A Study on
Haor Governance and Haor Dwellers' Rights in Bangladesh

Final Report

Abul Barkat
Gazi Mohammad Suhrawardy
Muhammad Irfanur Rahman

Human Development Research Centre
House #5, Road # 8, Mohammadia Housing Society, Mohammadpur, Dhaka –1207,Bangladesh
Phone: (+88 02) 58150381, 58157621, 8101704, Fax: 880-2-8157620;
E-mail: info@hdrc-bd.com; Website: www.hdrc-bd.com

Conducted for

ALRD এএলআরডি
House # 1/3, Block # F, Lalmatia, Dhaka-1207, Bangladesh
Phone: (+88 02) 9114660, 9146286, Fax: 880-2-8141810;
E-mail: alrd@agni.com; Website: www.alrd.org

Dhaka: April, 2019

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Abul Barkat[1]
Gazi Mohammad Suhrawardy[2]
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[1] *Professor, Department of Economics, University of Dhaka; Chief Advisor (Hon.), HDRC & Study Team Leader*
[2] *Research Consultant, Human Development Research Centre (HDRC)*
[3] *Research Associate, Human Development Research Centre (HDRC)*

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In 2017, a flash flood occurred in the northeastern haor region of Bangladesh, which resulted into an unprecedented level of devastation. There was both local and national outrage, as it was gradually discovered that the reasons behind this catastrophe were not only natural ones, but also man-made ones like mismanagement and corruption. Everybody concerned gave this issue huge importance and began looking for both short-term relief and long-term policies to avoid such disasters in future. In this context, Association for Land Reform and Development (ALRD) awarded Human Development Research Centre (HDRC) to undertake the study with a holistic research view over the issue.

We are grateful to ALRD for entrusting HDRC to carry out this critical assignment. In this regard, we express our sincere gratitude to Mr. Shamsul Huda, Executive Director of ALRD. His responsible decisions at various critical phases have expedited the study process. We are indebted to Ms. Rowshan Jahan Moni, Deputy Executive Director of ALRD for her enthusiasm and proactive-positive participation in all the stages of this assignment.

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Our effort would be meaningful if this report helps policy makers to formulate better policies for the region and development researchers to undertake further research on this issue.

The responsibility of any remaining error in this report is solely of the authors.

Abul Barkat
Gazi Mohammad Suhrawardy
Muhammad Irfanur Rahman

Dhaka: 27th April, 2019

Abbreviations

ACC	Anti-Corruption Commission
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ALRD	Association for Land Reform and Development
APA	American Physiological Association
ARSHI	Adolescent and Reproductive Sexual Health Initiative
BAEC	Bangladesh Atomic Energy Commission
BHWDB	Bangladesh Haor and Wetlands Development Board
BPC	Bangladesh Parjatan Corporation
BRAC	Bridging Resources Across Communities
BWDB	Bangladesh Water Development Board
CBFM	Community Based Fisheries Management
CBO	Community Based Organization
CBSM	Community-based Sustainable Management
CEGIS	Centre for Environmental and Geographic Information Services
CNRS	Centre for Natural Resources Studies
CoD	Country of Destination
CPD	Centre for Policy Dialogue
CSO	Civil Society Organization
DAE	Department of Agriculture Extension
DC	Deputy Commissioner
ERA	Efforts for Rural Advancement
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
FYP	Five Year Plan
GC	Governing Council
GDP	Gross Domestic Product
GED	Government Engineering Department
GoB	Government of Bangladesh
GO-NGO	Government-organized Non-Governmental Organization
GR	Gratuitous Relief
HDRC	Human Development Research Centre
HYV	High-yielding Variety
IDP	Integrated Development Programme
IRRI	International Rice Research Institute
IUCN	International Union for Conservation of Nature
KII	Key Informant’s Interview

MoEF	Ministry of Environment and Forests
MoL	Ministry of Land
MP	Member of Parliament
NARS	National Agricultural Research System
NGO	Non-government Organization
NRM	Natural Resource Management
NWMP	National Water Management Plan
NWMP	National Water Management Policy
NWPo	National Water Policy
OMS	Open Market Sale
PCA	Private Contracting Approach
PCLG	People Centered Land Governance
PIC	Project Implementation Committee
PPP	Public-Private Partnership
RMG	Ready Made Garments
SDC	Swiss Agency for Development and Cooperation
SDG	Sustainable Development Goal
SHOUHARDO	Strengthening Household Ability to Respond to Development Opportunities
TCB	Trading Corporation of Bangladesh
UN	United Nation
UNO	Upazila Nirbahi Officer
UP	Union Parishad
VGD	Vulnerable Group Development
VGF	Vulnerable Group Feeding
WAPDA	Water and Power Development Authority
WDB	Water Development Board
WRF	WaterRightsForum

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EXECUTIVE SUMMARY

Background, Objectives and Methodology of the Study

Study Background

Historically, haor has been one of the most backward regions of Bangladesh. The hoar dwellers also live in systematized poverty and marginality. Their poverty and marginality once again came to the forefront of national development debate in the context of flash flood of 2017 and the consequent disaster and heavy loss. Flash flood and disaster are not new in haor. The governance of haor and violation and protection of haor dwellers' rights have a dyadic interacting relationship. Proper understanding and in-depth study on dynamics of haor is an emerging and heated issue in the discourse of now-a-days policy research and development planning. After the post-flood disaster of 2017, it has become necessary for policy makers and development researchers to consider the haor issues in a new light. In this context, Association for Land Reform and Development (ALRD) commissioned Human Development Research Centre (HDRC) to conduct a research titled "A Study on Haor Governance and Haor Dwellers' Rights in Bangladesh".

Study Objectives
1. To explore the overall water governance in the haor region; 2. To enquire into the existing set up and practices of administration and management of the natural resources in haor; 3. To investigate authority of the concerned section and peoples' participation mechanism in formation of Project Implementation Committee (PIC), fishing ban; 4. To dig into the corruption in haor leasing, dam/embankment bidding process, construction etc. 5. To look into availability of public and private support services to the haor dwellers in terms of technology, training and finance; 6. To explore the major challenges of the haor-dependent local communities including women, fisher folks, farmers, producers in their access to and control over haor, water bodies; 7. To delve into the impacts of natural and man-made disasters with particular reference to flash flood devastation in 2017; 8. To probe afterward GO-NGO interventions and the visible results or changes. 9. To put forward recommendations for different actors including Government Agencies, Local Government Institutions, Communities, NGO/Civil Society etc.

Methodology

In this study, both primary and secondary information–particularly qualitative information – have been collected and used. Information has been drawn from three haor districts (Sylhet, Sunamganj and Kishoreganj). Among these, Sunamganj has been attached importance for collecting primary information, considering the wide area of haor in this district and the massive disaster it experienced in 2017. Besides conducting Focus Group Discussions (FGDs) and Consultation Meetings at the local level, Key Informant's Interviews (KIIs) have been conducted. Field information has been collected from October to December of 2018.

Local Level Information Collection				
Districts	No. Conducted			
	Focus Group Discussion	Consultation Meeting	Key Informant Interview	Total
Sylhet	–	1	1	2
Sunamganj	3	3	4	10
Kishoreganj	1	1	–	2
Total	4	5	5	14

Key Research Findings

Haor and Haor Dwellers

The wetlands located at northeast region of Bangladesh are known as haor. The word has come from Sangskrit word Sagar which means Sea. Over the years the exact number of haor and haor districts in the country has been a subject of considerable dispute. According to the Department of Bangladesh Haor and Wetlands Development, the number of haor in the country is 373. On the contrary, Bangladesh Water Development Board (BWDB) has mentioned the number as 423. Similarly, in many studies, the 7 districts of the northeast (Sylhet, Sunamganj, Habiganj, Moulavibazar, Netrokona, Kishoreganj, and Brahmanbaria) of Bangladesh have been identified as haor districts. But in some other places, Mymensingh has been treated as a haor district, raising the number of total haor districts of the country into 8.

Haor Areas of Bangladesh				
Division	**Haor District**	**District Area (sq. km.)**	**Haor Area (sq. km.)**	**% of Haor Area in the Total District Area**
Dhaka	Kishoreganj	2,731	1,339.4	49.1
Chattagram	Brahmanbaria	1,927	296.2	15.4
Mymensingh	Netrokona	2,744	793.5	29
Sylhet	Sylhet	3,490	1,899.1	54.4
	Habiganj	2,673	1,095.1	40.9
	Maulavibazar	2,799	476.1	17
	Sunamganj	3,670	2,685.3	73.2

District-wise Distribution of Haors in Bangladesh			
Haor District	**No. of Haor**	**% of Total no. of Haor**	**Name of Major Haors**
Sunamganj	95	25.5	Dekhar, Kalikota, Naluar, Pagner, Shanir, Tanguar
Sylhet	105	28.2	BoroHaor, Patharchuli, Dhamrir, Banaiya
Habiganj	14	3.8	Gungiajuri, Ikram-Sangar, Makalkandi
Maulavibazar	3	0.8	Hail, Hakaluki, Kawadighi
Netrakona	52	14	DingiPota, MedarBeel, Talar
Kishoreganj	97	26	Khunkumi, Mithamain, BoroHaor
Brahmanbaria	7	1.9	Dattakhola, Tikkar Par
	373	100.0	

Position of Haor Districts in terms of Area and Number		
	In terms of area of haor	**In terms of number of haors**
First	Sunamganj	Sylhet
Second	Sylhet	Kishoreganj
Third	Kishoreganj	Sunamganj
Fourth	Habiganj	Netrakona
Fifth	Netrakona	Habiganj
Sixth	Maulavibazar	Brahmanbaria
Seventh	Brahmanbaria	Maulavibazar

People who live by the haor are called haor dwellers. Besides the Bangalee, some indigenous communities – Hajong, Garo, Bormon, Khasia, Monipuri, Koch, Banai etc. – also reside in the haor region. Signs of poverty and marginality are clearly visible everywhere in haor. Total population of the haor district is more than 20 million (19.37 million in 2010). Annual population growth rate for the overall haor region is 1.07 which is lower than the national rate. There are about 3.66 million households in the haor area. The highest number of populations lives in Sylhet (3.36 million in 2010) and the lowest in Moulvibazar (2.10 million in 2010). The sex ratio in the haor is 99.27:100; that is lower than the national sex ratio (105:100). At present, 61.84 percent of the economically active population in the haor region is able to serve in the workforce. It is higher than the national average (58.74%). However, the reality is that 28.5 percent of the population of the region is currently not employed in any kind of employment activities. The haor region remains submerged under water for 7-8 months a year. During this time, the women of haor do not have any work outside their homes. The children stay at home which hampers their education.

Haor Economy and Livelihoods

Haor economy is the economy of deep water and dependent on agriculture. The main products of haor economy are paddy and fish which means that most of the haor dwellers are farmers and/or fishers. 2 percent of national GDP comes from the economic activities of haor, estimated at Tk. 37,740 million over the last decade.

The livelihood of common haor dwellers is dependent on Boro cultivation once a year and fishing for the rest of the time. The main occupations of haor residents are as follows: agriculture (53.67%), business (12.52%), non-farm labour (6.13%), service (5.65%), fishery (2.59%), and transport (2.69%). In case of crop cultivation, dependency on single crop (Boro) makes the food security of haor vulnerable, which becomes more acute after flash floods. In the past, there was no shortage of agricultural labor in haor, but recently such a shortage could be seen for two reasons: (1) Expansion of non-farm activities, and (2) Slow but steady migration of haor dwellers to other parts of the country. While commercial agricultural practices like Fixed Rent Leasing or Contract Farming have spread in other regions of the country, this is not the case in haor, due to its marginality and poor condition of communication and transportation infrastructure.

Though fisheries is an important part of haor economy, the ordinary fishers receive only 25 percent of the income generated from this economy, the lion's share is taken by the troika of transport, cold storage, and *dalals*. The rich of haor rent out boats/trollars for the purpose of catching fish. If the rent of a boat for 4 months is Tk. 30000-40000, 4/5 marginal fishers rent in the boat and catch fish. Currently, the size of fish economy has become bigger because of increase of demand for fish among the urban middleclass. As fishes are being exported to big cities like Dhaka and Chattogram after meeting the local demand, poverty seems to decrease to some extent in the region.

Besides paddy cultivation and fishing, some business activities are seen in haor centering duck, aquatic resources, non-rice crops, vegetables, fruit trees, poultry and livestock etc. No agro-based industry has developed in haor. There is no government initiative on this regard.

Recently, dry fish industry is gradually developing in some haor districts. But there is lack of government initiative on this regard; and the technology, training, and financing necessary to ensure the participation of poor and marginal people in these nascent industries are hardly

enough. 200 *arots* of dried fish in 50 villages of 7 upazilas of Noakhali have employed 50,000 people. After meeting local demand, dried fish estimated at Tk. 750 crore are exported abroad. 2,000 families have benefited from this dried fish industry in Baniachong and Azmiriganj of Habiganj. From this haor, dried fish is being exported in faraway countries like the United Kingdom (UK), the United States (US), and the Kingdom of Saudi Arabia (KSA). Dried fish processing in the haors of Netrokona and Habiganj are calimed to be eco-friendly.

There is a nascent tourism industry in haor. However, there is debate concering maintaining the balance between economic development and ecological sustainability in case of tourism development. A panel discussant present in the national seminar informed that the ecology of Ratargul swamp forest, Gowain River, Fatehpur Union, Gowainghat, Sylhet has been destroyed in the name of tourism. Interest groups that recommend tourism development in haor are driven not by any genuine concern for improvement of haor dwellers' lives but by their narrow business interest. It has been seen that tourism has an adverse effect on the fish fertility. Due to the wastes dumped by the tourists in haor, the fish fertility rate has been reduced by 70 per cent. Development of Tourism will only deteriorate the situation. It can be argued that, tourism may benefit a tiny section of the haor dwellers, but the ecological cost of such endeavor is not worth the initiative.

In the past, the extreme poor of haor depended on Hijol and Koroch tree for getting fuel. At present, these trees are being cut massively. This has resulted in a lack of fuel in haor. Haor has been historically famous for its rich cultural activities like *dhamail* song. But this has come under attack from local politically influential people.

Haor Ecology

Haor ecology is a diverse one which comprises its rich plants and trees, birds and animals, and fishes. The main tree varieties noticed in haor includes Hijol, Hual, Korij, Koroch, Bhui Dumur, Nol, Khagra, Bon Golap (Wild Rose), Borun etc. The region is a sanctuary for both resident and migratory birds. Every year, around 200 types of migratory birds come to haor, which made the area one of the tourist attractions of the country. 135 fish varieties and 108 bird species could be seen in Tanguar haor alone; while Hakaluki haor has become the habitat of 558 kinds of birds and animals. More than 140 kinds of fishes are there in haor; the notables among them include Magur, Baim, Gutum, Gulsha, Tengra, Air etc. It is necessary to preserve this unique biodiversity by adding an ecological sustainability perspective to the mainstream development thinking.

Problems of Haor

The problems of haor can be categorized into four groups as: (i) Natural Geographical, (ii) Economic-Ecological, (iii) Infrastructural Developmental, and lastly (iv) Socio-Political. The Natural-Geographic Problems of haor originate from the natural and geographical characteristics of the region and it is not possible to change the course of nature or the geographical location of the region in question. The Economic-Ecological Problems of haor emerge from the impacts of human economy on natural ecology and the scopes offered and limitations created by natural economy for human economy. The Infrastructural-Developmental Problems of haor are related to lack of infrastructure and lack of seriousness in development work in the region. Finally, the Socio-Political Problems of haor crop up from the power imbalance among different actors in the region and vested interests of the already powerful. Apart from these, there also exist some 'injurious issues' in haor areas time and again, originating from the evil design of the vested interests.

Public and Private Support Services

A Master Plan of Haor has been prepared by the Department of Bangladesh Haor and Wetlands Development, the Government of Bangladesh, which aims at holistic and sustainable development of the region. Tk. 200 crore had been allocated for the implementation of ongoing projects in haor, char, and other backward areas in the national budget for FY 2017-18. The 7th Five Year Plan talks about giving priority to address problem areas like haor that are more vulnerable to weather vagaries and have higher populations of poor people. Like people of other regions of the country, the haor residents are entitled to Ekti Bari Ekti Khamar project of the Government of Bangladesh.

Haor dwellers face serious deprivation and have very little or no access to education and health − two very basic components of human development. Public and private support services in this regard are lamentable. In more than half of the year, haor remains submerged under water and as for that educational activity of haor children are greatly hampered. The *Shikkha Tori* (education boat) of BRAC has shown the ray of hope, but this is not enough to meet the demand of entire haor region.

Lack of transportation infrastructure makes the inadequate health infrastructure of marginal haor dwellers even more complicated. The development of agricultural technology is slow. For instance, the current practice of raising ducks is harmful for environment. There is no integrated public-private initiative to provide marginal and poor haor dwellers necessary finance, technology and training assistance for building eco-friendly duck farm.

Ordinary Haor Dwellers' Control over Haor

Due to natural disasters, the haor dwellers often suffer loss of Boro paddy. They have lost any sort of control over haor fishery because of the oppression by the leaseholders, who are known as 'the sharks of haor'. In exchange of very small revenue, the beels of haors are leased in by the influential rich people of haor region. But ethically speaking; only the real fisher folk have the right to lease in these water-lands. Influential people deprive the haor dwellers by using their political influence and bribing the administration. Real fisher folk fail to participate in the auction. Exploiting this opportunity, these rent seekers lease in the lands at the lowest possible rate.

Many fisher folk associations do not have the financial ability to run a fishery by leasing in. Hence, they become bound to sell the license of their associations to the influential people. As a result, they lose the platform where they could stand and raise their logical demand.

The *Jalmahal* leasers are not content with the land they formally lease in; they establish their control over the surrounding lands too. To cite an example, in Nikli of Kishorganj, when the leasers lease in 500 acres of *Jalmahal,* they functionally control 5,000 acres of *Jalmahal.* Area needs to be demarcated for *Jalmahal* settlement. As per the rule, landleasers are allowed to go to 1 chain further from the area of demarcation. But, in practice, the leaseholders go to 300-400 chains – sometimes even 500-700 chains further from that area. There, they set extremely tyrannical rules. They let no one to catch fish in the surrounding areas, not even in their own ponds. If someone dares to break these rules, he is subjected to inhuman torture.

Leaseholders establish their control over more lands compared to the land they have leased in. They do not allow the poor haor dwellers to catch fish there. If anyone tries to catch fish and gets caught by the guards of the leaseholders, he is often tortured by them inhumanly, so that others trying to do the same become terrified and stay away.

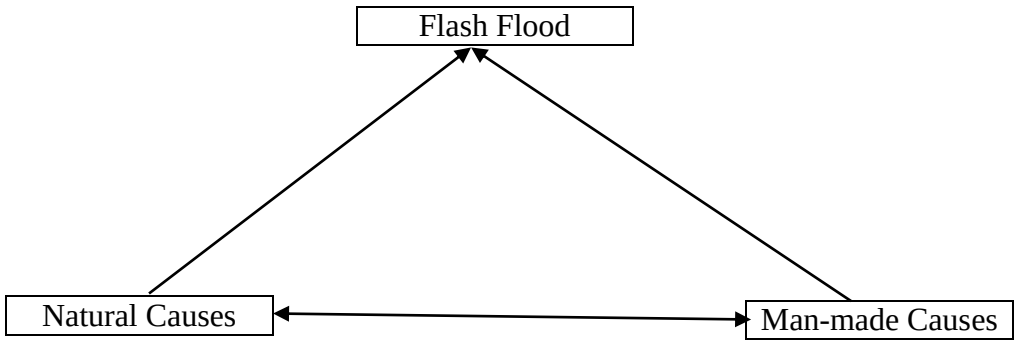
Ban on fishing also restrains the poor fishers' access to haor. Most of the fishers under the present study complained that they were not compensated during the time of fishing ban.

Causes of Disaster of 2017 Flash Flood

A specific objective of this study is to have a critical look into the impacts of 2017 flash flood and the disaster that followed. But it is also necessary in this regard to inquire into the causes behind the disaster. Besides natural causes behind the disaster, there were several man-made causes that have relationship with the lack of proper governance in the haor.

Besides flash flood, the highest rainfall in recent memory also made the haor disaster of 2017 more hard hitting. These natural reasons along with man-made hassles like Meghalaya mining, rampant corruption in the construction of dams/embankments, long term water logging etc. contributed to the disaster. Another important man-made hassle is the lack of responsibility of the political parties regarding the disaster of haor.

Causes of Flash Flood



A combination of these natural and man-made causes makes the post-flood situation of haor unbearable for the haor dwellers.

Impacts of Disaster of 2017 Flash Flood

There were two types of impact, noticed after the 2017 flash flood in haor– one is direct and the other is indirect. Crops, fisheries and livestock were directly damaged by the flood; while migration, shortage of agricultural inputs, rice price hikes etc. were its indirect consequences. While Sunamganj suffered most in terms of crop loss (44.75%) and damaged fodder (44.76%), Habiganj suffered heavily in terms of fish loss (88.57%).

Flashflood Damage in Haor Districts, 2017								
	Crop loss		Fish loss		Damaged fodder		Total loss (lac Tk.)	% of TOTAL
	Amount (lac Tk.)	% of total	Amount (lac Tk.)	% of total	Amount (lac Tk.)	% of total		
Sylhet	450.58	10.26	.37	1.88	11.60	10.26	462.54	10.22
Sunamganj	1965.35	44.75	1.07	5.5	50.60	44.76	2017.02	44.59

Flashflood Damage in Haor Districts, 2017								
	Crop loss		Fish loss		Damaged fodder		Total loss (lac Tk.)	% of TOTAL
	Amount (lac Tk.)	% of total	Amount (lac Tk.)	% of total	Amount (lac Tk.)	% of total		
Habiganj	661.73	15.07	17.20	88.57	17.04	15.08	695.97	15.38
Netrokona	463.11	10.56	0	0	11.92	10.54	475.03	10.5
Maulavibazar	246.30	5.6	0.54	2.78	6.34	5.6	253.18	5.6
Kishoreganj	600.14	13.67	.25	1.27	15.45	13.67	615.83	13.61
Brahmanbaria	4.06	0.09	0	0	0.11	0.09	4.17	0.09
Total	4391.26		19.42		113.05		4523.73	

Post-Disaster GO-NGO Interventions

Though the public demand to declare haor districts as 'flood affected area' was ignored, government immediately introduced emergency relief programme in the region. Later on, it was alleged that the programme was 'insufficient' and 'biased'. NGOs provided its project members with emergency livelihood assistance like giving cash money and suspending loan installments. But the absence of coordination between the government agencies and the NGOs reduced the effectiveness of the total activities. The disaster of haor became a national issue due to the activism of CSOs as well as local and national media.

Visible Results and Changes

The civil society and media became more active soon after the disaster and organized various demonstrations demanding immediate action against the responsible ones for the disaster. Their activism and propaganda put severe pressure on the policy makers. The President, Prime Minister and related ministers became active on this issue. They promised to bring those who were responsible for this disaster to book. On 2 July 2017, the Anti Corruption Commission (ACC) filed a case against the contractors and BWDB officials upon finishing their investigation. On 10 February 2019, 5 engineers, 9 officials, and 19 contractors were shown as convicts in the FIR of the case. Besides, the corruption in dam construction became the centre of discussion. The demand for cancelling the existing Private Contracting (PC) Approach to construct temporary dams got louder. The government cancelled that approach replacing it with the Project Implementation Committee Approach. As a consequence, *KABITA guidelines – 2017* was formulated.

In 2018, quality dams have been constructed following PIC approach in most of the cases. Corruption in this field has been reduced to a great extent because of the three-tire monitoring by public, mass media, and civil society. Still, in some areas, some unnecessary dams were constructed.

This time, the government machinery – specially the officials of BWDB – did not get the chance to do corruption. However, the key informants under this study have informed that UP chairmen took it as a chance and did some corruption.

The social capital of haor dwellers was developed through their combined effort in the fight against nature to save their lives and livelihoods. Some effective Community Based Organizations (CBOs) were formed at the local level. They have continued their activities regarding PIC formation, dam construction and maintenance, monitoring, shaping public

opinion of different development issues of haor etc. Civil Society Organizations (CSOs) from both local and national level, as well as the media, also helped them in those activities.

Members of Civil Society, individually or in group, took many initiatives with a view to find out a permanent solution to the haor disaster. One such initiative has been taken by reputed gene scientist Abed Chowdhury. In association with his research team, he has invented a short-term variety of rice named 'Dumai', which crop could be harvested before water enters into the haor.

Dumai – A Guerilla Fighter against Flash Flood in Haor!

Immediately after the flood, Abed Chowdhury visited the area himself. Upon returning from haor he opined that, while theoretical science has its own merits, it is certainly not enough to change the fate of haor dwellers. To do something, one will have to go into the roots, and seek solution there.

Many years ago, when the haor was wider, rice used to be her life. Then, people domesticated a special variety of rice that had an intimate relationship with flood. It seemed to them that the mere arrival of flood, the sound of its coming, ripened that rice variety. It used to turn golden with the arrival of monsoon. Hence, it was named Ashu (something that comes), and Aush is the transformed version of that word. This is the etymology of Aush rice. In this country of hunger and famine, Aush rice played a significant role in ensuring food security. That Aush rice had high nutrition value and was good for health.

With the passage of time, the area of haor decreased, while its population increased. Amon rice of the plains and Aush rice of the wetlands have been stamped out. The modern varieties of rice are failing to cope with floods. In the circumstances, the people of Kanihati rescue some old varieties of Aush rice, namely, Kasalot, Chengri, Baoras and Dumai. Among them, Dumai deserves special attention, as it is the fastest growing rice variety in the world; both in terms of production and nutrition value. There are some rice varieties in the country, if mixed with Dumai, can bring amazing result. By doing it, one round of harvest could be available before the flood appears, another round of harvest – from rice that does not become damaged by water − after the flood.

Mr Chowdhury came up with a revolutionary idea. Mixing traditional wisdom of the farmers with cutting-edge scientific knowledge, he along with his colleagues, is trying to produce some new varieties of rice. Genome editing will be used for this purpose. He believes that, if he succeeds in this venture, it would end the crop loss due to flash flood and relieve the farmers.

As per the guideline of BWDB, dam construction work needs to be started by 15 December of a year and finished by 28 February of the next year. In 2018, the construction work of 80 percent dam was finished within this time period. However, according the the claim of the district administration and local peasant organizations, the rate of finished work is not more than 70 percent

Status of dam construction under PIC system, 2018-19

Area	Number of Projects	The rate of completed word (in percentage)	The length of constructed dam (in percentage)
Sunamganj Sadar Upazila	9	76	3.67
Jamalganj	52	83	61.80
Tahirpur	66	80	55.43
Dharmapasha	87	82	55.94
Bishshomvarpur	16	87	15.23
South Sunamganj	40	72	36.20
Shalla	114	78	99.00
Dirai	101	82	74.26
Jagannathpur	50	82	31.82
Doyarabazar	23	83	10.22
Chatak	7	84	4.36

Haor Water Governance

For better haor water governance, necessary policy, plan, and act have been formulated; but inadequate steps in implementation have created obstacles in attaining the goals of this policy-plan-act. As a result, poor haor dwellers' access to and control over haor has become limited. There are four major policies/plans/acts for water governance in haor:

- ✓ National Water Policy 1999
- ✓ Nationa Water Management Plan 2004
- ✓ Government Jalmahal Management Policy 2009
- ✓ Bangladesh Water Act 2013

Policy/Plan/Act	Brief Assessment
National Water Policy 1999	• In the Policy, it is said that access to and control over water of the poor and the deprived – especially of women and children – would be ensured. In reality, that has never been ensured. • In the Policy, it is stated that the water management would be decentralized and women's participation in it would be ensured. In reality, none of these has become fruitful. • The policy talks about river dredging, which is not done practically. • The suggestion of developing tourism industry for recreational use is itself problematic, because it does not take the ecological concerns into consideration.
National Water Management Plan 2004	• Compared to the Policy, it is better, because of its concreteness and practicality. • As the lan time period is not finished yet, total evaluation of the Plan is not possible. • But it could be stated safely, that so long as lease system is not cancelled, it would not be possible to implement the main objective (decentralization and rationalization of the management of the sector) of the Plan.
Government Jalmahal Management Policy 2009	• Lease system under this policy gives the fishers the opportunity to excessively catch fish. • Under this policy, the news of *Jalmahal* settlement is to be published in national dailies, the website of districts administration, or notice board. However, most of the true fishers are illiterate. So, it is hard for them to collect information from these resources. • High interest rate (usually 5%, but can go up to 25% under development projects) of lease system is a barrier for true fishers to lease in *Jalmahal*. • According to the policy, management of a few *Jalmahals* is to be done trhough Public-Private Partnership as per a declaration of the Ministry of Land, though this goes against the basic idea of the very policy '*Jal Jar Jola Tar*: whoever owns the net, owns the water-land'.
Bangladesh Water Act 2013	• This Act has given a proper framework for water management and the formation of a high-powered National Water Resources Council indicating the seriousness about the issue on the part of the State. • The Act has not devised any check and balance system. Instead, it has given the executive committee of the aforementioned council too much power. Moreover, it hindered the accountability by placing government authorities, agencies, and individuals above law. All these flaws inherent in the mechanism can obviously lead to authoritarianism.

Corruption in Haor

Corruption of haor is done in two levels. On one level, corruption is practised in dam/embankment construction and repair work. On another level, haor leasing system itself is a kind of systematized corruption. Another form of corruption takes place in the form of constructing unnecessary and unplanned dams. Factors works behind this waste of public money are as follows: (i) lack of responsibility of the concerned PIC members and (ii) the selfishness of UP chairmen. Like other area of the country, corruption in haor is facilitated by either complete lack of or selectively applied Rule of Law. The very idea of Rule of law makes sense only when implemented equally for holding both friends and enemies accountable. If double standard ("for my friends, anything; for my enemies, law') by the politically powerful prevails, law would be of no avail.

Both traditional PC and recent PIC approach are more or less corrupt. But there are some differences between corruptions done in these two approaches. For example, BWDB officials and private contractors are engaged in corrupt practices under PC approach. In 2017 alone, public money estimated at Tk. 8 crore 14 lakh was looted by the contractors and the officials of BWDB. On the other hand, the local public representatives and politically connected influential members of PICs are busy with corrupt practices under PIC approach. It needs to mention that corruption in construction work has its roots in imbalance of social power and corruption in haor leasing is more systematic. Misusing the Jalmahal Management Policy 2009, the lease system directly discriminates against the real fisher community by favoring the land-leasers. These land-leasers are backed by corrupt officials. As a result, common haor people lose their control over the haor.

There is an anti-corruption fight against haor that is being carried out by local CBOs. However, this fight is not free of risk. The gruesome physical assault of Azad Mia, joint convener of Sunamganj Sadar Upazila Committee of Haor Bachao Sunamganj Bachao movement on 14 March 2019; which resulted into his death three days later, proves that risk being fatal.

People's Participation in Haor Governance

The Private Contracting Approach to dam construction holds the philosophy of making a work done through top-down dictates. The idea of peoples' participation in haor governance is an alternative approach which holds the philosophy of doing a work through bottom-up mass collaboration. Project Implementation Committee (PIC) and Community-based Sustainable Management (CBSM) are two such approaches. These approaches tend to democratize haor governance. Two models of Community-based Sustainable Management (CBSM) have been tested in Tanguar haor and Hakaluki haor. Overall, these models could be successful, and their limitation could be overcome if public and private supports are made available. Currenly much emphasis are being given on the PIC approach, but it is not free from corruption, so more emphasis should be given on the CBSM approach.

Recommendations

Box 7.1: Solution Matrix		
Domain	Term	Recommendations
Availability of GO-NGO support services to haor dwellers	Short[1]	1. Introduce an Open Market Sale (OMS) where the poor fishers, farmers and other marginal haor people can purchase food and essentials at subsidized price. 2. Ease loan conditions (low interest rate, monthly instlallment instead of weekly one, concession period etc.) for poor haor dwellers. 3. Monitor NGOs so that they cannot provide the communities' loans with exorbitant interest rate. 4. Provide free agricultural inputs (seeds, cattle, equipment etc.) to the poor haor peasants. 5. Take effective and quick step for the children who were forced to abandon education so that their education is continued. 6. Advise Directorate for Agricultural Expansion (DEA) to distribute varieties of rice seeds amongst haor farmers. 7. Specifically include the above-mentioned issues in the national budget for FY 2019-20.
	Mid[2]	8. To cultivate fish in a sustainable manner, ensure arrangement of need-based training program for the fishermen. 9. Build government storehouses and cold storages at the local level so that dried fish can be stored. 10. Decrease the age of eligibility (from 65 years) for the elderly haor people to get old age allowance. 11. Provide the fishers with compensation for the period when fishing is banned, or alternatively, create temporary work opportunities for them during this time.
	Long[3]	12. Take steps to abolish all intermediary system in fish business and replace it with a system where fishers would be able to directly sell fish to the consumers, if necessary, with the help of the local government.
Local communities' access to and control over haor	Short	13. Take effective measures so that the leaseholders maintain the border of control and the rights of fisherman of catching fish outside the lease area are protected.
	Mid	14. Establish the right of the fisher folk of catching fish in the *Bhasan Pani*. 15. Reduce leasing cost of *Jalmahals* in haor, so that the cost of leasing *Jalmahals* in haor becomes affordable for true fishers. 16. Invest heavily in the infrastructural development of the haor region. 17. Set up good schools and hospitals in haor, and supply necessary logistics to the existing ones.
	Long	18. To stop the lion's share of money generated in fish business from going in the hands of 'transport-cold storage-middle men' trio, set up state agencies who would directly buy fish from the fisher folk.
Minimizing impacts of flash floods and other disasters	Short	19. Embark a comprehensive study on factors driving flashflood, its damages, future projections and sustainable measures along with early-preparedness and disaster responses. 20. Monitor whether the works are being done in the haor in line with the Haor Master Plan. 21. Ensure fund disbursement for dyke repairing by November. 22. Strongly monitor to complete the repairs and construction by mid-February at latest. 23. Repair haor dams within Falgun and create the scope for water to enter haor in the beginning of Baishakh. 24. Construct 10 feet wide dams at 5 feet height, as it would protect the rivers from being filled out, and preserve the soil.

[1] 1 to 2 years
[2] 3 to 5 years
[3] Over 5 years

Box 7.1: Solution Matrix		
Domain	Term	Recommendations
		25. While constructing dam, keep it 10 feet away from the river, so that it could be used as a road-cum-dam.
	Mid	26. Before starting any development work in haor, gather enough local knowledge. Give responsibility of making plans for haor people to only those people who have enough knowledge and clear idea about the region. 27. Bring the haor farmers under suitable crop insurance program for rehabilitation in case of future disaster. 28. Determine proper embankment height and assess its ecological impact. 29. Make small sluice gates. 30. Hold bilateral discussion with India on the issue of Meghalaya mining and its negative impact on Bangladesh. 31. Increase the depth of the rivers by dredging so that flash flood water can easily go down to its own direction. 32. Make walkways through haor. 33. Improve drainage by river dredging and excavation to reestablish connectivity across drainage system.
	Long	34. All political parties should prioritize flood control in their policy agenda and work beyond partisan differences with a view to reaching a national consensus over how to deal with this issue. 35. Temporary dam is no solution to the problem of flash flood, so construct permanent dams, at least in some places. 36. Undertake the project of wide forestry on the khas lands of haor.
Post-disaster GO-NGO interventions	Short	37. As there are risks of epidemics of water related diseases after the flood, distribute free medicine amongst the victims, so that no such epidemic breaks out.
	Mid	38. Form a mechanism to coordinate GO and NGO post-flood interventions in the haor region. 39. Form one monitoring cell for the GOs active in the region and one monitoring cell for the NGOs active in the region.
	Long	40. Undertake micro and macro projects to build a strong infrastructural development in haor.
Sustaining visible results or changes	Short	41. Support regional alliances of CBOs formed after the 2017 disaster with necessary financial and training facilities. 42. Arrange for alternative employment for the haor dwellers during the time of ban of fishing.
	Mid	43. In the national development agenda, prioritize the backward districts of haor. 44. Punish individuals and institutions responsible for disasters in haor.
	Long	45. Form a Ministry of Haor Affairs covering all the districts of haor. 46. Ensure justice, accountability and the rule of law in general.
Combating Corruption	Short	47. Punish all, irrespective of party and power, who are found responsible for any level of corruption in dam construction and leasing in haor. 48. Complete the work of dam construction by 28 February and give red alert by 15 April. 49. Publish all the information related to dam construction and development projects through local government officials so that people can easily access them.
	Mid	50. Revise *KABITA* Nitimala's section on PIC formation by excluding UP chairman and other politically influential people from PICs. 51. Order government offices to keep reord on open and closed Jalmahals, in order to stop creation of opportunities for corrupt practices. 52. Bring expenditure of development projects in haor funded by International Organizations under the monitoring of Auditor General.
	Long	53. Coordinate the relevant works of Ministry of Land, Ministry of Water Resources, and Ministry of Fisheries.

Box 7.1: Solution Matrix		
Domain	Term	Recommendations
Peoples' participation in haor governance	Short	54. Allot money through public hearing by administration, so that the proper distribution and accurate expenditure can be ensured.
	Mid	55. An effective civil society watchdog needs to be placed for monitoring and awareness of haor development activities. 56. Form national and regional level institutions that would assist PICs with everything they need.
	Long	57. Free all the *Jalmahals* from rent-seekers, who are known as *Ijaradars* in this case, and hand over them to the fisher folk. 58. Ensure accountability and transparency in embankment repairing projects. 59. Ensure active participation of local people in the projects. 60. Raise awareness amongst the haor dwellers regarding their rights.
Others	Short	61. Open the canals of fish transit. 62. Stop fishing by extracting water as it is threatening for the biodiversity of haor. 63. Stop fishing by poisoning water as it is threatening for fishlings. 64. Stop the use of *Kona net* for fishing. 65. Cut all dams before the arrival of Baishakh to ensure uninterrupted movement of fish and benefit fish productivity. 66. The use of speed boat negatively impacts fish fertility, so ban it in the haor region. 67. For alternative employment of the haor dwellers, arrange for training on handicrafts and tailoring. 68. Give technical training to less educated youth and training on *Nakshi Katha* to women. Train youth groups to preserve haor. 69. Arrange for *kuicha*, crab, and oyster cultivation.
	Mid	70. Do not use all water areas of haor for crop cultivation. While economic development is of huge importance, it cannot be sustained if ecological concerns are not taken into consideration. Hence, create fish sanctuaries in some water areas. 71. Higher the bridges of the haor to ease naval transportation. 72. Create area-specific academic calendar for haor that would take the special geographical features of the region and the constraints it create for the residents of the region into consideration. 73. Save the haor dwellers from the tyranny of middlemen in haor business activities.
	Long	74. Do not destroy the haor ecology in the name of development. While developing tourism industry, keep in mind to make it ecologically sustainable. 75. Take initiative to set up Agro-based Economic Zone in the region keeping the environment of haor in mind. 76. Besides preserving the biodiversity, increase fish production by taking necessary steps. Bring the lost fish species back by relevant research. 77. Spend money of climate fund on haor regions too. 78. Encourage government agencies, private agencies, and entrepreneur, mass media, NGOs, universities, research and advocacy networks to become more creative and pro-active in relation to the development of haor.