



Vulnerabilities and Adaptive Strategies of the Riverbank Erosion Displacee *Char* Children of the Padma Riverine Bangladesh

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ABSTRACT

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The paper primarily focuses on the vulnerabilities and adaptive strategies of riverbank erosion displacee *char* children of unstable Padma riverine habitat of Bangladesh. They face *choura* backwardness (of *char* culture), deprivation of primary supports, inadequate access to schooling and school milieu, lack of or inadequate educational materials, poor transportation system and mass communication, lack of personal communication devices, poor network of social media, and lack of proper GO and NGO supports. The paper also tries to explore indigenous ways and skills, adaptive capacities and knowledge employed by the *char* children in confronting with such socioeconomic hardship in the precarious riparian environment. Concurrently, this paper finds some measures that the stakeholders should raise their hands for taking some initiatives to protect them from such impediments. The paper is primarily based on empirical data gathered through direct interviewing with the purposively chosen *charland* children of the study village, observation, focus group discussions (FGDs), case study, and informal interviews with relevant stakeholders. Both the qualitative interpretation and quantitative measurement of *char* children's vulnerabilities and adaptive strategies are considered to be reciprocally focused here. Based on the findings, a number of suggestive policy measures of prescribing strong network of communication and transportation to minimize *choura* backwardness that the planners and implementers may consider for the future development of *charland*, Bangladesh are embedded at the end.

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Introduction

The physical and geographical characteristics expose Bangladesh to recurrent environmental hazards and make it vulnerable to natural disasters. Bangladesh is sited on the delta of the

Ganges-Brahmaputra-Jamuna river systems. It is highly vulnerable to the effects of flooding and riverbank erosion (Rogge & Elahi, 1989). Riverbank erosion is one of climate change induced catastrophic environmental disasters that cause devastation to the livelihood of *charland* people of Bangladesh. The frequent climatic extreme events are adversely affecting the poor, marginal communities and their livelihoods in *charland*¹. The intermittent attack of riverbank erosion displaces millions of people (Rogge & Elahi, 1989; Islam & Rashid, 2011) that bound to push into the uncertain world of crisis, the uncertain world of poverty and insolvency in *charland* Bangladesh. The *char* children of Kajem Matobbar Dangi are affected every year by intermittent riverbank erosion displacement that imposes a desolated livelihood on them. Many of those erosion-distressed people loose not only their dwellings, means of livelihood and assets but also their previous socioeconomic identities. They, therefore, often try hard for recognition of an identity (Das, 2010). These riparian people try to prevent catastrophic erosion attack in their indigenous ways and it is nothing but a corrective rather than preventive measure in the devoid of technological and engineering supports. They are usually failed to prevent erosion attack with their low-level indigenous technology as the erosion-prevention claims a large scale structural-engineering works. This disappointing situation impelled them to formulate and undertake multiple strategies in confronting with their economic hardship induced by bank erosion of the Padma River. They are dragooned into the acceptance of alternative employment with low-payment as well. They are impelled to employ their under-aged children, and aged members in odd economic activities that supplement their familial subsistence. The riparian livelihoods are destroyed, houses washed away, and communities torn apart (Zaber et al., 2018).

Generally, institutional compensation mechanisms are not available for erosion distressed people. This undesirable experience calls for appropriate policy, so that the conflict between river dynamics and human settlement could be minimized (Das et al., 2014). Children in this area are considered as one of the most vulnerable groups. Their parents are unable to provide basic requirements with them because of their economic and health conditions and mental state are at risk. They are less equipped to deal with deprivation and stress due to their particular physical, social and psychological characteristics as *char* children. These characteristics make them one of the most vulnerable groups of population to disasters particularly to the effects of riverbank erosion. The livelihood of these *char* children comprises their population, capabilities, activities, and means of living. It includes their food, income, and other assets that directly and/or indirectly contribute to the succession of their livelihood. Riverbank erosion displacement causes poverty, has a long term impact and there is no compensation mechanism for the *char* children of Kajem Matobbar Dangi (Talukdar, 2012).

The tangible and intangible assets usually enable the riverbank erosion displacee *char* children (accompanied with their parents/guardians) to adapt to their precarious *charland* environment. This study aims to identify various assets and/or capitals namely natural capital, physical capital, human capital, social capital and financial capital (Department for

¹ Seasonally accreted mid-channel islet in the riverbed abundantly found in the large rivers of Bangladesh, e.g., the Padma. *Charlands* were regulated in the British India by Bengal Regulations XI, 1825 (Wilson, 1855).

International Development [DFID], 2000, 2002) as well as institutional capital as measuring indicators of analyzing the *char* children's vulnerable conditions of their livelihoods. The study also analyzes the adaptive capacities of the *char* children of Kajem Matobbar Dangi and how they face vulnerabilities in terms of their social and economic status, extent, magnitude and duration of hazards.

Methodology

Kajem Matobbar Dangi is a medium sized village of Decree Char Union under Faridpur Sadar upazila of Faridpur district in south-central Bangladesh (Figure 1). The study area is recognized as one of the riverbank erosion-prone high risk areas of Faridpur district (Baqee, 1998) thus the *charland* village Kajem Matobbar Dangi is selected purposively as study locale. The paper is primarily based on the data gathered through direct interviewing with the purposively chosen 194 children (5-18 years) of 114 (out of 250) riverbank erosion displacee households and with their parents as well. In addition to social survey, relevant data are collected through 3 focus group discussions (FGDs), observations, 1 case study of selected respondents, and 2 informal interviews with Decree Char Union Parishad leader and *samaj* (an indigenous village social organization) leader. The *char* children and their parents are observed with their consent in order to securing empirical data recorded regularly for systematic analysis. In each FGD, a number of children and their respective parents (8-12) are organized for discussion to record empirical data about their views and experiences of vulnerabilities to riverbank erosion and consequent displacement as this data may be very useful for decision-making for their future development policies and programs. Both the qualitative interpretation and quantitative measurement are critically and reciprocally evaluated in analyzing their vulnerabilities to riverbank erosion displacement and their adaptive strategies in this regard. For analyzing the unit of this study, the primary sources of data are exclusively utilized.

The present study considers riverbank erosion displace *char* children as one of major concepts. They are considered as a distinct category of *charland* people who are displaced due to riverbank erosion at least once in their lifetime. This concept is used in this study to mean the riverbank erosion displacee children and their households as well. They are categorized into four: single, double, triple, and more than triple displaces (Islam, 1995; Islam, 2016). The riverbank erosion displacee *charland* children of Kajem Matobbar Dangi are the units of analysis of present study. Their age range is 5 to 18 years. They live on the unsafe habitat of Padma *charland*. Though the children are usually innocent, protected and dependent one, the *charland* children of Kajem Matobbar Dangi are compelled to understand their own problems induced by disaster of riverbank erosion displacement and the way of solving those problems by themselves. Their vulnerability in this study indicates the shortage of resistance ability in reducing the losses caused by riverbank erosion displacement. Another important concept used in this study is adaptive capacity which means the survival strategies and the resorting mechanisms the *char* children and their parents have to adopt for their livelihood confrontation in the precarious *charland* ecosystem.

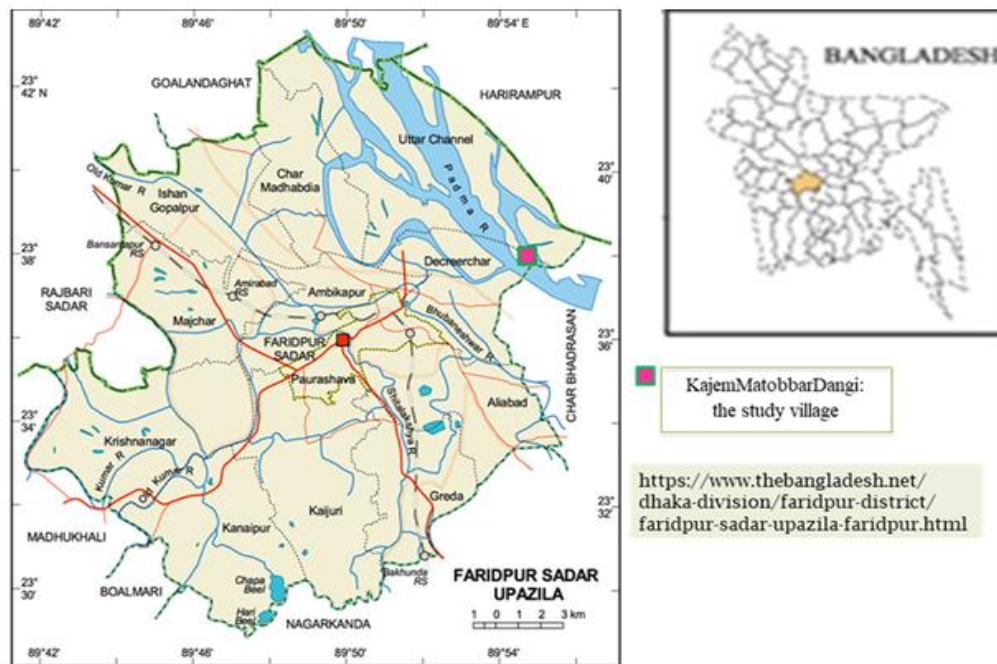


Figure 1 Map of Faridpur Sadar upazila showing the study village Kajem Motabbar Dangi

Results & Discussion

Though the respondent children are inhabitants of study village, they have differences in regard to their socioeconomic background. Before describing the *char* children's socioeconomic background and various assets or capitals in *char* livelihood situation, the following sub-section provides the categories of displacee children of the study area.

Categorizations of displacee *char* children

The present study considers riverbank erosion displacee *char* children as a distinct category of *charland* people and are categorized on the basis of how many riverbank erosion attacks affected their hazardous *charland* livelihood up to the year of 2017: (i) single, (ii) double, (iii) triple, and (iv) more than triple displacees. More than half of total displacee children (57.73%) are found as triple displacees and they are the 1st majority (Table 1).

The riverbank erosion devastated *charland* habitat shows a disappointing fact that more than 94% displacee children have experiences of at least double displacement and this distressing situation confiscates displacee children's potentialities. They suffer from extreme scarcity of resources and services required in their proper socialization process in the desolate state of *charland* habitat.

Table 1 Categories of children based on riverbank erosion displacement

Categories	Respondents	
	number	%
Single displacee	11	5.67
Double displacee	48	24.74
Triple displacee	112	57.73
More than triple displacee	23	11.86
Total	194	100

The physical environment, geographical location, and type of infrastructures, socioeconomic condition, knowledge, awareness and skill constantly make the *char* children of Kajem Matobbar Dangi vulnerable to riverbank erosion displacement. The following subsection highlights the *char* children's social mobility based on their displacement status and internal migration to the study village.

Riverbank erosion displacement and rural to rural migration

Findings from interview data showed that a large proportion of displacee households (35.96%) have moved from dislocated parts to safer present parts of Kajem Matobbar Dangi. The rest households are originated from other 18 villages (64.04%) of Faridpur district. This finding is empirically supported by the study of Mahbub and Islam (1991). This internal migration flow to the study village makes the *char*land displacees more competitive and sets them in adverse environment of securing scarce daily livelihood resources (Podder, 2017). This is nothing but rural to rural migration for resettling their devastated livelihood at least subsistence level.

Socioeconomic profile

Three aspects of socioeconomic profile: parents' education, household land ownership and household income are discussed in the following sub-sections.

Parents' educational status

Results showed that one-third parents (33.33%) are illiterate and they are 2nd majority (Table 2). Moreover, more than half of the parents (52.19%) are at the primary level. None of them are graduated. The poor educational status of parents hinders their adaptation strategies to disastrous *char*land environment and undermines their painstaking indigenous livelihood endeavor.

Displacement induced homelessness and shelter securing struggle

The landownership in Kajem Matobbar Dangi is an important issue in the formation of social, economic and cultural identity and in securing position in social organizations. Nearly three-quarters (72.81%) households lost their own home (Table 2) as their homestead plots are engulfed by riverbank erosion. They had no alternatives but to move to a new place for resettlement or for temporary shelter (Meshbah, 1991).

More than 91 percent displacee households lost cultivable land and thus they are considered as landless. Three-quarters of them have been dwelling on *khasland*² and nearly 4 percent of them on their relatives' land. The findings are empirically supported by Karim (2014). They are compelled to resettle on rented land, *khasland*, or relatives' land. At Kajem Matobbar Dangi, there are no payment arrangements for displacees' temporary dwelling on their relatives' or neighbors' land though such payment arrangement for temporary settlement is practiced at Char Chhinna village on the Jamuna riverbed (Islam, 2016).

Table 2 Socioeconomic profile of the displacee *char* children

Socioeconomic profile	Parents and households	
	number	%
<i>Parents' education</i>	Both parents N=228	
Total illiterate	76	33.33
Total literate	152	66.67
Primary	119	52.19
Secondary	30	13.16
Higher secondary	3	1.32
<i>Landownership</i>	Displacee households N=114	
Landless with no homestead	83	72.81
Landless with homestead	21	18.42
Landowner	10	8.77
<i>Monthly household income</i>	Displacee households N=114	
Lower	77	67.55
Middle	31	27.19
Upper	6	5.26

Meager monthly household income

The highest proportion (67.55%) of the study households is of lower monthly income group (Table 2). Their poor income levels cause additional vulnerabilities to the aggravated consequences of displacement and undermine their capacity for resettlement and for adapting to this alarming situation.

Vulnerable conditions of the displacee *char* children

Vulnerabilities to natural and environmental hazards are not at all equally distributed (Enarson & Morrow, 1998). The unstable *charland* settlement pattern, scarce *charland* resource management, *charland samaj* system, newly accreted *charland* grabbing conflict, and so on constantly make the *char* children increasingly vulnerable to such displacement.

²Arabic word *khas* is a revenue term. *Khasland* is considered here as unused land owned by the government.

They often suffer from repeated and multiple shocks in their lives, settlements, and daily livelihoods.

The vulnerable poor *char* children often suffer repeatedly and they face multiple stresses in their lives, settlements, and livelihoods. The respondent *char* children face the vulnerabilities in terms of their poor social and economic status, extent, magnitude and duration of riverbank erosion displacement which is closely related to their daily subsistence activities. They are found vulnerable in case of their physical structures, household chores, water-sanitation facilities, school attendance, availing health care services, community kinship, mobility, etc. Every year riverbank erosion displacement causes considerable damages to their standing crops, livestock, houses, transportation system, health conditions, educational and other social facilities.

Other vulnerabilities related to riverbank erosion displacement

The livelihood of displace *char* children comprises their population, capabilities, activities, and means of living. Their food, income, and other assets/capitals directly and/or indirectly contribute to the continuation of their livelihood. *Char* children are considered as the most vulnerable group because of their household's lower income, fragile housing structure, living without insurance or financial reserves, child and elderly family members. Their livelihood is found vulnerable as it had no adequacies to cope with, and recover the stresses and shocks caused by riverbank erosion displacement.

Findings showed that the children lost their tangible livelihood essentials of utensils, daily necessities, homestead (100%), dwelling house (50.50%), trees (50.52%), and cultivable land (36.60%). They also lost intangible livelihood essentials of health and hygienic (60.31%), social security (22.68%), access to recreation (50.52%) and *samaj* networks (73.71%). The displacement-induced losses of such capitals and essentials make their *charland* livelihood base more vulnerable to further displacement.

Dimensions of *char* children's socioeconomic vulnerabilities

The ability of making adaptive strategies is dependent on what type and amount of capitals and/or assets the *char* children possess. Their poor entitlement of such capitals and annually subjected to the perennial loss caused by riverbank erosion displacement erode their livelihood base and thus they become more vulnerable to further displacement. This study identified natural, physical, human, social, financial (DFID, 2000, 2002) and institutional capitals as measuring indicators of their vulnerabilities to riverbank erosion displacement.

Natural capital

The *char* children has to face climate variability which cause changes in temperature level and thus drought, flood, are riverbank erosion are occurred intermittently on their *charland* habitat. As these natural assets/capitals are unstable and/or inadequate, it causes vulnerabilities of their *charland* livelihood to natural disasters (for more, see Chart 1).

Chart 1 Natural dimension of *char* children's socioeconomic vulnerabilities

Measurable indicators	<i>Char</i> children's socioeconomic vulnerabilities
Climate variability	<ul style="list-style-type: none"> • Changing temperature caused drought, flood, riverbank erosion
Natural capital	<ul style="list-style-type: none"> • High frequency and intensity of riverbank erosion in last decade • Riverbank erosion intensified by flood annually
	<ul style="list-style-type: none"> • Riverbank erosion induced loss of agricultural land
Land use	<ul style="list-style-type: none"> • Lack of modern agricultural tools • Vulnerable fishing pond location • Vulnerable settlement location

Physical capital

The physical capital of *char* children comprises the poor infrastructure, non-concrete housing structure (Photo 1), sandy and non-concrete roads, no access to information networks, unsafe water and unhygienic sanitation system, biofuel, no clean and affordable energy supply, and no electricity. Such situation causes physical vulnerabilities to riverbank displacement (for more, see Chart 2).

Photo 1 Poor structure of dwelling houses of *char* children

Chart 2 Physical dimensions of *char* children’s socioeconomic vulnerabilities

Measurable indicators	<i>Char</i> children’s socioeconomic vulnerabilities	
Physical capital	Household structure	<ul style="list-style-type: none"> • Poor housing structure of roof of thatch and/or Corrugated Iron (CI) sheet, and of wall of thatch, CI sheet, bamboo branches, bricks plus etc. • No electricity facilities • Inadequate solar panel for lighting
	Road and communications	<ul style="list-style-type: none"> • Poor transportation system • Horse-cart, bi-cycle, motor cycle are means of <i>char</i>land transportation • Sandy, non-concrete and/or brick-constructed roads • Need to walk to move from one to another places of <i>char</i>land • No local markets • No bridge for crossing the Padma River • Need to use country boat for shopping and/or marketing from Faridpur District town located on the south bank of Padma River • No access to information networks
	Water and sanitation	<ul style="list-style-type: none"> • Lack of proper infrastructure • Unhygienic sanitation system • No individual tube well at homestead for safe drinking water • Need to fetch pond and/or river • No water supply
	Fuel and electrifications	<ul style="list-style-type: none"> • Jute sticks, bamboo sticks, <i>buinde</i> (made with jute sticks and cow dung), wood, and the like are used during disaster. • No generator system for lighting and fuel • No electricity supply • Depend on solar panel which fails to meet daily requirement • No clean and affordable energy supply

Human capital

The human capitals of *char* children are suffering from lack of specialized and technological knowledge and skills, inefficacy in producing skilled labor, lack of health and hygiene awareness, parental unawareness about their children’s schooling, lack of secondary and higher education institutions. The scarcity or inadequacy of existing human capitals makes individual, household, and community more vulnerable (for more, see Chart 3).

Chart 3 Human dimensions of *char* children's socioeconomic vulnerabilities

	Measurable indicators	<i>Char</i> children's socioeconomic vulnerabilities
Human capital	Indigenous knowledge and skills	<ul style="list-style-type: none"> • Traditional knowledge and skills • Sheer lack of specialized and technological knowledge and skills
	Health and nutrition status	<ul style="list-style-type: none"> • Sheer lack of health care facilities (GOs and NGOs) cause severity in health and hygiene situation • Suffer from some common diseases such as, diarrhea, cholera, fever, dysentery, cough, gastric, etc. • Lack of health and hygiene awareness • Hazardous sanitation situation
	Educational achievement	<ul style="list-style-type: none"> • Lack of educational institutions • Parental unawareness about their children's schooling • Household level inefficacy of producing skilled manpower • Lack of secondary and higher education institutions

Social capital

As the displacee *char* children have to engage in various odd subsistence job in their early age, they are usually deprived of proper socialization supports (health care, schooling, recreation, sport) (for more, see Chart 4). Their parents are found very less capable for ensuring security, safety, educational needs and health care for children. No training/mobilization programs for raising awareness about disaster preparedness (DFID, 2000).

In reducing vulnerability to displacement and mitigating the erosion hazards, the affected children of study area use their social networks and connectedness, *e.g.*, kinship, neighborhood, *samaj* membership, patron-client relationship, etc. In the time of displacement they help each other to transfer all dismantled materials from their place of origin to safer places. Their relatives and neighbors also extend their hands in sheltering the displaces in the time of crisis. They take a local loan (*haolat*) of rice, flour, oil, spice, chili, vegetables, fuel sticks, cash loans and other daily necessities from their neighbors and/or kin members. They pay equal amount of such things back to the loan givers. Though their social capitals improve their mutual trust and ability to cooperate and assist, their economic standing in this regard is not enough to reduce their vulnerabilities to displacement (Islam, 2002).

Chart 4 Social dimensions of *char* children’s socioeconomic vulnerabilities

Measurable Indicators	<i>Char</i> children’s socioeconomic vulnerabilities	
Social capital	Demography	<ul style="list-style-type: none"> • Children engage in various odd subsistence job in early age
	Health and education	<ul style="list-style-type: none"> • No <i>char</i>land medical center for health care and child treatment • No emergency medical services during disaster • Govt. primary school remain closed during disaster
	Kinship	<ul style="list-style-type: none"> • Sheltered at relatives’/neighbors’ homestead during disaster • Very less capable parents for ensuring security, safety, educational needs and health care for children • Less contribution of national/local leaders to reduction of <i>char</i> children’s vulnerabilities
	Awareness and preparedness	<ul style="list-style-type: none"> • Inadequate preparedness facilities from GOs, NGOs, national and local leaders, relatives/neighbors • No forecasting of disasters disseminated
		<ul style="list-style-type: none"> • Lack of institutional and organizational supports for moving threatened children’s household members and movable assets to safe places • No training/mobilization programs for raising awareness about disaster preparedness

Financial capital

Five important parameters of the study village: household income, expenditure, household assets, employment, credit and savings are considered to construct the economic dimension. This study reveals the fact that the *char* children have no or less access to cash, bank deposits or liquid assets as they have experienced displacement more than once in their lifetime (for more, see Chart 5).

The scarcity of financial resources seizes livelihood options and lessens their capabilities of mitigating the hazard of riverbank erosion and consequent adaptation to such unstable environment. They take informal loan (*haolat*) from their neighbors, relatives or others without interest. To achieve financial resources, they are compelled to involve their children in various odd income earning activities and the children are used to assist their parents in agricultural activities as well. The female children also assist their mother in poultry rearing so that they can earn cash money by selling poultry, meat and its egg.

Chart 5 Financial dimensions of *char* children's socioeconomic vulnerabilities

Measurable indicators	<i>Char</i> children's socioeconomic vulnerabilities	
Financial capital	Income	<ul style="list-style-type: none"> • Children are impelled to join seasonal income earning activities for securing financial conditions • Major sources of income are nut selling, day laborer working on ship, crop harvesting, fishing etc. • Lower income earning system
	Expenditure	<ul style="list-style-type: none"> • Lack of expenditure on education and training facilities • No allocation for child health and sanitation system development • Less expenditure for consumption
	Household assets	<ul style="list-style-type: none"> • Poor physical assets such as weak housing structure, poor kitchen materials, poor infrastructure • Livestock based livelihood for food and economic security • Dried straw, dried branches and cow-dung from field as their natural assets for fuel consumption • Bi-cycle, horse cart, motor cycle for transportation • Lack of technological support for agricultural and fishing materials
	Employment	<ul style="list-style-type: none"> • Parents' have limited job accessibility to formal and non-farm sector • 194 children are involved in IEAs (Income Earning Activities) • Lack of employment opportunities for child and youth development
	Credit and savings	<ul style="list-style-type: none"> • Unavailability of credit sources (Bank/moneylenders) • Formal loan from an NGO with interest • Inaccessibility to credit facilities • Unavailability of credit facility to prevent disaster, saving practices

Institutional capital

The community members, elites, Union Parishad (UP) leaders and other stakeholders are considered as institutional assets in this area. But the effectiveness (leadership/competence) and response of emergency teams in case of riverbank erosion displacement is not significant at all (for more, see Chart 6).

Chart 6 Institutional dimensions of *char* children’s socioeconomic vulnerabilities

	Measurable indicators	<i>Char</i> children’s socioeconomic vulnerabilities
Institutional capital	Community responses in disaster risk reduction	<ul style="list-style-type: none"> • Lack of understanding of forecasting information • Inaccessibility for receiving mode of forecasting information (electricity/TV/radio) • Unavailability of labor force for rescue activities • Lack of nearest shelter for quick evacuation
	Effective local government (UP) activities	<ul style="list-style-type: none"> • Dissemination activities for hazard warning information • Lack of GOs and NGOs contributions to evacuation activities • Limited service of emergency relief • Limited service of medical support • No response to rehabilitation activities

Adaptive strategies to socioeconomic vulnerabilities

The displacee *char* children face diverse vulnerabilities to the disaster of riverbank erosion displacement on the unstable *charland* habitat. In spite of such alarming situation, they develop a number of adaptive strategies in confronting with the desolate state of livelihood caused by such displacement recurrently.

Traditional housing materials used for adaptation

Most of the households use corrugated iron (CI) sheet as roof (96.49%) and wall (83.33%) materials (Table 3). The displacee households of Jamuna *charland* of Sirajganj District (Islam, 2016) and of two villages of Nawabganj District (Islam, 1995) use CI sheet as wall and roof materials before their displacement so that they can move these housing materials easily from one place to another. Though their housing structure prior to displacement was usually traditional, it has salvageable, movable, reusable, and resalable values after and/or during their displacement.

In fact, they traditionally use such housing materials so that they can minimize their loss induced by riverbank erosion displacement. It indicates their indigenous mitigation plan. These materials are easily movable and less susceptible to the damage caused by riverbank erosion (Akter, 2015). This sort of housing strategy make their shifting from erosion affected and/or threatened places to safer places easier in adapting to such precarious environment.

Participation in income earning activities

The findings indicate that first majority (78.87%) of the displacee children have to sell their manual labor for detaching nut cobs and they assist their parents with their income in continuing their devastated *charland* livelihood (Table 3). The second (39.18%) and third (31.44%) majority of them work on ship anchored in the Padma River and do sowing and

crop harvesting respectively. Amartya Sen has categorically pointed out that because of intra-household inequalities that already exist in the levels of literacy, health, nutrition, etc., women and children are bound to be affected more. These disparities tend to get aggravated at times of economic stress in the post crisis situations (Ganguly, 1996).

Table 3 Children's adaptive strategies of participation in income earning activities

Participation in income earning activities	Riverbank erosion displacee <i>char</i> children						Rank order
	Male (N=91)		Female (N=103)		Total (N=194)		
	number	%	number	%	number	%	
Detaching nut cobs	64	41.83	89	58.17	153	78.87	1 st
Work on ship	45	59.21	31	40.79	76	39.18	2 nd
Sowing and crop harvesting	54	88.52	7	11.48	61	31.44	3 rd
Cattle feeding and grazing	13	28.89	32	71.11	45	23.20	4 th
Day labor	34	100	-	-	34	17.53	5 th
Poultry rearing	5	17.86	23	82.14	28	14.43	6 th
Make vegetable garden	5	17.86	23	82.14	28	14.43	6 th
Tailoring	2	22.22	7	7.78	9	4.64	7 th
Official work	9	100	-	-	9	4.64	7 th
House keeping	5	71.43	2	28.57	7	3.61	8 th
Drying fish	3	50	3	50	6	3.09	9 th
Apprenticework	5	100	-	-	5	2.58	10 th
Horse cart driving	4	100	-	-	4	1.55	11 th
Shop keeping	4	100	-	-	4	1.55	11 th
Nut selling	3	100	-	-	3	1.54	12 th
Motor bike driving	2	100	-	-	2	1.03	13 th
Brick field work	1	50	1	50	2	1.03	13 th
Recycle crop in machine	2	100	-	-	2	1.03	13 th
Fishing	2	100	-	-	2	1.03	13 th
Knitting of fishing net	1	50	1	50	2	1.03	13 th
House tutor	1	100	-	-	1	0.51	14 th
Rickshaw pulling	1	100	-	-	1	0.51	14 th
Banana selling	1	100	-	-	1	0.51	14 th
Bamboo and cane work	1	100	-	-	1	0.51	14 th
Work at tea stall	1	100	-	-	1	0.51	14 th

Note: Multiple responses considered

The children are forced to engage themselves in multiple odd income earning activities (for details, see Table 3) as none of there is adequate to meet their enormous needs induced by displacement. The forced engagement of children (Islam, 2017) in various worst forms of child labor impede on their education, recreation and primary socialization. It is also harmful to their health or physical, mental, moral or social development. All paid and unpaid manual work done by the children cause deprivations at every stage of their life cycle. It harms their well-being and hinders their schooling, development, and future livelihood.

Case 1

Shahin is a riverbank erosion displacee child of 17. His father is involved in both agriculture and driving horse cart. Affected by flood and riverbank erosion, Shahin was enforced to leave his schooling when he was in Class VII. He has to engage in income generating activities. His father has bought a motor cycle by taking loan from Grameen Bank – an NGO. Shahin is engaged in driving motor cycle for transporting char dwellers and their goods from one village to another though it is very risky job on sandy char road for an adolescent boy. His daily average income is not less than Taka 250. In adapting to socioeconomic vulnerabilities of their livelihood, his income supplements his father's lower income.

Stakeholders' views: Union Parishad and Samaj leaders

At the grass root level, the Union Parishad leaders are responsible for the coordination of relief and for communication with the government in managing pre-, post- and during disaster situation. In the case of a need for disaster response, the UP leaders and/or other local leaders establish network and/or convene the local disaster management activities. Though the people of Ramgoti and Kamalnagar upazilas of Lakshmipur district of Bangladesh are disappointed as their elected leaders played no role in riverbank erosion displacement management (Zaber *et al.*, 2018), the chairman of Decree Char Union Parishad aids the displacee children with his own and UP resources for their livelihood resilience every year. The community-based approach built on local knowledge is also found effective in urban riverbank erosion management in Can Tho City, Vietnam (Nguyen *et al.*, 2018) as well. The roles and responsibilities of *samaj* leaders are operated in order to strengthen disaster management at Kajem Matobbar Dangi *char* village level in their indigenous ways. The *char* community people expected UP leaders and *samaj* leaders as key actors' active roles and responsibilities to reduce children's vulnerabilities to riverbank erosion displacement and to rehabilitate them after disaster events. In this context, UP leaders and *samaj* leaders opined that their vulnerability reduction and rehabilitation activities for the displacee *char* children should be strengthened and associated by other local stakeholders (for details, see Chart 7).

In sheer lack of organizational supports and responses, the *samaj* leaders play managerial roles in managing the devastated displacee *char* children's livelihood with what they have. At the village level, the *samaj* leaders are responsible for the coordination of relief and for communication with the government officials. The *samaj* leaders are popularly deliberated as one of the most influential stakeholders involved in managing displacee children's livelihood. In every year their supports and engagement in some disaster managing activities may decrease the vulnerability of the displacee children to the effects of riverbank erosion displacement.

Chart 7 UP leaders' and *Samaj* leaders' view on stakeholders' roles and responsibilities

Displacee <i>char</i> children's livelihood management		
Expected roles and responsibilities	Expected key actors: various stakeholders	
	Union Parishad leaders' view	<i>Samaj</i> leaders' view
Expenditure of education and scholarship	<ul style="list-style-type: none"> • Parents and/or guardians • UP Leaders • NGOs 	<ul style="list-style-type: none"> • Parents and/or guardians • UP leaders • NGOs
Monitoring of schooling activities	<ul style="list-style-type: none"> • Parents and/or guardians • <i>Samaj</i> leaders • UP leaders 	<ul style="list-style-type: none"> • Parents and/or guardians
Health and hygienic facilities	<ul style="list-style-type: none"> • Parents and/or guardians • Relatives • Neighbors 	<ul style="list-style-type: none"> • Parents and/or guardians • Relatives • Neighbors • UP leaders • NGOs
Expenditure of medicine and clothes	<ul style="list-style-type: none"> • Parents and/or guardians • Relatives • Neighbors 	<ul style="list-style-type: none"> • Parents and/or guardians • Relatives • Neighbors • UP leaders • NGOs
Ensuring medical treatment	<ul style="list-style-type: none"> • Parents and/or guardians 	<ul style="list-style-type: none"> • Parents and/or guardians • Relatives • Neighbors • UP leaders • NGOs
Social mobility	No view/opinion	<ul style="list-style-type: none"> • Local leaders
Prevent children from hazardous activities	No view/opinion	<ul style="list-style-type: none"> • Relatives • Neighbors
Prevent children from IGAs	No view/opinion	<ul style="list-style-type: none"> • Parents and/or guardians
Strengthening community risk reduction	<ul style="list-style-type: none"> • Neighbors 	<ul style="list-style-type: none"> • Relatives • Neighbors • Parents and/or guardians • UP leaders • NGOs
Ensuring children's shelter	<ul style="list-style-type: none"> • Parents and/or guardians • <i>Samaj</i> leaders • UP leaders 	<ul style="list-style-type: none"> • Parents and/or guardians • Relatives • Neighbors • UP leaders • NGOs
Preventive disaster risk Reduction measures	<ul style="list-style-type: none"> • Parents and/or guardians • UP leaders 	<ul style="list-style-type: none"> • UP leaders • NGOs

Conclusion

The present study attests an insecure social reality that the overall scenario of riverbank erosion displacement impact on the aforementioned *char* children is very disheartening. The world of uncertainties that they face are economic, social and health insecurities. All their insecurities caused by displacement leads to deprivation, destitution, hardship, impoverishment, and more vulnerability of the displacee *char* children. Because of the administrative and organizational failure in this regard, the displacees of Kajem Matobbar Dangi formulated and undertake corrective rather than preventive economic strategies in adapting to unstable *charland* environment in their indigenous ways.

Based on empirical findings, the following recommendations may be adopted to address the vulnerabilities and adaptive strategies of *char* children of Kajem Matobbar Dangi.

- i. The displacee parents should be adequately oriented and motivated about the potentialities of their children;
- ii. The vulnerable, poor, and marginalized displacee parents should be provided with livelihood options and/or employment opportunities in such income generating activities (IGAs) and income earning activities (IEAs) so that they can be able to spend required essentials for their children's schooling and proper socialization;
- iii. The Water Development Board, and NGOs should construct required large-scale engineering structures (*e.g.*, embankment, dam, shelter center) to reduce physical vulnerabilities of *charland* dwellers to frequent riverbank erosion;
- iv. The government should enhance financial and resource allocations in disasters risk reduction activities;
- v. The government should ensure the tangible basic livelihood essentials for the displacee households and their children during, and immediate after displacement;
- vi. The GOs, NGOs, Union Parishad leaders, and other local leaders should provide the cost of clothes and schooling with the displacee children;
- vii. They should provide interest-free and/or minimal interest-incurring micro-credit for their rehabilitations with rebuilding social network and communication; and
- viii. Appropriate interventions programs and social mobilization for the parents and their children to raise awareness of negative and detrimental effect of social ills, unhygienic latrine use, school dropout, and vulnerabilities to numerous adversities caused by riverbank erosion displacement.

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