because of flood water.

Table 20: Number of families use one toilet within the uncontrolled group

Number of families use one toilet	Frequency	Percent
4	6	6
5	4	4
10	4	4
12	6	6

Figure 9: Type of toilet use by uncontrolled group



Within the uncontrolled group 49 percent households use sanitary toilet, 43.0 percent uses hanging ones and 5 percent uses open place for defecation.

In case of toilet usage, 92 percent households are using their own toilets and 8 percent shares toilet with others. In case of distance between toilet and source of drinking water, it is found that 5 percent households' drinking water source and toilet are placed within 5 meters, 19 percent is within 10 meters, 20 percent has it within 20 meters and only 0.4 percent is within 40 meter.

8.6 Waste Management

Due to the lack of both awareness and technical knowledge, waste management system is very poor in rural areas. From the survey, it is revealed that almost all the households of the right holders throw their waste in open places. This is a matter of concern that there is no household who cleans garbage daily and converts garbage into organic fertiliser.

The baseline survey gives an impression of the right holders' poor technical knowledge and little awareness regarding using garbage as organic fertilisers. It is found that only 1.3 percent does it but 97.3 percent never uses their garbage as organic fertilizer. Sometimes they do not even know how to convert garbage into organic fertilisers.

In case of the uncontrolled group; 59 percent dumps wastes in open places and 41 percent dumps wastes in river. In case of frequency of garbage cleaning, 100 percent household cleans their garbage

daily. In case of preparing organic fertilizers from waste, 5 percent is found to use garbage as an organic fertilizer and rest of 95 percent does not do it.

Table 21: Use of garbage as organic fertilizer by right holders

Use garbage as an organic fertilizer	Frequency	Percent
Yes	5	5
No	95	95
Total	100	100

9. HEALTH

9.1 Morbidity

While considering health situation of the right holders, it is found that 76.4 percent family members are frequently suffering from fever, 8.2 percent is seasonally affected by Diarrhea, and 9.1 percent is affected by Influenza and 6.2 percent by other diseases. In case of the uncontrolled group, incidence of Influenza found to be the highest (96.0 percent). 1.1 percent family members are frequently suffering from Fever, 1.1 percent is seasonally affected by Diarrhoea and 2 percent is affected by Typhoid.

Table 22: Diseases occurrence among right holders

Disease frequently affect your family	Frequency	Percent
Fever	344	76.4
Diarrhoea	37	8.2
Influenza	41	9.1
Other	28	6.2
Total	450	100.0

9.2 Immunization of Children

The rate of children immunization has a satisfactory picture. Almost all the children have received partial immunization. The uncontrolled group shows a different scenario in case of immunization. 31 percent children have completed their immunization, 2 percent have partially completed and 67 percent is not under this immunization.

Table 23: Immunization status of children of uncontrolled group

Immunization of children	Frequency	Percent
Completed	31	31.0
Partially completed	2	2.0
Not applicable	67	67.0
Total	100	100.0

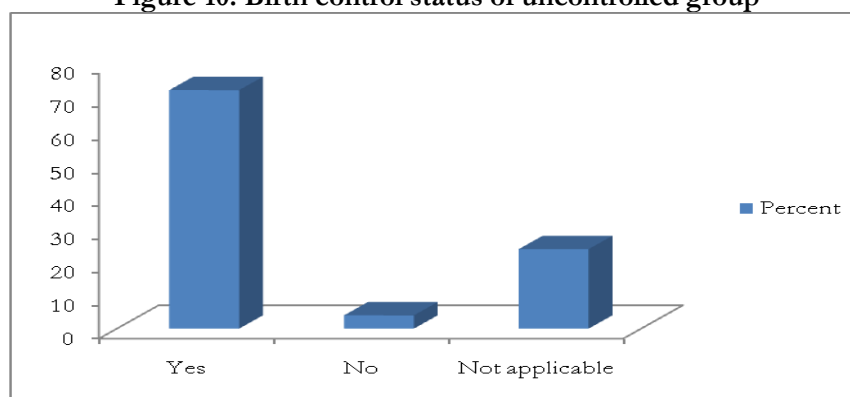
9.3 Birth Control

In case of birth control, 96.9 percent reproductively active women use birth control system in the right holders group.

Table 24: Birth control status of right holders

Receive Birth Control Method	Frequency	Percent
Yes	436	96.9
No	14	3.1
Not married	1	0.3
No female	1	0.3
Total	450	100.0

Figure 10: Birth control status of uncontrolled group



Regarding uncontrolled group, only 72.0 percent reproductively active women use birth control methods whereas four percent of them are not using it by showing the same causes akin to the right holders' group.

9.4 Maternal Health Facilities

Maternal facilities are inadequate in the RESOLVE generated area. Only 0.7 percent of the right holders have received maternal health facilities during pregnancy in which 0.5 percent has checked up only one time and 0.2 percent has checked up two times during pregnancy. 97.3 percent pregnant woman relied on untrained midwife for pregnancy related matter. Only 0.4 percent woman takes facilities after pregnancy. The situation is better in case of the uncontrolled group. Within the group, 33 percent has received formal maternal health facilities during pregnancy in which 13 percent has checked up one time, 17 percent has two times and only 5.0 percent has three times before their delivery. 59 percent pregnant woman does not receive the facility. After delivery, only 3 percent woman takes the health-care facilities. 91 percent pregnant woman relied on untrained midwife for pregnancy related matter.

9.5 Vaccination During Pregnancy

Within right holders, 0.9 percent pregnant women have taken vaccination during pregnancy and the rest 63 percent did not take any. On the other hand, 80 percent pregnant women of the uncontrolled group have taken vaccine during pregnancy and 12 percent did not take any.

Table 25: Access to vaccination during pregnancy of right holders

Vaccination During Pregnancy	Frequency	Percent
Not applicable	438	97.3
Yes	4	0.9
No	8	1.8
Total	450	100.0

10. AGRICULTURAL AND LAND DISTRIBUTION SYSTEM

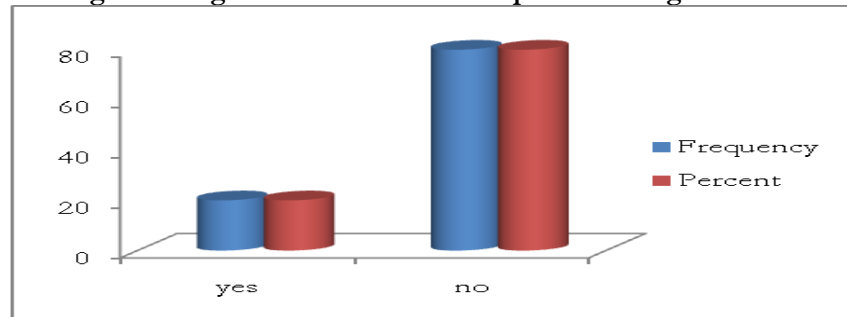
Most of the right holders are either landless poor or have tiny amount of land, which is evident from survey result as well. From survey, it is found that 96.0 percent household does not have any agricultural lands of their own. Alternatively, within the uncontrolled group 78 percent household do not have any productive agriculture land.

10.1 Size of Agriculture Land

Table 26: Agriculture land ownership status of right holders

Ownership of agricultural Land	Frequency	Percent
Yes	18	4.0
No	432	96.0
Total	450	100.0

Figure 11: Agriculture land ownership status of right holders



As most of the right holders are landless or small holders, therefore only one percent right holder has been found to have more than 10 decimal agriculture lands, 2.9 percent household have 10 decimal, 0.4 percent is found to have 20 decimal and 0.4 percent has more than 20 decimal productive agriculture lands within the controlled group. Considering uncontrolled group, only 6.0 percent has 17 decimal agricultural lands, 5.0 percent has 2.0 decimal, 1.0 percent has 52 decimal and only 2.0 percent has 60 decimal agricultural lands.

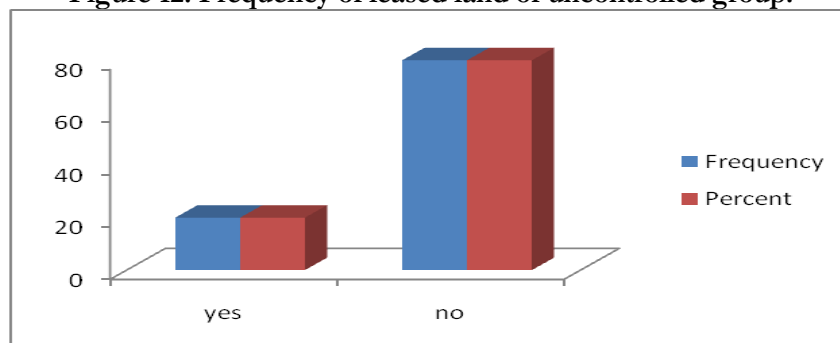
10.2 Leased Land

Some of the farmers use leased land for agricultural production. Within the right holders, 7.6 percent uses leased lands; and within the uncontrolled group only 20 percent uses leased lands for agriculture production.

Table 27: Frequency of leased land within right holders.

	Frequency	Percent
yes	34	7.6
no	416	92.4
Total	450	100

Figure 12: Frequency of leased land of uncontrolled group.



10.3 Size of the Leased Land

The baseline survey revealed that 5.3 percent household uses leased lands for agriculture and within them 2.7 percent has less than five decimal lands, 1.3 percent has 5 to 8 decimal. From the data, it is clearly evident that most of the right holders are either landless or smallholder farmer.

10.4 Share Cropping

Within the right holders, 42.2 percent is engaged in share cropping. Within the sharecroppers, 19.3 percent cultivates 20 decimal lands, 5.6 percent cultivates 24 decimal and 0.2 percent cultivates more than 200 decimal of land. On the other hand, 4 percent is engaged with sharecropping within the uncontrolled group. Within the sharecroppers in the uncontrolled group, 1 percent cultivates 20 decimal, 1 percent cultivates 52 decimal and one percent cultivates 80 decimal.

10.5 Ownership of Pond

In case of ownership of pond, within the right holders only 0.2 percent has ponds of their own and the rest of 99.8 percent uses others' pond for bathing, washing and cooking. On the other hand, none of the households of uncontrolled group has a pond.

10.6 Poultry

Within the right holders, 28.7 percent household has poultry resources and 71.3 percent household does not possess any. In case of the uncontrolled grouped, 57.0 percent household has poultry resources and 43.0 percent household does not possess any.

10.7 Livestock

Livestock is considered as an important natural capital for rural people and a considerable income comes from it. However, half of the right holders do not have any livestock. From the survey, it is found that only 49.2 percent right holders have livestock and 24.9 percent of them earn Tk.10000 from livestock whereas within the uncontrolled group 36 percent have livestock and 3 percent of them have Tk. 15000.

10.8 Agricultural Activities

In the project generated area 73.1 percent is engaged in agricultural activities among the right holders. On the other hand, 42.0 percent households of the uncontrolled group are engaged in agriculture activities.

Table 28: Status of engagement in agricultural activities of right holders

Engaged in agricultural activities	Frequency	Percent
Yes	329	73.1
No	121	26.9
Total	450	100.0

10.9 Cultivation Intensity

Most of the lands in the project area are under double cropping. It is also evident from survey as 57.3 percent farmers cultivate their land twice a year and only 10.2 percent used theirs for single cropping. Likewise, within the uncontrolled group, 37.0 percent practices double cropping and only 6 percent produces single crop in their lands.

10.10 Productive Crop

Table 29: Crop production status of right holders

Most productive crop	Frequency	Percent
Paddy	329	73.1
Other	121	26.9
Total	450	100.0

Like other parts of Bangladesh, rice is also a major crop for project generated villages. The survey revealed that 73.1 percent farmers grow rice in their fields whereas 26.9 percent farmer grows other. The uncontrolled group follows the same practice and almost all the farmers grow rice.

10.11 Seed Used for Crop Production

The farmers of rural Bangladesh are used to grow crop from locally produced seeds. However, the trend is changing slowly and hybrid seeds are replacing indigenous ones. Within the right holders, it is found that almost all the farmers use locally produced seeds. On the other hand, within the uncontrolled group 16 percent is found using hybrid seeds. The other 19 percent relies on locally produced seeds for production.

10.12 Use of Agriculture Tools

Though most of the farmer of our country is illiterate, they are unconscious about the uses of modern agriculture tools. It is found that the entire household uses traditional agricultural tools. Within the uncontrolled group 3 percent uses traditional tools, 34.0 percent uses modern tools and 1.0 percent uses both.

10.13 Source of Irrigation

Irrigation is an important issue for agriculture production. More particularly, irrigation is crucial for *Boro* production. Within right holders group, the entire householder uses surface water. In the uncontrolled group, however, 2 percent farmers' source of irrigation is surface water and 38 percent uses ground water.

Table 30: Irrigation source used by right holders

Source of irrigation	Frequency	Percent
Not applicable	0	0.0
Surface water	450	100.0
Ground water	0	0.0
Total	300	100.0

10.14 Main Obstacles for Agriculture Production

10.14.1 Obstacles for agricultural production

Agriculture is a weather sensitive sector. Even a slight change in climate eventually hampers the production. Farmers of the RESOLVE area are confronting multiple stressors. However, flood is the dominating factor that has an ambivalent affect. In one side, it makes lands fertile through silt deposition; on the other hand it causes destruction by inundating the whole production. Among the right holders group and uncontrolled group, it has been found that the entire households considered flood as a major threat.

11. CLIMATE CHANGE AND NATURAL HAZARDS

11.1 Relief and Recovery after Disaster

Even though Bangladesh has been cited as a model for disaster management worldwide, however the RESOLVE project generated area shows a disappointing scenario in case of receiving relief and recovery assistance after disaster. The survey revealed that there is no household who gets any kind of assistance from the government or other NGOs. Only 35 percent of the households get assistance out of which 15 percent receives assistance from government, 7 percent gets assistance from NGOs and 13 percent has received assistance from both the sources within the uncontrolled group.

11.2 Weather Forecasting System

The right holders are very vulnerable to disasters and weather forecasting is very important for securing themselves from devastation. In case of the right holder and uncontrolled group, no respondents have access to weather forecasting system.

11.3 The Medium of Weather Forecasting

The medium of weather forecasting is very poor of our “RESOLVE” generated areas. Among the right holders, no household has any access to weather forecasting. The scenario is identical for uncontrolled group. For the inadequate weather forecasting facility, they are suffering for natural disaster very much.

12. FINANCE

12.1 Savings

Since the right holders are the poorest among poor, they do not have any savings. The survey also revealed similar results for both the right holders and the uncontrolled group. Within uncontrolled group only 21 percent has savings in which 2.0 percent prefers bank, 2.0 percent prefers samity, 17 percent prefers NGO and one percent prefers to save in cash.

12.2 Credit

The survey revealed that 76 percent households have to take loans for a number of reasons. 16 percent is found in taking loans for purchasing food and 16.0 percent is followed by treatment and the rest of 43.6 percent takes loans for varied reasons. On the other hand; 64 percent households of the uncontrolled group have taken loan in case of necessary in which 53 percent is for purchase food, 5 percent borrows for treatment, and two percent borrows for education of their children.

12.3 Sources of Credit

Micro credit has appeared as major source of capital for the poor people in rural Bangladesh. Majority of the borrower uses money lender for borrowing within the right holders. In case of the uncontrolled group, 29 percent relies on money lender, 10 percent from samity and 18 percent takes loans from neighbor and relatives.

Table 31: Source of Loan of right holders

Source of loan	Frequency	Percent
Do not take loan	116	25.8
NGO (micro credit providers)	0	0.0
Money lender	140	31.1
Relatives	2	0.4
Samity	192	42.7
Neighbor	0	0.0
Total	450	100.0

12.4 Indebtedness

As right holders are poor, they are compelled to take loan to meet up their daily expenses. The survey explored that 76 percent household is in debt. Majority of the respondents of uncontrolled group (64) are also in a similar condition.

Among the right holders group, 34.9 percent is in debt between Tk.1000 to 10000, 34.9 percent is in between Tk.11000 to 20000, 32.5 percent in between Tk.10001 to 20000 and 8.2 percent is in between Tk. 40001 to 80000. On the other hand, 28 percent of the total households' is in debt in between Tk.1000 to 10000, 6 percent is in between Tk. 10001 to 20000 and one percent has debt in between Tk. 20001 to 40000 within the uncontrolled group.

Table 32: Debt status of controlled and uncontrolled group

Amount of debt	Controlled		Uncontrolled	
	Frequency	Percent	Frequency	Percent
No credit?	106	23.3	65	65.0
1000 to 10000	157	34.5	28	28.0
10001 to 20000	146	32.5	6	6.0
20001 to 40000	37	8.2	1	1.0
40001 to 80000	5	1.1	0	0
Total	450	100	100	100

13. CAPACITY BUILDING TRAINING

The right holders are identified as less capacitated in case of problem reasoning as well as solving. The right holders are not only illiterate but also out of the ambit of capacity building training offered by both government and NGOs. The survey shows that no respondents are receiving capacity building training. Conversely, only 2 percent respondents are receiving capacity building training

Table 33: Capacity building training received by right holders

Get any capacity building training	Frequency	Percent
Yes	0	0.0
No	450	100
Total	450	100.0

14. MAJOR FINDINGS OF THE STUDY

Table 34: Major findings of the study	
Indicators	Current situation of the Indicators
Population	Total population size of the right holders' family is 2314; with 48.88 percent male and 51.12 percent female. However, baseline survey revealed that total 352 family members belong to the 100 uncontrolled households.
Occupation	From the baseline survey, it is found that 50.9 percent household head of the right holder's primary occupation is agriculture, 34.7 percent is wage labourers and 14.4 percent is fisherman. On the other hand, 20 percent household is found to be engaged in agriculture and 62 percent is labourers, 10 percent household is van-puller, 2 percent is carpenter, 1 percent is engaged in small business and 5 percent household involves in other occupation in the uncontrolled group.
Enrollment	Within 300 right holder's households, 320 members have been found to enroll in different schools out of which 53.75 percent is female and 46.25 percent of them are male. This result shows the evidence of growing awareness regarding female education. On the other hand, total 133 members have been found to enroll in the uncontrolled group within whom male and female enrollment ratio is almost equal.

Female education	Within the right holders, 48.4 percent is illiterate. On the contrary, 30 percent illiterate female has been identified in the uncontrolled households.
Income	Most of the right holders are extremely poor and their annual income is below Tk.30000 (USD 400). The baseline study revealed that 25.3 percent right holder's annual income is less than Tk. 20000, 50.7 percent householder has less than or equal to Tk. 30000 and 23.8 percent householder has above Tk.30000. On the other hand, 40 percent have been identified as extremely poor whose income is equal or less than Tk.30000 and 60 percent household's income is above Tk. 30000 within the uncontrolled group.
Expenditure	There is a huge discrepancy between income and expenditure in the RESOLVE area. There is 13.8 percent right holder who has expended less than Tk.20000, 30.6 percent has less than or equal to Tk. 30000 and 55.6 percent householder has above Tk. 30000. This is due to aid received from different government and NGO programmes. However, a reverse scenario discovered in the uncontrolled group where only 15 percent households have been found whose annual expenditure is more than Tk.30000.
Food Intake Capability	Since the right holders are extremely poor, most of them cannot arrange food three times in day. The baseline data depicts that only 34.2 percent households members eat three times each day. Feeding scenario is identical for uncontrolled group as well. Within the uncontrolled group, 38.0 percent household head is capable of feeding his/her family members three times in a day in case of the uncontrolled group.
Ownership of house	Within 300 right holders, 14.9 percent has their own house, 8.2 percent rent a house and 76.9 percent is living in others' places. 70.2 percent house has only one room, 27.8 percent house has two rooms, 1.8 percent house has three rooms and only 0.2 percent has four rooms. On the other hand, 77 percent of the uncontrolled group has their own house and 23 percent live in others' places.
Sources of light	There is only one source of light. Both controlled and uncontrolled group are using kerosene as source of light.
Fuel System	The right holders depend on nature for fuel. All the right holders use wood, straw, leaves etc. as fuel and collect those from their surroundings. It is quite common elsewhere in rural Bangladesh, where female member of the family is responsible for collecting fuel for house and RESOLVE project generated area showed same pattern.
Water	Over the decades, rural Bangladesh has been dependant on using tube well for drinking water. From the survey, it is found that no household has tube well in their house premises and they collect water spending mention-worthy time. 2 percent needs 10 minutes, 4 percent needs 20 minutes, 59.8 percent needs an hour to collect drinking and 39.6 percent needs 45 minutes to collect water from the source. Alternatively, all household depends on tube-wells for drinking water in the uncontrolled group. 22 percent needs 5 minutes, 35 percent needs 10 minutes, and in 0.4 percent needs 45 minutes to collect drinking water from the source.
Sanitation systems	In case of sanitation, all the households use hanging latrine and the number of toilet is only one. In case of distance between toilets and sources of drinking water, it is found that there is a little distance between the toilets and sources of drinking water. As it is a char-land, in rainy season this situation becomes worst because of flood water.
Waste management	Due to the lack of both awareness and technical knowledge, waste management system is very poor in rural areas. From the survey, it is revealed that almost all the households of the right holders dump their waste in open places. This is a matter of concern that there is no household who cleans garbage daily and converts garbage into organic fertiliser.

Diseases	While considering health situation of the right holders, it is found that 76.4 percent family members are frequently suffering from Fever, 8.2 percent is seasonally affected by Diarrhea, and 9.1 percent is affect by Influenza and 6.2 percent by other diseases. In case of the uncontrolled group, incidence of Influenza found to be the highest (96.0 percent). 1.1 percent family members are frequently suffering from Fever, 1.1 percent is seasonally affected by Diarrhea and 2 percent affected by Typhoid.
Immunization of children	The rate of children immunization has a satisfactory picture. Almost all the children have received partial immunization. The uncontrolled group shows a different scenario in case of immunization. 31 percent children have completed their immunization, 2 percent have partially completed and 67 percent is not under this immunization.
Birth control	In case of birth control, 96.9 percent reproductively active women use birth control system in the right holder's group. Regarding the uncontrolled group, only 72.0 percent reproductively active women use birth control methods whereas four percent of them are not using it by showing the same causes akin to the right holders' group.
Vaccination during pregnancy	Within right holders, 0.9 percent pregnant women have taken vaccination during pregnancy and the rest 63 percent did not take any. On the other hand, 80 percent pregnant women of the uncontrolled group have taken vaccine during pregnancy and 12 percent did not take any.
Agricultural land ownership	Most of the right holders are either landless poor or have tiny amount of land, which is evident from survey result as well. From survey, it is found that 96.0 percent household does not have any agricultural lands of their own. Alternatively, within the uncontrolled group, 78 percent household does not have any productive agriculture land.
Agricultural activities	In the project generated area, 73.1 percent is engaged in agricultural activities among the right holders. On the other hand, 42.0 percent households of the uncontrolled group are engaged in agriculture activities.
Productive crop	Like other parts of Bangladesh, rice is also a major crop for project villages. The survey revealed that 73.1 percent farmers grow rice in their fields whereas 26.9 percent farmer grows other crops. The uncontrolled group is following the same practice and almost all the farmers are growing rice.
Seed use for agricultural production	The farmers in rural Bangladesh are used to grow crop from locally produced seeds. However, the trend is changing slowly and hybrid seed is replacing indigenous seeds. Within right holders, it is found that almost all farmers use locally produced seeds. On the other hand, within uncontrolled group 1 percent farmer is found to use hybrid seed. Rest 99 percent is relying on locally produced seeds for production.
Use of agricultural tools	Subsistence agriculture in rural Bangladesh is gradually shifting towards mechanised agriculture, which is manifested from the survey as well. It is found that the entire household uses traditional agricultural tools. Within the uncontrolled group, 3 percent uses traditional tools, 34.0 percent uses modern tools and 1.0 percent uses both.
Obstacles of agricultural production	Agriculture is a weather sensitive sector. Even a slight change in climate eventually hampers the production. Farmers of the RESOLVE area are confronting multiple stressors. However, flood is the dominating factor that has an ambivalent affect. In one side, it makes lands fertile through silt deposition; on the other hand, it causes destruction by inundating the whole production. Among the right holder's group and uncontrolled group, it has been found that the entire households considered flood as a major threat.

