



Rural Economy

ORIGINAL ARTICLE

Impact of char livelihood program (CLP) of char land dwellers around the char areas in Sirajgonj district of Bangladesh

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ABSTRACT

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In an attempt to address the impact of Char Livelihood Program (CLP) of Char land dwellers, this study is carried out to examine the livelihood and income generation activities of the people of Bangala Char in Sirajgonj District, due to intervention of Char Livelihood Program (CLP) by the DFID of United Kingdom (UK). The research question of the study was whether and to what extent the Char Livelihood Program (CLP) brings any changes in the livelihood and income generation activities of the people of Bangala Char. Two areas have been studied, one area is under the intervention of the project (Bangala Char as program intervention area) another is not under the program intervention (Sonatoni Char as control area). Both areas have been chosen of the vicinity of similar characteristics and geographical location for the ease of addressing the problems and analytical comparison. The study uses semi-structured questionnaire for household interview both for the program intervention and the control area as random sampling basis. This study a total of 96 households' interviews conducted of the study areas among them 48 households from Bangala Char and 48 households from the Sonatoni Char (control area). Primary data collected from house hold respondent and secondary data were used from published and unpublished sources. Four variables are access to land, income and assets, food security and vulnerability identified and the analysis shows that access to land resources among the char dwellers has established legal ownership and entitlement of land and resolve the crisis of permanent settlement which bring change in livelihood in terms of access to land resources to some extent. The islands of char dwellers are in general disadvantaged with respect to their mainland counterparts in terms of physical isolation and vulnerability to flooding and erosion have created seasonal migration and higher dependency on traditional money lenders for accessing credit supply which bind them to fall into the vicious cycle of debt and poverty. In absence of technical support and inability of non-government organizations to reach the poor people, the food security, and income and assets generation level of the project intervention area have not brought any significant change compared to their counterparts. The dwellers of chars use of drinkable water supply system has increased by sinking of tube well but in case of health and environmental issues, preventing disease and combating climatic hazards both the areas are more or less vulnerable.

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INTRODUCTION

The Chars Livelihoods Program (CLP) was a Department for International Development (DFID) funded integrated rural livelihoods development program, running from early 2004 to ending in 2016 in north-west Bangladesh. Based on the remote river Jamuna sand islands (chars) of five Bangladeshi districts such as Kurigram, Gaibandha, Jamalpur, Sirajganj and Bogra (GoB, Conroy et al. 2010). It works with extreme poor households living on island chars in North West Bangladesh. It aims to improve the livelihoods, incomes and food security of at least one million poor and vulnerable women, children and men living on the chars (Barrett et al.2014). The char areas at river basin of Bangladesh are often perceived as a char zone of multiple vulnerabilities. The life of the people of these areas is much more harsh and full of uncertainties totally different from that of main land. Basically, the poor people of the bottom stratum of the society, having no capital and little access to resources are the inhabitants of char areas. But these have much potentials and opportunities. The Govt. of Bangladesh had taken up Char Livelihood Program (CLP) under the asset transfer program, basic infrastructure improvements to mitigate against environmental vulnerability and improve household sanitation facilities and access to clean drinking water; homestead garden inputs to increase household food security; social development education to raise social and human capital, and improve social cohesion; cash stipends to buoy consumption and support the asset transfer; and enterprise activities to boost household level income earning opportunities. In addition, large pilots were undertaken in the health, nutrition, education and community based savings areas. Significant employment opportunities were also provided during relatively food insecure seasons for participant households and the wider community through various public cash-for-work schemes of Char Areas under the DFID of the UK. Initially the aim of the program was to address the problems of floods, erosion and accretion of the Char areas and to find out suitable remedy to combat the problems in order to reclaim land and to develop the chars (Conroy et. al 2010). The application of the CLP interventions also benefit the wider community target group of people in those areas, though it requires much attention and intervention to achieve sustainable livelihood and wellbeing of life for the poor people. Therefore, it is imperative and very pertinent to study and analysis the livelihood of the people of char area under Char Livelihood program. Keeping the above facts in view, the present study was conducted with the following objectives: i. to investigate the major income generation activities in the selected areas; ii. to determine the relationship between Char Livelihood Program (CLP) and char dwellers in the selected areas; iii. To determine the economic asset (natural, physical and financial) by the char dwellers; iv. to identify the char dwellers vulnerability in terms of food security, crisis coping etc. and v. to find out the relationship of socio-economic and environmental changes of char dwellers and their selected variables in the study areas.

METHODOLOGY

The study was conducted during September to November 2016 at Bangala and Sonatoni Char under the Chowhali and Sahajadpur upazila of Sirajgonj district in Bangladesh. The researcher chosen these two study site that flooding and other hazards regularly affect households living on the chars. The CLP addresses certain aspects of these issues and the program is a clear example of how Livelihood projects build up disaster resilience. This study attempts to measure the impact that CLP has had on the disaster resilience of communities. A total of 96 households' interviews conducted by the first author, among them 48 households from Bangala Char and 48 households from the Sonatoni Char (control area). Among 48 households, 16 households were taken from very close to the river, 16 households are from mid-section of the Char and rest of the 16

households were taken from near the main land of the Char. Similar approaches were applied for the Sonatoni Char, i.e- 16 households were from near the river, 16 households were from mid part of the Sonatoni Char and 16 households from inner side of the Char were taken. Since the objective of the study was to get a more comprehensive overview about the study, households were randomly selected for the interview. Semi-structured interview was found to be an appropriate strategy for the study because questions that were not included in the questionnaire were asked and new questions were raised as ideas emerge through the process. The interview questions focused on a more comprehensive range of issues including socioeconomic status (HH size, sex, age, and occupation), access to land, income and assets, food security and vulnerability on the livelihood assets. The households represented in the study encompass age groups 18 and above; which also encapsulates the idea of all age households. The total number of female respondents interviewed in this study was 10. The lower female number is mainly attributed to society's tradition and male dominance; it is the male who is responsible to identify the stranger and give family details. Therefore, it is not a surprise to see a woman refusing an interview in the presence of the men, arguing the appropriate person for interview is the husband. The questionnaire made in Bengali were used for interview and later translated into English. The interview was taken through face-to face contact with the respondents. In cases of lack of consent from interviewee or distractions 'interview protocol', a form with questions and ample space between the questions to write the responses was used. Each interview took an average of 25 to 40 minutes. Several other interviews were also taken with the acting Upazilla Nirbahi Officer (UNO) Sirajgonj Sadar Upazila, Program Manager and Program Coordinator of CLP, Union Land Assistant Officer (Tahsildar) and local political leader of different parties. Informal discussions (without any questionnaire or format) have done also to know the facts and figures of concerned issues. The detailed interviews with the respective officials' personnel were particularly suggestions of the problems and prospects of Char land and water management aspects, policies and their implementation status.

RESULTS AND DISCUSSION

Access to Land

From the household survey, it was found that in Bangala Char 0 percent had 0.10 to 0.50 acre of land, 25 percent had 0.51 to 0.99 acre of land, 54.2 percent had 1.0 to 1.50 acre of land and 20.8 percent had land more than 1.5 acre. In the case of control area of study, Sonatoni Char, it was found that 29.2 percent dwellers have land in between 1.0 to 1.5 acre, 12.5 percent had land in between 0.1 to 0.50 acre of land, 58.3 percent had land between 0.51 to 0.99 acre and none have more than 1.5 acre (Figure 1).

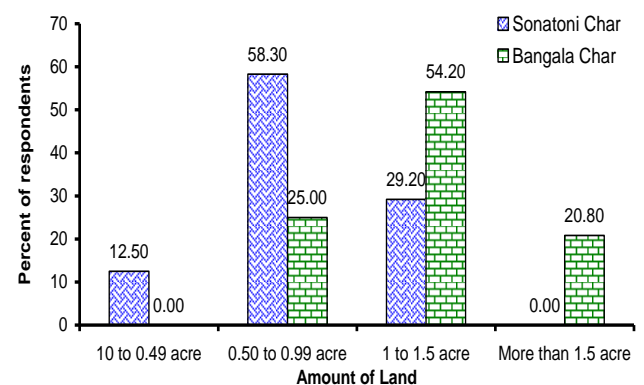


Figure 1. Amount of land possession in Bangala char and Sonatoni char

In the case of land possession in terms of official document, it was shown in Figure 2 that in Bangala char around 4.2 percent respondents had no official document and rest of the 95.8 percent respondents had official document and land title which had similarity from the information given from the Union land office.

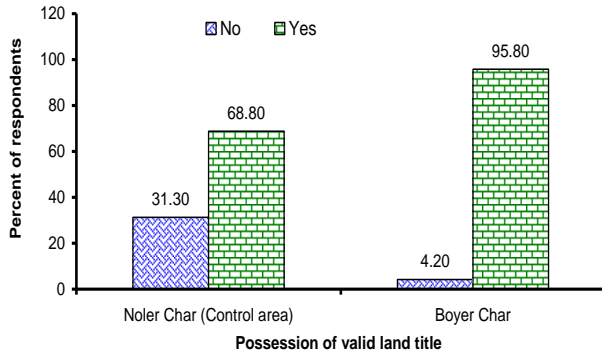


Figure 2. Possession of valid/official land ownership title

As a significant percentage of the respondents in Sonatoni char had not official document the answer of this question was found by the author through proper investigation to the respondents as during the process of land allotment a large number of people from nearby areas settled temporarily to get allotment of land and after that allottees sold the land to other dwellers and a few number had migrated to the urban areas which is similar to most of the rural areas of the county. By comparing the two char areas, study area and control area, the result shows that the amount of land possession was higher in Bangala Char than Sonatoni Char (20.8 percent dwellers of Bangala Char possess more than 1.5 acre of land).

Food Security

It was shown in Figure 3 that about 54.20 percent of the people of the sampling population suffered from food crisis during the month of April to June of last year in Bangala char whereas 29.20 percent of sampled population in Sonatoni char faced food crisis all over the year, during these period of time in Bangala char, locally the dweller did not have option to produce cereal grains in their land due to lack of irrigation water in their crop field, only potatoes, onion, lentils, pulses, peas, vegetables were produced near at very closely river side.

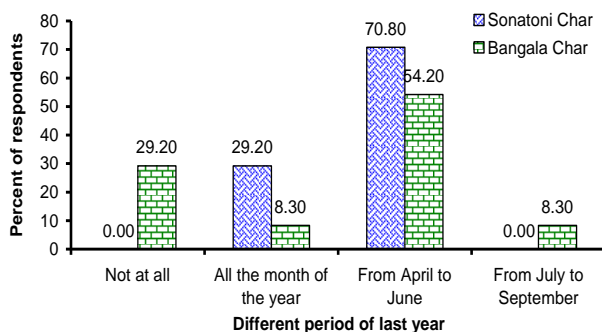


Figure 3. Food crisis faced during the period of last year in Bangala char and Sonatoni char

In rural areas people always try to take adequate rice even if they are poor, but they compromised on other items such as meat, fish, egg, etc. the prices of this items are usually quite high than rice. From the household interviews, it was found in Figure 4 that 33.30 percent respondents daily food intake contained rice with vegetable that are, grown on their homestead and 54.30 percent respondents daily food intake contained rice, burnt chili

with salt in the case of project intervention area (Bangala Char) and the control area (Sonatoni Char), respectively.

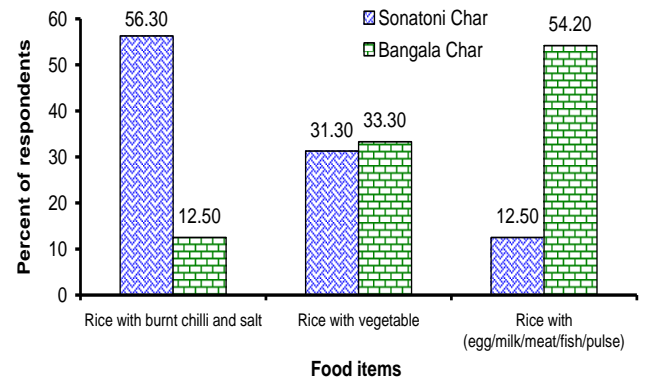


Figure 4. Types of food items taken in each meal in both the char area

About 54.20 percent respondents, having each meal containing rice with fish or meat or egg was found in the intervention area (Bangala char) whereas for the case of people of control area it was found only 12.50 percent. In the case of fulfilling the nutritional level by consuming protein, the scenario was more or less similar during crisis period in the intervention area (Bangala char), around 33.30 percent of the respondents had got the chances of taking protein one month interval during crisis period and 54.20 percent had taken protein diet 15 days interval during crisis period.

Whereas, 50.00 percent of the respondents from the control area (Sonatoni Char) had got the chances of taking protein one month interval during crisis period, 33.30 percent had taken protein diet 15 days interval and 16.70 percent had managed protein diet after a more than three months interval during crisis period which are of poorer quality than the intervention area (Bangala Char) showed in Figure 5.

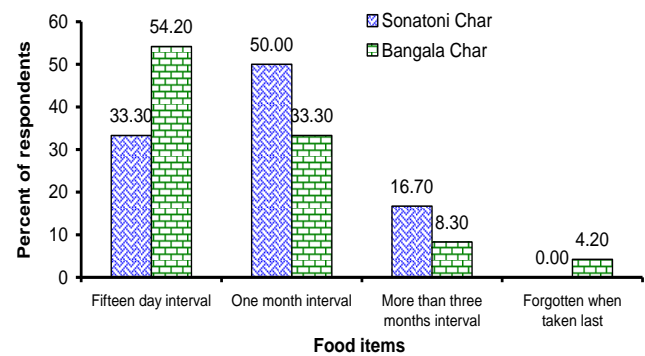


Figure 5. During crisis period protein intake interval for the people of the both areas

Income and Asset

In the case of intervention area (Bangala char), from the household interview it was found in Figure 6 that among 48 respondents, 15 respondents (31.30 percent) of which had monthly income ranges below Tk. 5000 which was really low income, 11 respondents (22.90 percent) of which had monthly marginal income ranges between Tk. 5000-10000, 14 respondents (29.20 percent) of which had monthly medium income ranges between Tk. 10000-15000 and 8 respondents (16.7 percent) of which had monthly higher income is above Tk. 15000 with having more than 1.50 acre of land. On the other hand, control area (Sonatoni char), among 48 respondents, 42(87.50 percent) respondents of which had monthly income

less than Tk. 5000 which was really low income, 06 (12.50 percent) respondents of which had monthly marginal income ranges between Tk. 5000-10000 and none had monthly medium or higher ranges income.

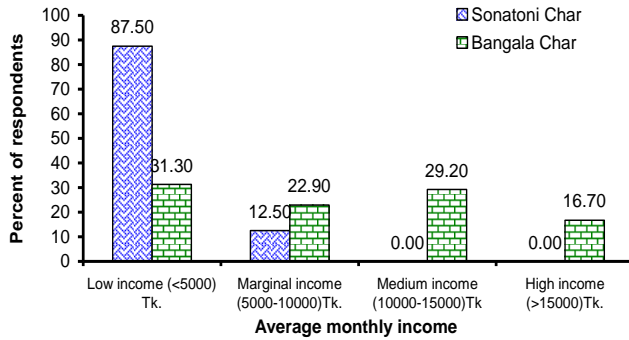


Figure 6. Average monthly income Bangala char and Sonatoni char

It was found in Figure 7 that among 48 respondents 32 respondents (66.7 percent) in Bangala char spend most of their monthly income for food, 6 respondents (12.5 percent) spend mostly for treatment and health care and 10 respondents (20.8 percent) spend mostly for their cloths. In the case of control area (Sonatoni char), 46 respondents (95.8 percent) spend most of their income for food and rest 2 respondents (4.2 percent) spend mostly for treatment and health care.

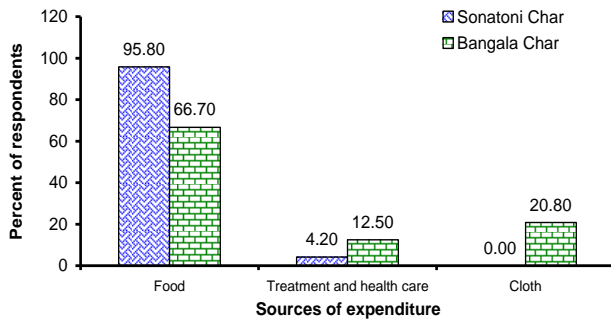


Figure 7. Major sources of expenditure in Bangala char and Sonatoni char

People mostly were depended on the moneylenders for their credit because there was no formal credit institutes like banks in the remote char areas though some local NGOs were running micro-credit programme. The interest rate of money lending was very high. About 14 respondents (46.70 percent) out of 30 were found taking loan from local NGOs, 6 (30.55 percent) respondents were found taking loan (dadon) from local money lenders, 10 respondents (33.3 percent) managed credit from other means and rest of the 18 respondents were capable to meet all the expenses in every month at Bangala char showing in Figure 8. But the non-government organizations (NGOs) were yet to reach the control char area (Sonatoni char) which might be the main reason of taking loan (dadon) from local money lenders as 24 respondents (50.0 percent) out of 48 were found taking loan (dadon) from local money lenders, 22 respondents (45.8 percent) managed credit from other means and rest 2 respondents (4.2 percent) were found taking loan from NGOs out of Sonatoni char.

These were traditional ways of managing during the time crisis in rural areas. It involved storing of paddy, rice, pulses, onions, potatoes, chili and oil seeds during harvesting times and selling them off when prices soared in the lean season or exchanging commodities (chickens, ducks, eggs, vegetables etc) with the neighbors and relatives. This way they managed during their crisis period. From the household interviews these were

revealed, mostly females were involved with this type of trade as most of the male partner migrate to the urban and near about industrial areas for earnings. The money thus earned was spent by female for the needs of the children or to meet the demand of relatives or to repay the loans.

In the case of money borrowing from local money lenders it was also revealed that from the household interviews of the two areas that there was no apparent rate of interest for the borrowing from the traditional moneylenders as they charge 5 to 6 maunds of paddy (1 maund=37.5 kg. approximate) for each thousand Taka. They did not charge any exclusive interest as it is prohibited in Islam and socially down grading. They charged such fixed amount of paddy to avoid the religious injunction on interest and charged the fixed amount of paddy dictated by market price of paddy apparently on a ground that they could sell their paddy in the open market during the lean period at a high price like this (5-6 maunds per thousand Tk.). For the borrowings from the NGO the exclusive interest is 12 percent but eventually it was more than 20 percent for an example given by a respondent (also a borrower from a local NGO) from the Bangala char to borrow 15,000 taka from local NGO, the borrower had to pay 400 taka each week and it was to be paid up to consecutive 48 weeks and the interest rates stood nearly 30 percent without service charge (Household Interview and field visit study). As a result, the consequences of repayment of credit were the perpetuation of the poverty of the poor settlers in these areas.

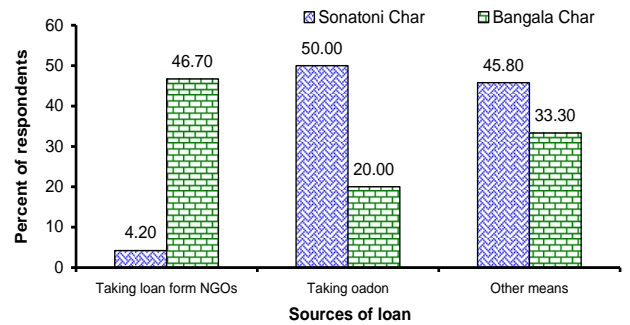


Figure 8. Major sources of taking loans during crisis period in Bangala char and Sonatoni char

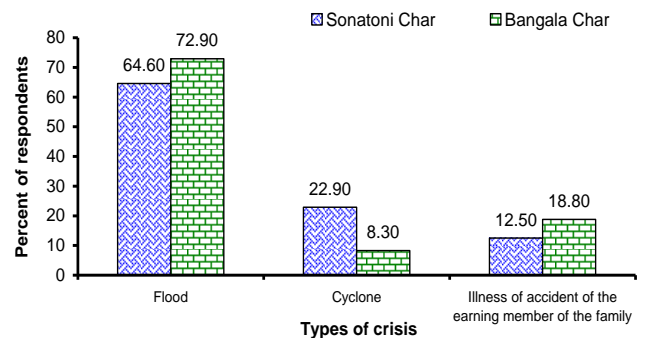


Figure 9. Types of crisis faced last year in Bangala char and Sonatoni char

Vulnerability

From the household interview in the intervention area (Bangala Char), it was found in Figure 9 that a major portion 35 respondents (72.9 percent) out of 48 respondents seriously fall victim of terrible flood, a significant number, 9 respondents (18.8 percent) had informed the news of sufferings of illness and health shocks and only 4 respondents (8.3 percent) suffered cyclone as climatic hazard last year. But in case of control area (Sonatoni char), it was found that a major portion 31 respondents

(64.6 percent) out of 48 respondents seriously fall victim of terrible flood, 6 respondents (12.5 percent) had informed the news of sufferings of illness and health shocks and 11 respondents (22.9 percent) suffered cyclone as climatic hazard last year.

Women were the worst sufferers of the water scarcity. They had to depend on their male counterparts for collecting water from distant tube well. If their male members migrated outside they had to collect water from the distant tube well. "Now (mid - February) we could bathe every alternative day. After a few days, we would have to bathe after two-three days and situation would be so grave later that we would have to remain without bath for consecutive five to seven days" said by a village housewife (Household Interview and field visit study). Women fetched water early in the morning or in the evening in groups. At the tube well premises, the water collectors had to make a long queue and there always created quarrel among the water collectors. Screaming and squabbling prevailed around the premises throughout mid night. Even women collected water in mid night to avoid long of queue (Source: Group Discussion). From the household interview in the intervention area (Bangala char), it was found in Figure 10 that 48 respondents (100 percent) out of 48 respondents collected water from deep tube well as source of drinking water but in case of control area (Sonatoni char), 46 respondents (95.58 percent) out of 48 respondents collected water from deep tube well and rest 2 respondents (4.20 percent) collected pond water as source of drinking water during normal period of the year. But the situation was very alarming where it was found that 46 respondents (95.8 percent) out of 48 respondents in Bangala char collected water from pond and rest 2 respondents (4.20 percent) collected river water as source of drinking water during crisis period of the year.

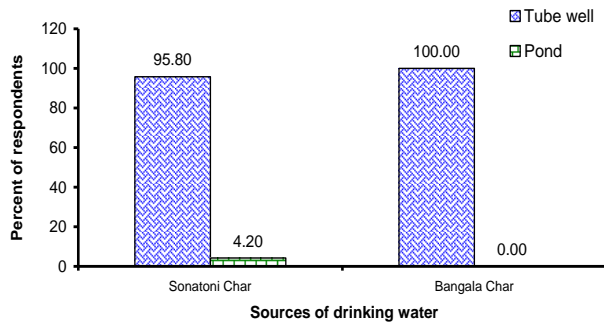


Figure 10. Sources of drinking water in Bangala char and Sonatoni char during normal period

In case of control area (Sonatoni char), 26 respondents (54.2 percent) out of 48 respondents collected water from pond and rest 22 respondents (45.8 percent) collected river water as source of drinking water during crisis period of the year shown in Figure 11. This might lead them to suffer various waterborne and contagious health problems. It was reported that during the crisis period, during flood and water logging the situation becomes at risk lack of fresh drinking water and contamination and in draught time the layer drew down, scarcity of surface water became prevalent everywhere and chances of contamination at high rate.

From the household interview in Figure 12 in the intervention area (Bangala Char) it was found that a major portion of them 24 respondents (50.0 percent) out of 48 suffered fever and cold diseases, 2 respondents (4.2 percent) out of 36 faced water born disease like diarrhea, cholera and dysentery, 16 respondents (33.3 percent) out of 48 suffered lung diseases and rest 6 respondents (12.5 percent) had other types of diseases.

It was found in control area (Sonatoni char), 64.6 percent

suffered water borne diseases, 22.9 percent suffered from fever and cold and 12.5 percent had lung diseases. Scarcity of pure drinking water and ill sanitation system might be responsible for this type of higher prevalence of water borne diseases among the dwellers of the control area. From the household interview in Figure 13 in the intervention area (Bangala Char), it was found that 19 respondents (39.6 percent) out of 48 visited to local quack doctors, only 2 respondents (4.2 percent) tried to tolerate sufferings of diseases without going anywhere, 7 respondents (14.6 percent) visited to local health care that is Upazilla health care centre and rest of the 41.7 percent visited to District level health centre.

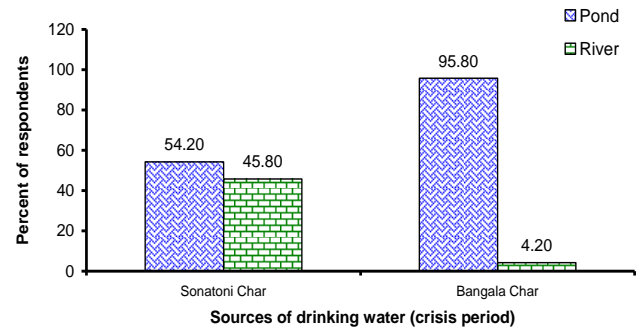


Figure 11. Sources of drinking water in Bangala char and Sonatoni char during crisis period of the year

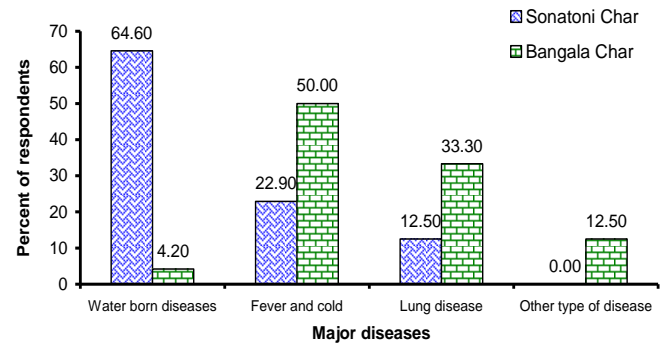


Figure 12. Diseases most often suffered by the people of Bangala char and Sonatoni char

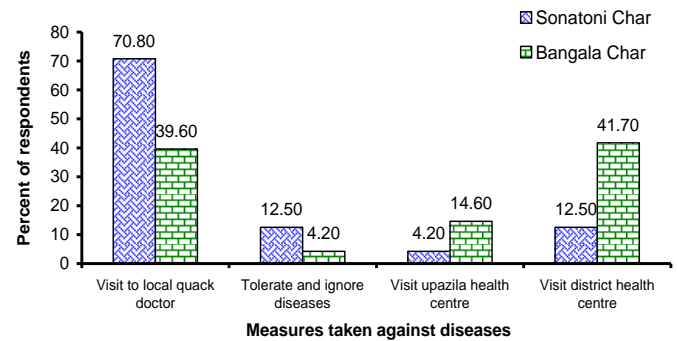


Figure 13. Measures taken against diseases prevention by the people of Bangala char and Sonatoni char

In the control area (Sonatoni Char) the scenario was disappointing as because there was a tendency to avoiding treatment against diseases and ignoring to visit health care centre, it was found that majority (70.80%) of the respondent had visit local quack doctors, 12.50 percent had tolerate diseases, 4.20 percent had preferred to visit local Upazilla health care centre and only 12.50 percent had visited to District level health centre. Due to poor communication and remoteness of the

location might be responsible for the inhabitants' barrier to access health services. Male migration was very high and it creates the lives of the women folk more difficult and insecure. Women mobility was not restricted. However, they had to use burqa when they were in outside world. In the monsoon the women combated with the daily tides that erode the homestead

mounds. When water recess they repair their own mounds again being eroded by the next tide (household Interview and field visit study). Where there survival was a matter of big threat fighting against cruel nature, awareness of health issues, pure drinking water and sanitation are beyond imagination in their real perspectives.

Table 1. Correlation Matrix showing the relationship among all the variables (Sonatoni Char)

Variables	Monthly expenditure	Sources of drinking water	Content of each meal	Measures taken against diseases	Amount of Land possession	Food intake in a day	Income	Types of diseases
Monthly expenditure	1	-.108	.690(*)	-.284	.232	.115	.533(**)	.047
Sources of drinking water	-.108	1	.041	.230	-.214	-.193	.409(*)	.632
Content of each meal	.690(*)	.041	1	-.589(**)	.020	.082	.487(*)	-.027
Measures taken against diseases	-.284	.230	-.589(**)	1	-.150	-.093	-.368	.211
Amount of Land possession	.232	-.214	.020	-.150	1	.304	.231	-.315
Food intake in a day	.115	-.193	.082	-.093	.304	1	.055	.433(*)
Income	.533(**)	-.409(*)	.487(*)	-.368	.231	.055	1	-.186
Types of diseases	.047	.632	-.027	.211	-.315	.433(*)	-.186	1

* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed). (N=48)

Table 2. Correlation Matrix showing the relationship among all the variables (Bangala Char)

Variables	Monthly expenditure	Sources of drinking water	Content of each meal	Measures taken against diseases	Amount of Land possession	Food intake in a day	Income	Types of diseases
Monthly expenditure	1	-.298	.582(*)	.490(*)	.169	.134	.250	-.099
Sources of drinking water	-.298	1	.620(**)	-.187	-.198	.141	-.175	.568
Content of each meal	.582(*)	.620(**)	1	-.103	.167	.013	-.210	.145
Measures taken against diseases	.490(*)	-.187	-.103	1	.145	-.059	.249	.407
Amount of Land possession	.169	-.198	.167	.145	1	.419	.463	-.006
Food intake in a day	.134	.141	.013	-.059	.419	1	-.062	.163
Income	.250	-.175	-.210	.249	.463	-.062	1	-.053
Types of diseases	-.099	.568	.145	.407	-.006	.163	-.053	1

* Correlation is significant at the 0.05 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed). (N=48)

Table 3. Coefficient of correlation (r) between the variables and indicators

Indicators	R		Level of significance
	Intervention area	Control area	
Amount of land possession and income	.463	.231	.05
Amount of land possession and food	.419	.304	.05
Monthly expenditure and content of each meal	.582	.690	.05
Sources of drinking water and types of diseases	.568	.632	.05
Types of diseases and measures taken against diseases	.407	.211	.05

Coefficient of correlation has been conducted to test and compare whether and how much each variable influence each other, both the case of intervention area (Bangala char) and control area (Sonatoni char). From table 1, a positive correlation is observed between amount of land possession and income, amount of land possession and number of food intake in a day, for intervention area $r=0.463$ and 0.419 and for control area $r=.231$ and $.304$ respectively where the test result shows moderate level of positive relationship which indicate that amount of land possession moderately has increased the income opportunity and number of food intake in a day for the people of that area, in case of control area though the test result is positive ($r=.231$ and $.304$) but indicates low influence on increasing income generation and number of food intake in a day with the increasing amount of land possession. It is known that optimum utilization of any resources base yield highest level

output. In the case of land resource, its quantity and quality (soil condition, fresh water access, fertility etc), technological advent (cultivation technique, high yielding variety, good fertilizer and protection form climate hazards etc) and accessibility of capital are the determinant factor for the best output from land resources (Rashid, 1981).

As a result, multiplying factor from the land resources gets enhanced in many folds. Most of the rural areas, the scenario are deplorable due to the absence of above factors that cause most of the land resources unproductive throughout the season. In the case of control area (Sonatoni char), huge lack of organic matter in the soil, no legal ownership of land resources, absence of government and private intervention and technical support are the catalysts for insignificant relationship between land possession and income, as most of the land resources remain

barren and an increased amount of land possession has a little rippling impact in income generation and number of food intake in a day whereas in the case of intervention char area the scenario has slightly improved. Legal possession of land or land title has increased the value of land and intervention mechanism might be the reason of this type of relationship. In poor households of both rural and urban areas, allocation of household expenditure for food is 70 percent, yet the diet is still inadequate in quantity and quality. Market dependence is very high in the rural areas, where only one-quarter of major foods like rice, vegetables and fish are procured from own production and the remainder is purchased from the market (Barua and Sulaiman, 2007).

It is recognized that rural poor people spend a major portion of their income for food and which is also revealed in the study. In the case of monthly expenditure and content of each meal the value of $r = .582$ and $r = .690$ for intervention and control char area respectively which indicate that higher degree of positive relationship exist in control area than intervention area. The reason might be that inhabitants of control area have to spend more portions of their earnings for purchasing food items than the intervention area. Similarly, sources of drinking water and types of diseases have more positive value, $r = .690$ of controlling area than the intervention area ($r = .568$), the reason might be that acute shortage of pure drinking water compel the dwellers to have unhygienic water from rivers and ponds that causes them to suffer different types of diseases.

Moreover very low degree positive relationship, $r = .211$, have been found in control area for types of disease and measures taken against diseases, in the case of intervention area the value $r = .407$, which is better than the previous one. The reason might be that control area has acute poverty, poor communication system, poor access to health facility and above all absence of awareness on health issues.

CONCLUSION

In food security major portion of the sampled population faced food crisis all over the year in the control area and most of them could afford rice, burnt chili with salt in daily meal where as in the project intervention area a significant portion of sampled population faced food crisis during July to September and could managed vegetable with rice in their daily food intake but the overall situation was comparatively better project intervention

area than the control area. Income and assets, a monthly expenditure was found a slightly higher than the control area in case of access or sources of credit NGOs played a significant role but yet not reached to the marginal poor where as in the control area a large number of sampled populations were in dire hardship and highest prevalence of dadon and absence of NGOs activities. In case of vulnerability, the intervention area pure drinking water sources were available, had access to the district and Upazila level health care centre and the situation had slightly improved except some occurrences of natural disasters where as in control area, sources of pure and safe drinking water were scarce, most of them were unaware of diseases prevention and showed tendency of tolerance against diseases and water logging, cyclone and suffering of fatal illness of the family member were the major types of hazards faced by the sampled population. The impact of the livelihood of the people of intervention area that has a direct relationship with changes in livelihood of the people that indicates changes in livelihood might take place from choosing and adopting strategies from lot of options better than the control area.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interests regarding the publication of this paper.

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