





All-Party Parliamentary Group (APPG) on Haor Livelihoods Bangladesh Parliament

PARLIAMENTARIANS CAN MAKE THE DIFFERENCE NEGLECTED HAOR LIVELIHOODS

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> DHAKA, BANGLADESH October 2013





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SPEAKER BANGLADESH PARLIAMENT

10 October, 2013

MESSAGE

I am happy to know that the All-Party Parliamentary Group (APPG) on Haor Livelihoods of Bangladesh Parliament is publishing Study Report on the Livelihoods of Haor Pepole, Haor relevent Policies and Laws. This has opened up a window of opportunity to the Hon'ble Parliamentarians for actively taking part in the MDGs acceleration process. This forum comprising 18 parliament members from both the Treasury Bench and Opposition, is an excellent platform to hear the voice and concerns of Haor people.

I learnt that the analysis and recommendations of the Hon'ble Parliamentarians at different stages of APPG on Haor Livelihoods have set out the basis for the Study. This Study Report will be useful to gain a common insight and understanding on the lifestyle of people living in Haor areas. it will also help the formulating necessary recommendations to bring about positive change. Parliamentarians can play an effective role in ensuring equitable allocation of resource of the development of people of Haor areas.

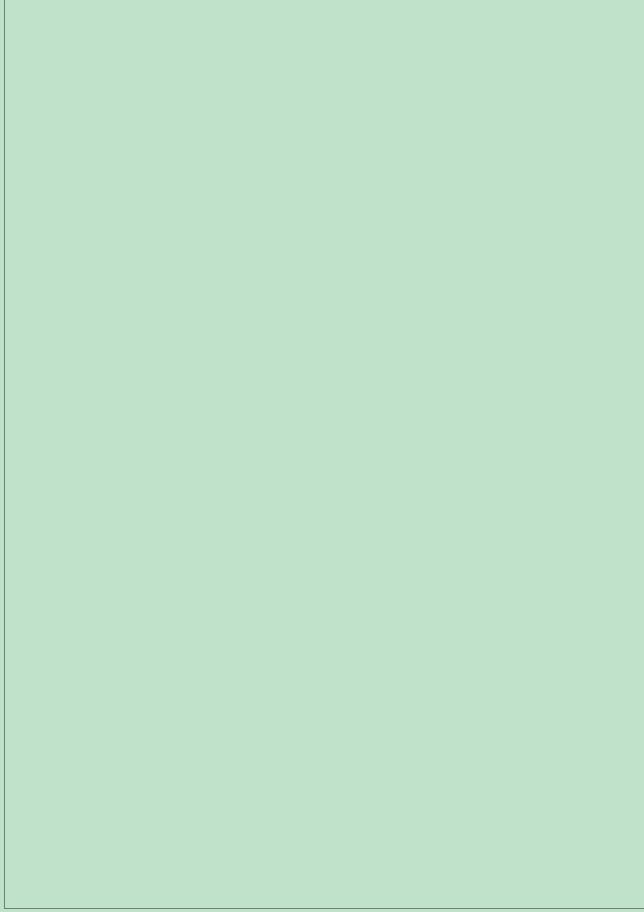
I would like to express my sincere thanks to the Hon'ble MPs, APPGs Secretary General, APPGs staff members, Concern Worldwide and all who have been involved in this process.

I hope that the role of APPGs of Bangladesh Parliament will continue to contribute in ensuring the wefare of the people.

Thirin L. Chaudhury. MP. Dr. Shirin Sharmin Chaudhury, MP

Speaker And

Chairperson, All-Party Parliamentary Groups Commission Bangladesh Parliament





MESSAGE

Seven Haor districts altogether account for one-seventh of Bangladesh's land area. The region is home to nearly one-eighth population of the country as well as enriched with natural and economic resources. It has rich mineral resources base, abundant water resources, rich bio-diversity, plentiful agriculture, and livestock and fisheries resources. Despite these resources and potentials, Haor area however is considered one of the backward regions of the country. Haor districts clearly lag behind other districts in the MDG composite index. The region has significantly lower literacy rate. Primary school enrolment is still very low with a high school dropout rate. Health and other services are inadequate thanks to poor infrastructure. Health indicators like infant mortality rate, under-5 child mortality rate and under-5 child malnutrition rate are significantly high. The region has one of the poor and fragile water and sanitation systems. River bank or village erosion is common round the year.

Among others, a different geographical set-up is considered the main reasons for infrastructural vulnerabilities in Haor region which has a negative impact on Haor livelihoods. Low-laying areas remain under-water over six months during the monsoon while most areas dried up in the winter. Excessive rainfall in surrounding hilly regions and in upstream river catchments causes flash floods in every 2-3 years. These all have negatively impacted on road communication and other education, health and sanitation infrastructures. Apart from these, due to its geo-physical location, the region is considered extremely vulnerable to climate change impacts.

Given the stated backdrops, it was important that policy have given special and different treatment to distinct haor geography so as to ensure balanced development of the Haor region. This did not happen. Instead, common sectoral policies applied to all other regions of the country had been executed in Haor region. As many as 17 Ministries, 34 government, NGO, INGO and research agencies are involved with these policy. It has also been reported the development policies and schemes for the particular areas are conflicting to some extent and overlapping to many extents. The authority and jurisdictions of many institutions involved in the development process are not always clear.

To reduce this gap 'Haor Development Board' was formed in 1977, but did not continue. 18 years later, on September 2000, the Board gets re-established in the name of 'Haor and Wetland Development Board'. It is only on September 2009 having continued and coordinated lobby and advocacy by both Hon'ble Parliamentarians and civil society members that the Board started functioning. Over the years, this Parliament-civil society collaboration has strengthen further particularly through the formation of the 'All-Party Parliamentary Group on Haor Livelihoods' (APPGHL) on 11 October 2012. This study is basically a scientific documentation of the workings of Hon'ble Parliamentarians and civil society members on issues of Haor backwardness as part of the APPGHL ongoing processes.

I hope, Hon'ble Members of Parliament would find the study useful to proactively act on balanced development of the Haor. The knowledge Parliamentarians have gained through the discussions and subsequently through this study would help take up a pragmatic policy on the fight for balanced growth at country's Haor region.

I like to thank Hon'ble MPs and APPGHL members for their valuable insights and Concern Worldwide for providing both intellectual and financial support to make this study a reality.

Mujibul Haque, MP

Chairperson, All-Party Parliamentary Group on Haor Livelihoods Bangladesh Parliament





FOREWORD

This study is basically review, analysis and summarization of different aspects on Haor livelihoods prevalent in country's North East Haor region. Its added value is that Hon'ble Parliamentarians irrespective of political affiliation do the main review and analysis for this study. A formal parliamentary structural process has helped Honorable Parliamentarians to perform this review and analysis. It is equally important to understand this structure and processes first.

The 'All Party parliamentary Group on Haor Livelihoods (APPGHL)' of Bangladesh Parliament was formed on June 2012 through official approval by the then All-Party Parliamentary Groups Commission Chair and Hon'ble Speaker of Bangladesh Parliament Md. Abdul Hamid Advocate MP (Now H.E. President of the People's Republic of Bangladesh). By nature, APPGHL is the Legislator's forum comprised of Members of Bangladesh Parliament from both Treasury and Opposition benches, to hear the voices and concerns of Haor people and to oversee the existing policies and practices relating to respective issues. The APPGHL has so far conducted two round leadership orientation sessions and several roundtables with Hon'ble Members of Parliament on issues and policies related to Haor livelihoods. Haor experts were involved from time to time to discuss policy aspects relating to explored issues. Apart from these, the APPGHL leaders and members have several times visited Haor locations as well as consulted with different Haor communities and groups. This study is mainly based on the analysis, views, reviews, concerns, recommendations expressed by the Hon'ble Parliamentarians and APPGHL members in different stages of leadership orientation roundtables and parliamentary visits. At a later stage, the APPGs secretariat in Parliament has conducted a separate review of Haor related policies and literature as well as made a blending of them with those issues and concerns expressed by the parliamentarians.

This report is the final outcome as well as chronicle of information obtained through the above stated processes. Diagnosis of Haor livelihoods constituted the main contents. Based on DFID's livelihoods analysis framework, five main resources that constituted any livelihoods have considered first. Next to this, main shocks in Haor livelihoods have been analyzed. Finally, a set of recommendations have been put forwarded to encounter Haor backwardness.

The study has analyzed that a rich set of natural and economic resources are prevalent in Haor regions. It has large areas of seasonal fertile land and soils, numerous river tributaries systems and water resources, highest concentration of mineral resources and rich biodiversity having rich flora and fauna. Haors also serve as natural reservoirs for rain and flood water as well as have both mitigation and adaptation effects in relation to climate change. Economically, the region has a strong agriculture and livestock base, abundant natural fisheries, enriched navigation and tourism sector and tea industry. Despite strong natural and economic resources base, live and livelihoods in Haor region however have been analyzed as one of the backward ones. Haor districts have been analyzed to lag behind in clear margin against the MDG composite index. The region has been identified as one of the food insecure regions despite the fact that the area was resourceful.

Geographical and man-made, these two broad-based factors have been analyzed responsible for livelihoods vulnerability in Haor region. It has been argued that Haors have a distinct wetland ecosystem which is associated mainly with its different geological setting and physical location. But, this geographical distinctness has been neglected at the policy regime which, further has impacted negatively to its human, social and physical assets building. Ever-increasing climate change impacts are also linked with this. Apart from these geographical factors, number of manmade factors, caused particularly by both development initiatives and anthropogenic actions Haor biodiversity and its natural habitats have been degraded significantly over the past years. Compounding to all these, Haors have been manifested with a comparatively backward livelihoods to other regions of the country. Due to lack of any special and significant attention, the region lacks behind in clear margin in almost all the national development benchmarks. These all reflected that development policy regime has misunderstood Haor vulnerability. Because of this, the study has rightly referred Haor vulnerability as 'Neglected Haor Livelihoods'.

I hope the study would help the Hon'ble Members of Bangladesh Parliament, other related policy planners and experts to enhance their understanding on the underlying causes of livelihood vulnerability in Haor region. This is expected to enable them to make a positive contribution in shaping life and livelihoods of about 19.37 million peoples live in Haor region. These would ultimately help the APPGs of Bangladesh Parliament on its stand to reach its coveted goal of uprooting hunger and poverty and establishing a new trend in the country's parliamentary democracy.

Shishir Shil

Secretary General All-Party Parliamentary Group (APPGs) Bangladesh Parliament

FEW WORDS



Bangladesh has shown significant progress in reducing poverty and in working towards attaining the United Nations Millennium Development Goals. But Haor areas, especially, are dominated by poverty where percentages of poor and extreme poor households are well above the national average. Haors are large bowl-shaped floodplains depression located in the Northeast part of Bangladesh, harbouring 19.37 million people. These areas receive surface runoff from the Himalayas and consequently, become extensive water-bodies during the monsoon and dissipate in the post-monsoon period. Haors are mainly located in the greater Mymensingh and Sylhet regions, stretched over 7 administrative districts --Kishoreganj, Moulavibazar, Sylhet, Sunamganj, Habiganj, Netrokona and Brahmanbaria. Forty-seven out of 66 upazilas in the areas are located in Haors.

Although the government has approved the 'Haor Master Plan' and Parliament has voiced its intentions to improve the socio-economic conditions of the people living in the back-warded areas, little has been done to transcend those commitments into actions. The nationally standardized budgetary allocations are insufficient to build facilities, protect villages from wave erosion/floods and provide services in these unique geographical and ecologically vulnerable areas. Hence, Haor remains one of the most neglected areas in Bangladesh and suffers from proper attention and investments in terms of development initiatives.

The people living in poverty in these areas have limited access to or control over natural resources, such as land and fishing bodies. These disadvantaged groups of people either work on contractual basis or as sharecroppers or wage labourers against unfavourable conditions. Transportation difficulties in both dry and monsoon seasons limit access to markets, schools and health facilities for the people. The number of schools and healthcare centres are relatively few; staff vacancies, absenteeism, drop-out at schools, prevalence of child labour and early marriage is reported to be high. Women are denied equal stand in family or community in decision-making and for resource allocation. Furthermore, they are subjected to unlawful practices of dowry, child marriage and violence.

In an effort to support the people living in the poverty pockets in Bangladesh, Concern Worldwide - an international humanitarian non-governmental organisation committed to the reduction of suffering and working towards the ultimate elimination of extreme poverty, has strategically prioritised Haor areas for its interventions and has been implementing a programme that works at the local level with extreme poor people, local partner NGOs, Government institutions and advocates at the national level in collaboration with different stakeholders and in partnership with the All-Party Parliamentary Groups (APPGs) of the Bangladesh Parliament. Haors are considered as the most productive and resourceful wetland of Bangladesh, and thus Concern Worldwide, in partnership with all stakeholders, intends to reap that potential for improving the economic and social status of the people living in Haors.

I hope this document which portrays the situation of the people living in Haors with a set of recommendations will help draw the attention of policy makers and development partners to ensure the citizen's rights of these people. I thank the All-Party Parliamentary Group (APPGs) of the Bangladesh Parliament for taking this noble initiative of raising their voice to ensure the rights of the people living in Haors and demand action for development policies and plans.

A[/].K.M Musha

Country Director

Concern Worldwide Bangladesh

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EXECUTIVE SUMMARY

This study aims to document the vulnerability of Haor region and identify relevant forces and factors contributing to it. The study is expected to equip the Parliamentarians with references readily available to act more effectively on issues affecting the life and livelihoods of haor population to amplify their voices further into the process of addressing the key national policies and strategies targeted towards the development of this region.

The Haor region, alternatively known as the Haor basin or Sylhet basin, is spread over 47 Upazilas under seven districts in north-eastern Bangladesh namely, Sylhet, Sunamganj, Habiganj, Maulovi Bazar, Kishoreganj, Brahmanbaria and Netrokona. Overall, the haor region covers an estimated area of 1.99 million ha which accounts for approximately 13.5% of the country's total surface area. It is a mosaic of wetland habitats including rivers, streams and irrigation canals, large areas of seasonally flooded cultivated plains and hundreds of haors and beels, amongst which 373 Haors cover 858,460 ha alone which is around 43% of the total Haor region. Haors are depressed lowland areas which are gradually descending over time. Because of its natural depression below the surface level, Haors remain saturated with water either seasonally or permanently. Between July to November each year, Haors go completely under water and look like seas due to seasonal flooding. During wind storms, waves reportedly often reach up to 1.5 m in height. Deeply flooded haors are commonly known as beels. Usually, small permanent water bodies remain within beels round the year. Bounded by hilly areas and between natural levees of rivers along with natural depression, Haor areas are increasingly getting recognition as one of the most vulnerable regions due to climate change.

Livelihoods opportunity: Around 19.37 million people live in Haor region which is around 12% of the country's total population. Out of 10.57 million ha rice area, Haor region alone covers 1.74 million ha which is 16% of grand total. An estimated 5.25 million metric ton of rice is produced in Haor region in catastrophe damage-free condition which is 18% of Bangladesh's total production. The region has an estimated fish habitat area of around 967,000 ha that contributes nearly 20% of the total inland fish production. Approximately, 22% of country's total cattle population comes from Haor region. More than 24% of country's total duck population comes from Haor region. The region is enriched with around 296,005 ha forest resources. Pearl-mussels reportedly are available in natural environment of Haors. Geological setting and formations have favored deposition of valuable

minerals and energy resources in this region. 90% of the country's total gas production comes from Haor region. The country's single crude oil mine has been explored in the Haor region so far. Haors are rich in bio-diversity, important for mother fisheries, and potential wetland for migratory birds of global and regional significance along with other aquatic wildlife. Tanguar Haor is an important RAMSAR site. Thousands of tourists visit Tamabil, Jaflong, Madhubkunda, Sreemongol, Lauachara forest in Sylhet and Haors of Sylhet-Sunamgonj every year. Haors also serve as: i) reservoirs for rain and flood water; ii) sources of recharging ground-water; iii) sources of drinking water; iv) controllers of siltation and v) biodiversity breeding spots. In the face of global climate changes, conservation of Haor ecology and resources carry a great value since Haors have mitigation effects through their ability to sink carbon and adaptation effects through their ability to store and regulate water.

Shocks to Livelihoods: Despite potential life and livelihood opportunities, Haor region is geographically considered as disadvantaged area which clearly lags behind in mainstream national development. Living standard is one of the lowest in Haor areas. UNICEF MICS Survey recognized 5 Haor districts as worst performer in the MDG composite index. Two other Haor districts present below average performance. The Haor Master Plan states that 29.56% of population in Haor areas live below lower poverty line. This figure stands to over 39% in Netrokona and around 34% in Kishoreganj. Around 28.5% of haor population are completely unemployed. Population density is often even higher than slum areas in cities. The region has one of the poorest road communication networks in terms of connectivity with the main land. 11 Haor Upazilas are not connected with Roads and Highway Department network. Agriculture works are seasonal cover only 4-5 months a year during dry season. Due to over exploitation and continued environmental degradation, Haor fish production has reportedly reduced to nearly half within 1995 to 2003. Few popular fish species like Piplashol has reportedly become extinct. Commercial livestock farming has not yet developed due to poor communication and transportation system. Literacy rate is one of the poorest in Haor districts with an average of 38%. The rate of primary school enrolment is quite low at only 71%, while school dropout is very high at around 44%. On average, only 44.25% Haor people use sanitary latrines, with Netrokana having the poorest coverage at only 35%. Haor districts have a very low coverage of drinking water sources. Sunamgoni has the lowest use of electricity consumption with only 17kWh per capita followed by Kishorgonj and Netrokana. Geographical aspects extensively contribute to flash flooding and Afal which have a yearlong effect. On average, flash floods destroy crops every 2-3 years. Village erosion

is commonly reported all the year round. Arsenic contamination of groundwater is also reported to be high in this region.

Geographical factors of Haor vulnerabilities: Two factors, geographical and manmade, are mainly analyzed for identifying causes of Haors' vulnerabilities and backwardness. Haor areas or Haor basin constituted the northeast part of the Bengal basin which is physically in between the Indian Plate and Eurasian Plate where a structural crackdown happened during the formation process due to a collision between these two Plates. As a result, Haor areas are subject to a slow but continuous process of subsidence over time. Empirical data shows that the region has subsided 30-40 feet in the last several hundred years which has resulted in the shifting of river courses in this region a number of times. Due to this continual process, the lowlands became an immense tract of submerged area covered with clean still water of no great depth. The lowest Haor portion is only 10 feet above the sea surface level. The deepest parts are almost 20-25 feet below the sea surface level. Because of this geological setting and formation, the Haor region is considered a geographically disadvantaged area that is also enriched with mineral and energy resources.

On the other hand, the Haor region is extremely vulnerable to climate change due to its physical location. Situated just below the hilly terrain, this region is subject to extreme rainfall. Annual rainfall ranges from 2,200 mm along the western boundary to 5,800 mm in its north east corner. Further to this, the region is in Bangladesh's entry point of the eastern continuation of the central broad Indo-Gangetic plains. Moreover, as many as 23 trans-boundary rivers have entered into Bangladesh from this North East Haor region. Major parts of catchments of these rivers are outside the country. The rainfall is as high as 12,000 mm in the headwaters of some catchments. Combined flow of Meghalaya, Barak and Tripura system, and old Brahmaputra finally drained out between and over Haor region through Meghna to the Bay of Bengal. Excess rainfall in upstream hilly areas and/or in upstream river catchments and subsequent runoff has caused a regular phenomenon of flooding and frequent flash floods to this region. Drainage congestion over time due to river-sedimentation and poor navigability has linked with this as well. On average, Haor areas remain under water for about seven months a year, turning Haor settlements mostly built on earthen mounds into islands. This has further resulted in an underdeveloped and fragile communication infrastructure in the region. There is even a scientific prediction that if the sea water level rises due to climate change, then the Haor region will be seriously threatened which may even make human settlement completely impossible.

Manmade Factors: Apart from these geographical factors, Haor biodiversity and its natural habitats are estimated to have degraded significantly over the years due to a number of manmade factors particularly caused by development initiatives and anthropogenic actions. There is an increasing trend to fill up Haor wetlands for housing, industry and agricultural practices. Unplanned fishing, fishing during breeding season, over fishing, hunting water birds and other factors are causing depletion of biodiversity. Over-exploitation of swamp forests is reportedly an ever increasing trend. Pollution of water due to discharge of untreated solid and liquid waste from various sources and residual pollution of chemical fertilizer and pesticides are reported often. Even, there is indiscriminate reporting that physical Haor habitats have been altered by channelization, construction of embankments and diversions, siltation, and degradation of Haors. Due to unplanned road and water management infrastructure, deforestation and hill cutting, landslide, improper drainage along with limited work opportunity and limited government and NGO services, a costly spiral of poverty and underdevelopment have been manifested in the Haor region.

Livelihoods: Livelihoods comprises capabilities, assets and activities required for means of living. Of these three components, assets are considered main. DFID further has presented five main categories of capital assets: natural, economic/financial, human, social and physical. Although a rich set of natural and economic assets are analyzed to be prevalent in Haor while livelihoods and right-bearer stakeholders are informed of its distinct geography, still the geographical distinctness of Haor region has been neglected at policy level over the years. This has further impacted human, social and physical assets building negatively. Misunderstanding of vulnerability to extreme climatic events and climate change due to geophysical location of Haor region has been linked with this.

The following factors must be stressed upon while addressing livelihoods issues of the Haor regions. As the Haor Master Plan states, 29.56% of the haor population live below the lower poverty line while around 28.5% are completely unemployed. The average literacy rate in the Haor districts is only 38% which is significantly lower than national average of 54.8%. In addition, the Haor regions are also lagging behind the mainstream national development regarding the achievement of health targets such as reducing child mortality, improving maternal health and combating HIV/AIDS, malaria and other diseases, which are also three of the main goals agreed in the Millennium Development Goals (MDG). Thus it is important that these factors are taken in to account when implementing activities targeted to generate stable livelihoods in the Haor regions.

Policy Regime: Unfortunately, the legal/policy regime has been analyzed to be missing particular attention on Haor's distinct wetland ecosystem.

Instead, historically, certain common laws governing all other regions of the country had been made effective for managing of Haor resources. Under *Permanent Settlement Regulations*, 1793, private ownership initially was granted on Haor resources. Later on, as per *'State Acquisition and Tenancy (SAT) Act*, 1950', Haor resources mostly received the status of a **'Common Pool'**. Few Haor areas forming part or adjacent to a natural forest further governed by a different regulation namely *Forest Act*, 1927 or Private Forest Ordinance, 1950. Wetland management policies were made and corrected after the Liberation War in 1972, 1974, 1984, 1986 and 2009; but only little has changed. In spite of being treated as common pool resources, in practice, few people who are powerful as well as have capacity to manage leasing authority enjoy most Haor resources, leaving a majority of Haor people in abject poverty.

Apart from these, a common set of sectoral policies practiced all over the country also governed Haor region, such as the National Water Policy 1999, National Agriculture Policy 1999, National Fisheries Policy 1998, National Education Policy, National Health Policy 2010, National Tourism Policy 2009, National Environment Policy 1992, National Land Use Policy 2011, National Rural Development Policy 2001 and many others. These policies are basically sectoral-issue driven, independent and are divided. Thus, instead of any focused, coordinated and comprehensive policy framework, multiplicities of policy instruments that are linked to different sectors simultaneously govern Haor issues. Along with these multiplicities of policy instruments, a significant number of agencies/institutions are linked to Haor development. The Haor Master Plan has analyzed that 17 Ministries, 34 government, NGO, INGO, public and research agencies are at present directly-indirectly involved for implementing of different sectoral policies at Haor regions.

There is even a conflict between policies, overlap of functions of the service providing organizations, and their respective power and authority is not always clear. Lack of coordination among different institutions, policy coherence as well as a top-down provider-recipient service delivery mechanism are in place where Haor people are conceived merely as governed rather than as active partners in governing their own businesses. In the midst of all these, visible initiatives on the ground remain confined to the delivery of infrastructural packages mostly encompassing the construction of embankment, water plants, power plants and some other physical infrastructures and restructuring of a few existing institutions together with a few regulatory measures. But in reality, such infrastructural packages and restructuring are not sufficient to ensure sustainable Haor

development.

Perspective of Political Community: Political actors analyzed are aware of Haor differences. Formation of 'Haor Development Board' as early as in 1977 through a government ordinance 9-1977 clearly reflected the same. Unfortunately, the Board was abolished in 1982 for reasons still not publicly known. 18 years later, on September 2000, the Board gets re-established in paper in the name of 'Haor and Wetland Development Board' and finally came into operation on September 2009. Functionally, the Board is responsible to bring about desired coordination among Ministries/departments/Local Government Institutions, to formulate and implement development projects in line with a prior developed Haor Master Plan and to monitor the project implementation. However, the organization and structuring of the Board mismatched with that of its assigned responsibilities and thus, the overall progress was recognized to be slow.

Civil Society Movements: In view of scaling up political processes, a strong civil society movement has emerged as well. This movement particularly got momentum on March 2008 through the first National Haor Conference. Through a process of deliberate coordination and consensus building among all concerns like politicians, economists, Haor communities, NGOs, researchers, professionals and others, the 'Draft Haor Declaration 2008' was obtained from this Conference. Further to this, a 21-member national committee was formed to finalize Haor Declaration. On 27 April 2008, this committee publicly launched the final Haor Declaration 2008. Haor declaration was followed by a series of campaign and advocacy programmes. Immediate success was the development and execution of a high-powered intra-ministerial Haor Development Committee on early August 2008 and development of a National Haor Plan in December 2008 based on extensive grassroots level consultations. The intra-ministerial high powered National Haor Development Committee did not continue; in place, the Wetland and Haor Development Board got re-established in September 2009. As per decision of this Board, a comprehensive 'Haor Master Plan' was developed in late 2012. This is basically a 20-year long perspective plan covering 153 development projects under 17 development areas. A total of Tk 3,108,315 lac has been estimated for this although the relation between Haor Master Plan and source of proposed budgetary allocation is still ambiguous since respective power and authority either to receive or utilize this fund is not clear till date. On the flip, to reap expected benefits out of this, a critical analysis of weakness of the Haor Master Plan is of high importance prior to implementation of this long term perspective plan.

Rationale and objective of the Study: This civil society movement is stillcontinuing and has strengthened over time. As part of this movement, a collaborative campaign of All-Party Parliamentary Group (APPGs) of Bangladesh Parliament and Concern Worldwide Bangladesh was started in June 2011 which was tilted 'Hold the Parliament and Government accountable to adopt and implement the policy issues on Haor Livelihood'. This campaign aims to unite parliamentarians to one platform who have the interest and potential to serve Haor issues and ensure their active participation in the development of the Haor regions. Under this campaign, with a view to unite parliamentarians, two leadership orientation sessions were held with 37 lawmakers. Immediate outcome was the formation of the 'All Party Parliamentary Group (APPG) on Haor Livelihoods' on 11 October 2012 through official approval by the All-Party Parliamentary Groups (APPGs) Commission Chair and Honorable Speaker of Bangladesh Parliament Mr. Md. Abdul Hamid Advocate, MP.

Methodology: The study is predominately premised on qualitative approach. The methodology of this study broadly included review and consultation. The review method further involved chronicling of information sourced from available published and non-published documents and surveys, research reports, journals, various materials and books. The consultation method was adopted with a view to collect primary information pertaining to the study. As part of qualitative approach, the consultation method employed mainly informal discussion at individual level and roundtables at collective level. Three major stakeholders i.e., Hon'ble Members of Parliament, civil society actors and grassroots Haor communities were mainly consulted. The final report was prepared following a three-step process. At first stage, a three-member research team collected and scrutinized available literature. After having first-cut scanning of these documents done, initial first draft was developed by an external consultant. At stage two, the primary information was collected. After having primary data collection completed, the second cut of scanning of secondary documents was made in order to do interfacing of secondary information with primary information. At stage three, an expert editorial panel edited contents of the whole document and developed a full-fledged study report along with this elaborated executive summary.

Recommendations: Based on study findings, the following recommendations have been made:

 Rigorous geological study is needed to identify both opportunities and shocks from geographical Haor differences. Based on study

- findings, Haor Master Plan needs to be reviewed and updated. Raising parliamentarians' voices in parliamentary debates/discussions can help achieve this.
- Special drive is needed to start implementing Haor Master Plan. For this, the first priority is to mobilize funding sources. Creation of particular authority along with transparent coordination and implementation mechanism has to be analyzed as the next priority. Simultaneously, a critical analysis is of high importance to see the weaknesses of the Master Plan and then making necessary adjustments in it with that of the other national planning documents like National Budget, Sixth Five Year Plan and Perspective Plan has been reviewed and adjusted as the third priority. Periodic review and development based on past learning and consideration of emergent climate change impacts and vulnerabilities remains as the final priority step to continue. Parliamentarian-led campaigns and mass mobilization triggered to expedite addressing set priorities and the implementation processes would bring expected results.
- The issue of climate vulnerability needs to be dealt seriously. Instead
 of rhetoric mentioning only, addressing challenge of climate change
 has to be made central to the all Haor Development Plans. Revisiting
 of Haor Master Plan through the lenses of climate change is an
 important priority. Unless, an enhanced role played by the
 parliamentarians, these appeared quite impossible.
- In view to the stated priorities, Haor Development Board needs further strengthened, a re-structuring should be one of the important steps at this stage. Inclusion of Parliament members from Haor Constituencies within the Board along with defined implementation-level roles and responsibilities should be analyzed that would help the Board to achieve greater mobility and functional effectiveness. Decentralized offices at Haor locations along with required budget and authority to spend with accountability would have been helpful in attaining required efficiency by the board at implementation levels.
- Haors are mostly constituted of common pool resources, but it must be ensured that vulnerable communities have got equal access to these resources in order to achieve greater food security and encounter environmental degradations. For this, the first prerequisite would be to revisit the Wetland Management Policy with particular

focus to create access for the poor to Haor resources.

- A common 'defined mechanism' is to be developed to assess and evaluate Haor resources and benefits, including economic, ecological and socio-cultural benefits. This would help to achieve sustainable solution to Haor issues and management.
- Planned and systematic influencing of private sector investment for Haor regions, however, needs a new urge particularly from the policy level actors. To encourage private investment, government can think of some facilities like tax exemption, special investment loan, health, transport, communication and law and order facilities for the investors.

However, to deal with immediate livelihoods issues, the following recommendations have been considered further:

- Due to falling under comparatively backward regions with higher concentration of poverty pockets in Haors, careful consideration is necessary to ensure coverage and adequate allocation of social safety net programmes taking the contextual realities and poverty dynamics into account.
- Communication infrastructures in terms of connectivity to the plain land of Haor region need drastic improvement. Submergible roads certainly would help during monsoon. Appropriate attention has to be given to enhance water communication since it involves greater space for employment of the Haor people.
- Special incentives for government officials working at Haor regions will greatly help enhancing govt. services to the Haor people.

INTRODUCTION: CONCEPT, OBJECTIVES & METHODOLOGY

CONCEPTUAL FRAMEWORK

The Haor region, alternatively known as the Haor basin or Sylhet basin, is basically spread over 47 Upazilas stretched over 7 north-eastern districts in Bangladesh --- Sylhet, Sunamganj, Habiganj, Maulovi Bazar, Kishoreganj, Brahmanbaria and Netrokona. It covers an estimated area of 1.99 million ha which is 13.5% of the country's total surface area. A bowl or saucer-shaped shallow depression, the Haor is a particular landform sunken or depressed below the surrounding area. A distinct wetland ecosystem is formed below the level of floodplain, which is different from other regions of the country and looks like the sea during monsoon. Because of the depression, this particular wetland ecosystem is saturated with water either seasonally or permanently. It is a mosaic of wetland habitats, including rivers, streams and irrigation canals, large areas of seasonally flooded cultivated plains, and hundreds of haors and beels, amongst which 373 Haors cover 858,460 ha of area alone which is around 43% of the total Haor region. Deeply flooded haors are commonly known as beels. Usually, small permanent water bodies remain within the beels after they have dried-up in winter. Sometimes beels are remains of a river that has changed its course.

Haor Areas at a glance

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Districts	Total Area in ha	Haor Area in ha	No of Haor	
	2 (7 000	2/0 =24	0.5	
Sunamgonj	367,000	268,531	95	
Sylhet	349,000	189,909	105	
Hobigonj	263,700	109,514	14	
Moulovibazar	279,900	47,602	3	
Netrokona Source: Haor Ma	274,400 ster Plan	79,345	52	
Kishorgonj	273,100	133,943	97	
Brahmanbaria	192,700	29,616	7	
Total	1,999,800	858,460	373	



Situation at Haor Location

Photo: Concern Worldwide Bangladesh

The distinct and depressed Haor wetland ecosystem is blessed with a number of opportunities and shocks that are connected to the lives and livelihoods of around 19.37 million people living in this region. 18% of Bangladesh's total rice production comes from this region in a catastrophe damage-free condition. Tea grows in abundance in some hilly Haor regions. The region alone contributes to nearly 20% of total inland fish production, covers 22% of country's total cattle population and 24% of country's total duck population. The region is enriched with hill forests, social forests, fresh water swamps, reed swamp forests, bamboo and homestead vegetation. Pearl-mussels are available in natural environment of haors. The region has highest deposition of valuable mineral and energy resources like natural gas, crude oil, limestone, white clay, glass sand, peat, coal, gravel and construction sand. Also, 90% of the country's total gas production comes from the Haor region.

The Haor region is rich in bio-diversity. Around 143 indigenous and 12 exotic species of freshwater prawns are reported to be found in this region. Haors are also important for mother fisheries, and are a potential wetland for migratory birds of global and regional significance along with other aquatic wildlife. Tanguar Haor is an important RAMSAR site. The region is famous for its tourist sites. Much of Haor areas' food and nutritional needs are directly or indirectly being provided by Haors. Besides, Haors also serve as: i) reservoirs for rain and flood water; ii) sources of recharging ground-water; iii) sources of drinking water; iv) controllers of siltation and v) biodiversity breeding spots. In the face of global climate changes, conservation of the Haor ecology and resources further carries a great value since they perform both mitigation and adaptation functions in relation to climate change. They have mitigation effects through their ability to sink carbon, and adaptation effects through their ability to store and regulate water.

Despite potential life and livelihoods opportunities and ecosystem benefits as stated above, the Haor region clearly lags behind mainstream **national development.** Living standard is one of the lowest in Haor areas. WFP's 2004 Food Security Atlas of Bangladesh has identified Haor basin as one of the 'highly food insecure' regions of the country. UNICEF MICS Survey recognized 5 Haor districts as worst performer in the MDG composite index out of 12 such districts in the country. 28.5% Haor people are reported to be completely unemployed. People in general live in small raised platforms (hati) where the population density is very often even higher than slum areas in cities. Brahmanbaria has the highest population density in the country at 1,593 per sq km. The region has one of the poorest communication networks. On average, people are engaged in agriculture job only for 4-5 months a year. Haor fish production is reportedly decreasing day by day due to over-exploitation and continued environmental degradation. Commercial livestock farming has not been developed yet due to poor communication and transport systems. The literacy rate is too low at only 38%, while the school dropout rate is very high at around 44%. Only around 44.25% Haor people use sanitary latrines, Netrokana has the poorest coverage of sanitary latrines at only 35%. Three Haor districts have a very low coverage of drinking water sources. The region has one of the lowest electricity coverage. The geographical aspects extensively contribute to flash flooding and Afal which have a yearlong effect on the livelihoods of Haor people. On average, flash floods destroy crops every 2-3 years. Wave/river bank/village erosion is commonly reported round the year. Out of 628 rural Haor unions, 93 have no growth centers or rural markets. Arsenic contamination of groundwater is also reported to be high in this region.



A set of both **geographical and manmade factors** have contributed to Haors' backwardness and vulnerabilities. The Haor region as a whole is considered to be geographically disadvantaged area. It is evident from empirical data that the region has subsided 30-40 feet during the last several hundred years, at a rate of 3-6 mm every year. In line with this geological setting and

formation processes, the Haor region is also considered a climatic hotspot which is enriched with mineral and energy resources. It is evident from the history that between 1780s to early 20th century, the population and area under cultivation of this region had experienced a declining trend particularly due to successive extreme natural events such as floods and earthquakes. Currently, the Haor region is about 10 to 20 feet above the sea surface level. Situated just below the Himalayan range, the area is prone to extreme rainfall. Furthermore, due to its location in the end point of eastern continuation of the central broad Indo-Gangetic Plains, excess rainfall/glacial melt in Himalaya has impacted the region. Excess rainfall in upstream hilly areas and/or in upstream river catchments and subsequent runoff caused a regular phenomenon of flooding and frequent flash floods in this region. Drainage congestion over time due to river-sedimentation and poor navigability has linked with this as well.

Apart from these geographical factors, the Haor biodiversity has been estimated to have degraded significantly over the years due to a **number of manmade factors particularly caused by anthropogenic actions.** Gradual filling up of Haor wetlands for housing, industry and agricultural practices, over exploitation of fish and forest resources, hunting of water birds, residual pollution of chemical fertilizer and pesticides, unplanned embankments and road and water management infrastructures construction and diversions, deforestation and hill cuts are among the prime man-made factors. These geographical and man-made factors, coupled with limited government and NGO services, contribute to the costly spiral of poverty and underdevelopment that have been manifested in the entire Haor region.

The **legal/policy regime** that has been analyzed is not Haor friendly. Historically, certain common laws/Acts governed all other regions of the country like Permanent Settlement Regulations 1793, Wakf/Debottar law, State Acquisition and Tenancy (SAT) Act, 1950, Forest Act, 1927, Private Forest Ordinance 1950, had been implemented for managing distinct Haor lands/resources. Apart from these, a common set of sectoral policies practiced all over the country also have been implemented in Haor region. These policies are basically sectoral-issue driven, independent and divided. Likely, a **significant number of agencies/institution**s have been linked with Haor development. The Haor Master Plan has 17 Ministries, 34 governments, NGO, INGO, public and research agencies are currently involved directly or indirectly with the implementation of different sectoral policies at haor regions apart from law enforcing agencies. There is even a conflict between policies, overlap of functions of the service providing organizations, and their respective power and authority is not always clear. Lack of coordination among different institutions, policy coherence and pro-

poor legislation and regulation, as well as a top-down provider-recipient service delivery mechanism are in place where Haor people are conceived merely as governed rather than as active partners in governing their own businesses. In spite of being treated as common pool resources, in practice, only a few people who are politically or economically powerful and have the capacity to manage leasing authority enjoy most Haor resources, leaving a majority of Haor people in abject poverty.

Although political actors are analyzed more or less aware and sensitive of Haor geography and its differences, political achievements so far have appeared limited to only structuring and restructuring of the Haor Development Board and overall progress has been recognized to be very slow. This has lead to the emergence of a strong civil society movement Haor related issues. Local level movements have been continuing for long time, the movement got momentum in March 2008 after the first National Haor Conference was held at Engineering Institution, Dhaka. Through a process of deliberate coordination and consensus building among all concerned like politicians, economists, haor communities, NGOs, researchers, professionals and others, the 'Haor Declaration 2008' was obtained from the Conference. The Haor Declaration was followed by a series of campaign and advocacy programmes, and thus the National Haor Plan was developed in December 2008 and the Wetland and Haor Development Board was re-established in September 2009. As per the decision of this Board, a comprehensive 'Haor Master Plan' was developed in late 2012. In spite of many limitations, the Haor Master Plan is so far considered the most particular and comprehensive plan to address Haors' vulnerabilities. Great challenges have been analysed regarding resource mobilization, and coherence building with other development and perspective plans and respective power and authority of the 'Wetland & Haor Development Board' to coordinate Haor issues and development and propel the Haor Master Plan into action

STUDY RATIONALE & OBJECTIVES

The All-Party Parliamentary Groups (APPGs)-Concern Worldwide collaborative campaign on 'Hold the Parliament and Government accountable to adopt and implement the policy issues on Haor Livelihood' initiated on June 2011 is basically a part of ongoing greater civil society movements around Haor issues at large. Under this campaign, with a view to unite parliamentarians into one platform who have both interest and potential to serve haor issues and to ensure their active participation, two leadership orientation sessions were held first with thirty-seven Honourable

Parliamentarians of Bangladesh Parliament joining. Immediate outcome was formation of the 'All Party Parliamentary Group (APPG) on Haor Livelihoods' on 11 October 2012 through official notification and legalization by the then All Party Parliamentary Groups (APPGs) Commission Chair and Honourable Speaker of Bangladesh Parliament Mr. Md. Abdul Hamid Advocate, MP (now the H.E. President of People's Republic of Bangladesh). This study on Haor livelihoods can be considered next important output as decided by the parliamentarians in two consecutive leadership orientation sessions held earlier.

The main stay of this study is to document vulnerable Haor livelihoods and to identify relevant actors, factors and forces. The study is expected to enable Parliamentarians to effectively deal and act on issues of Haor livelihoods and development. This is expected to further amplify Haor voices into key national policies and strategies through key role played by the legislators. More specifically, the study intends to:

- Strengthen partnerships between Parliament, Parliamentarians, Government and other committed Haor actors through a developed common set of knowledge and understanding on Haor issues;
- Strengthen capacities, abilities and willingness of Parliamentarians by providing knowledge, standards to work inside and outside the Parliament;
- Contribute to a trusted platform building for exchange of ideas and experiences on Haor issues and livelihood and jointly developed approaches and recommendations for long-term work.

METHODOLOGY

The study is predominantly premised on qualitative approach. Data has been collected from both primary and secondary sources. The methodology broadly included review, observation and consultation.

Review method further included resources/materials gathering on Haor related issues and policies and analysis of the same to produce an authentic situation regarding both practical and legal aspects of Haor livelihoods and of associated actors and factors. Available secondary literature was collected from a number of civil society organizations and activists, multinational development agencies, research and educational institutions and government ministries and subordinate offices that deal with Haor issues. Relevant primary information and documents generated through earlier

studies and advocacy meetings as part of CWW's wider movements on Haor livelihoods were also collected. As soon as secondary materials collection was completed, they were read carefully to produce an initial draft that contained an objective analysis of Haor life and livelihoods.

For further validation of end point analysis drawn particularly from secondary sources; primary information was also reviewed collected earlier through community consultation using PRA tools like FGD and KII by the researchers. Consultation and observation methods were mainly used for primary information collection.

The consultation method employed mainly informal discussion and advocacy meetings/roundtables based on any issue of information-disagreement that emerged out of secondary literature review. Non-representational number of informal discussion held with three main stakeholders i.e., Honourable Members of Parliament (MP), civil society actors and grassroots Haor communities. Stakeholders were selected purposively particularly based on their interest and perceived engagement on Haor issues of livelihoods. Honourable MPs from Haor constituencies however got preference. A common set of checklists guided the primary information collection.

Observation method mainly included researcher's direct visit and observation in a few Haor locations.

Apart from these, in relevant matters, available quantitative data generated through scientific studies and policy documents also are used.

ANALYSIS PLAN

The drafting of this report involved a three-step process. At first stage, a small research team comprising both expert researchers and development practitioners collected and scrutinized available secondary materials. After having first-cut scanning of these documents done, very initial first draft was developed among which others identified missing links in existing secondary information. At the second stage, all necessary primary information was collected with a view to complement the identified missing links from secondary information. As soon as the primary information collection was completed, necessary interfacing of primary data with secondary information was done. At the third stage, an expert editorial panel thoroughly edited entire contents based on the available standard documents and developed a full-fledged report along with an elaborate executive summary. Thus, it has been possible to do necessary triangulation among collected information.

LIMITATIONS

This study is mainly dependent on the review of secondary materials. Lack of most current and scientific data in public domain was the main challenge during data collection. Through a process of purposive and non-representational primary information collection and expert knowledge this challenge was mainly encountered. In case of perplexity of any information/data sourced from secondary literature, the most recently developed Haor Master Plan used information/data have been considered.

HAOR REGION: KEY GEOGRAPHIC FEATURES

AREA

Haor region is bounded by the hill ranges of India - Meghalaya on the north, Tripura and Mizoram on the south, and Assam and Manipur on the east.

Haor region mainly constituted the lower part of the eastern continuation of the central broad Indo-gangetic plains and drained through the Meghna to the Bay of Bengal. Cherapungi, the highest rainfall area of the world is only 50 km distant to Bangladesh's Haor region.

DISTINCT WETLAND ECOSYSTEM

Haor is merely referred to as a wetland ecosystem. Haors remain saturated with water, either permanently or seasonally and differ from other land forms or water bodies because of its vegetation characteristics. More particularly, together with living organisms in conjunction with nonliving environmental components, interacting as a system, a distinct Haor Wetland Ecosystem has been formed, completely different from other regions of the country.

Under the *Ramsar international wetland conservation treaty*, wetlands have been defined as follows:

Article 1.1: "...wetlands are areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters."

Article 2.1: "[Wetlands] may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six meters at low tide lying within the wetlands."

THREE DIFFERENT CATEGORIES HAORS

Depending on geographical locations and flooding characteristics, the Haor region is further divided into following three broad categories:

- Piedmont area haors Haor areas of Sylhet and Maulvibazar situated near hills or at foothills are considered as piedmont Haors which is alternatively referred to as an accretion zone where rapid siltation of coarser materials take place along the levees by flashy rivers due to the fall of gradient.
- Floodplain area haors Haor areas of Netrokona, Kishoreganj and Brahmanbaria are floodplain haors with milder slopes. Located at the middle of the basin, these areas contain sediments that are moderately finer in grade and considerably lower in volume.
- Deeply flooded haors Haor areas of Sunamganj, Netrokona and Habiganj are deeply flooded haors constituting the deepest part of the wetlands.

HAOR LOCATION

Haor Districts and Upazilas have been listed in following table:

Table: Locations of Haors in Bangladesh

District	Upazilas
Sunamganj	Sunamganj Sadar, Jagannathpur, Dharmapasha, Jamalganj, Chhatak, Derai, Salla, Tahirpur, Bishambarpur
Netrokona	Atpara, Barhatta, Khaliajuri, Mohongonj, Madan, Kandua
Sylhet	Jaintiapur, Beanibazar, Fenchuganj, Balagonj, Biswanath
Hobiganj	Ajmerigonj, Hobiganj Sadar, Bahubal
Maulavi Bazar	Maulivi Bazar Sadar, Kulaura, Rajnagar, Sremangal
Kishoreganj	Mithamain, Karimgonj, Austragram, Itna, Nikli, Bazitpur Kuliarchar, Tarail, Bhairab, Katiadi
Brahmanbaria	Brahmanbaria Sadar, Nasirnagar

Source: Banglapedia (2003)

HAORS WITH INTERNATIONAL IMPORTANCE

The international significance of the wetlands of the Haor basin for their waterfowl populations was first drawn to the attention of the international conservation community at an International Regional Meeting on Conservation of Wildfowl Resources held in Saint Petersburg in September 1968. The Directory of Asian Wetlands (Scott, 1989), based on studies conducted by Abdul Wahab Akonda of the Forest Department, and by S.M.A. Rashid and Raguib Uddin Ahmed of the Wildlife Society of Bangladesh, identified the wetlands of the haor basin, including ten key sites of Sylhet and Mymensingh as a wetland ecosystem of outstanding international importance. Six of these key sites - Tanguar haor, Pashua beel and Gurmar haor, Hakaluki haor, Hail haor, Kawadighi haor, Balai haor have been identified by Bangladesh Flood Action Plan as of outstanding national and international importance. The Bangladesh government has declared the Tanguar Haor an Ecologically Critical Area (ECA). Apart from these, Meghna estuary, Tanguar haor and Hail-Hakaluki haors - have been declared as Ramsar sites under the Ramsar Convention for protection of wetlands.

DISADVANTAGED HAOR LIVELIHOODS

Livelihoods, as Chambers & Conway stated, "Comprises the capabilities, assets and activities required for a means of living". Of these three components of livelihoods, assets/resources are considered main. DFID further has presented six main categories of capital assets i.e., human, financial/economic, social, physical, natural and political assets. Assets like occupation, wellbeing, education, health, nutrition mainly associated with human development, are human assets. Production sources, income, savings, credit, jobs those basically associated with economic development are financial/economic assets. Social assets involve social institutions like family, community, networks as well as participation to these. Physical assets mainly involve basic infrastructure like transport, shelter, water, energy and communications and the production equipment. Natural assets constituted the resource stocks in a given context like land, water, wildlife, biodiversity and environmental resources. Participation/access/inclusion to the stated resources ultimately determines capabilities and livelihoods' activities.

This section of the study particularly analyses various assets that make up of Haor livelihoods. Based on this, shocks around Haor livelihoods have been identified as well as their causes. Thus, it has been possible to draw a simple understanding on Haor livelihoods. Following sections provide a detail analysis on this.

NATURAL RESOURCES/ASSETS IN HAOR LIVELIHOODS

The following sections provide a further analysis on natural resources/assets in Haor livelihoods:

LAND & SOIL

Haor region all together covers an estimated area of 1.99 million ha, which is 13.5% of the country's total surface area. Out of 10.57 million ha rice area of Bangladesh, Haor area/region covers 1.74 million ha alone, which is 16% of the grand total. The following table narrates land distribution pattern in Haor region:

Land Type	На	(%)
Agriculture land	1310945	65.55
Homestead, pond and road	372413	18.62
Hill	133417	6.67
Forest (excluding hill forest)	66345	3.32
River	41872	2.09
Canal/Khal	26448	1.32
Total	1999800	100.00

Source: (HMP, 2010)

Haor region has nine different agro-ecological zones. They are 1) Sylhet Basin, 2) Eastern Surma Kushiayara Floodplain 3) Old Megna Estuarine Floodplain, 4) Old Brahmaputra Floodplain 5) Middle Meghna River Floodplain 6) Young Brahmaputra and Jamuna Floodplain 7) Northern & Western Piedmont Plains 8) Northern & Eastern Hill and 9) Akhaura Terrace. However, three agro-ecological zones i.e., Sylhet Basin, Eastern Surma Kushiayara Floodplain and Old Megna Estuarine Floodplain are most prevalent.

Land formation process is yet to complete in Haor region. Empirical data showed that Haor region is subject to a slow but continuous process of subsidence which is mainly associated with its physical and geological settings. Along with this subsidence process, gradual shifting of its river courses over time has resulted to an incomplete land formation process in

Haor region. Level of depressions determines the depth of inundations during monsoon. In general, 21% cultivable Haor lands are considered incorrectly drained, where flood water reaches within 15 days. 61% are poorly drained and remain under floodwater from 15 days to 8 months. About 10% are very poorly drained, where floodwater stays more than 8 months.

Soil types are confined to Grey silts clay loams, clay loam, grey clays and peat respective to different sides. Soils have moderate content of organic matter and soil reaction is acidic. Fertility level is medium to high. Soil transition from wettest to driest may occur within very close distance varying from several meters to several kilometres.

CLIMATIC CONDITION

The region on average has a mild to hot climatic conditions with abundant monsoon rains and deposition of allochthonous nutrients carried in by rainfall runoff. Average monthly maximum temperature varies between 25 to 33 degrees Celsius. January is the coolest month whereas April is the hottest. Wind speed reportedly varies between 5-11 km/hr.

It is mentionable that in between 1960-1990 the maximum temperature recorded an ever increasing trend for most of the months. The minimum temperature also has been marked on an increasing trend 1990 onwards. On the other hand, average wind speed recorded a decreasing trend over about last fifty years (HMP, 2010).



RIVER SYSTEMS

The Ganges and Brahmaputra rivers, one of the largest river systems on the earth, are flowing through Bangladesh. The Ganges River originates in western Himalayas and flows southeast across India to combine with the Brahmaputra in Bangladesh near Haor region. The Brahmaputra River has

its source in Tibet along the northern slope of the Himalayas, and flows across Assam into Bangladesh through Haor region. These river channels drain some of the highest mountains present on the planet, the Himalayans.

The rivers coming down from the Khasi and Jaintia hills in Meghalaya carry high volumes of water as they come from some of the rainiest places in the world, and also channels through old Brahmaputra through Haor region. All together as many as 23 trans-boundary rivers have entered into Bangladesh mostly all around the North East Haor region to channel vast flow of waters coming from the Ganges and the Brahmanputra river systems. Within country side, Surma, Kushiyara, Manu, Kalni, Baulai, Kangsha, Someswari, Jadukata and Khowai are main rivers at Haor region. Numerous small rivers and khals are connected with these main rivers.

Physically Haors are mainly located in between natural levees of these numerous rivers. It is apparently, claimed that combined flow of Ganga, Brahmaputra and Meghna river systems finally drained out between and over Haor region initially through a number of its main rivers and ultimately through Meghna to the Bay of Bengal. These form the dense drainage network of the Haors.

Thus, excess rainfall in upstream hilly areas and/or in upstream river catchments and subsequent runoff has caused a regular phenomenon of flooding in entire Haor region. Usually, between July to November each year, Haor areas go under deep water and look like seas with erosive water surface. During wind storm, these waves reportedly often reach up to 1.5 m in height.

On the other hand, physical Haors' habitats have been indiscriminately altered over time by channelization, construction of embankments and diversions, siltation and degradation of wetlands. Along with natural sedimentation processes, these human alterations of Haor habitats have further resulted in a drainage congestion system in Haor region. Ultimate consequences have been regular flash-flooding in small intervals. The usual trend of flash flood is that it happens every 2-3 years. Very often, water inflow rises to a peak within few hours and rivers tend to flood simultaneously.

WATER RESOURCES

BWDB data (1960-2010) showed that including total inflow from upstream in India and those generated in Bangladesh, river systems altogether outflow on average 159,087 million cubic meters of water into the Bay of Bengal each

year from Haor region. Of this flow, 56% is generated at upstream while 44% is generated within the country. Decadal rainfall particularly in between 1901 to 2009 showed an increasing trend for most of the months. The affect of climate change is expected to have an impact on discharge as well as on the water level of the rivers of the region.

RAINFALL

Situated just below hilly regions, Haor region is subject to extreme rainfall. Annual rainfall ranges from 2,200 mm along the western boundary to 5,800 mm in its north east corner. The following table summarizes average annual rainfall to seven Haor districts:

District	Average Annual rainfall (mm)
Sunamganj	3600-7800
Sylhet	3400-7400
Netrokona	3200-4800
Maulvibazar	2600-3800
Habiganj	2200-3500
Kishoreganj	2000-3400
Brahmanbaria	2000-2500

Rainfall in upstream river catchments also has a direct impact on this region. In the headwaters of some river catchments rainfall has been recorded as high as 12,000 mm. Because of its location in Bangladesh's entry point from the eastern continuation of the central broad Indo-gangetic plains, rainfall in Himalaya have impacted Haor regions as well. It is mentionable that Cherrapunji, world's highest recorded rainfall area, is located only 50 km away from Bangladesh's Haor region.

FOREST

Including hill forests and social forests Haor region has 296,005 ha areas of forest resources altogether. The following table presents distribution of forest resources/areas into seven Haor districts:

District	Natural Forest Area in ha
Sunamgonj	7293
Habigonj	13153
Netrokona	739
Sylhet	262832
Maulvibazar	25142
Total	296005

Ecologists have categorized typical Haor vegetation into nine main categories i.e., 1) submerged plants, 2) Free floating plants, 3) Rooted floating plants, 4) Sedges & meadows, 5) Floodplain grassland, 6) Reed swamp, 7) Fresh water swamp forest, 8) Crop field vegetation and 9) homestead vegetation. Often these have been categorized into three broad based categories like upland vegetation, emergent vegetation and aquatic vegetation. Each type is an aggregated assemblage of particular plant species based on characteristics of particular environmental conditions.

The Hijal or Hual, Korij or Koroch, Bhui Dumur (Ficus heterophyllus), Nol (Arundo donax), Khagra (Pharagmites karka), Ban Golap (Rosa involucratia) and Barun (Crataeva nurvala) are the main plant species found in the swamp forests. Other plant species available in Haor locations include Madar (Erythrina variegata), Gab (Diospyros peregrina), Makna (Euryale ferox), Singara (Trapa bispinosa), Jaldumur (a kind of Ficus), Chitki (Phyllanthus reticulatus), Thankuni (Centella asiatica), Kalmi (Ipomoea aquatica), Helencha (Enhydra flactuans), Hogla (Typha elephantina), duckweed, water hyacinth, lotus and water lily.

Apart from the aforementioned species, 1% Haor land is reportedly being planted each year on average. Type of plantation is strip plantation which includes bamboo, bet, murta, shegun, agar, etc.

MINERALS

Geological setting and formations of the region have favored deposit of valuable mineral and energy resources. Among them natural gas, crude oil, limestone, white clay, glass sand, peat, coal, gravel and construction sand are reported mainly. 90% of the country's total gas production comes from haor region. Country's single crude oil mine explored so far based in Haor region. Pearl-mussels are reportedly available in natural environment of haors.

Geological map of Surma basin showed that the area is mostly covered by Holocene deposits with exposure of Pleistocene dupitila deposits. Eocene Sylhet limestone is found in isolated exposures.

BIODIVERSITY

Haors are rich in aquatic bio-diversity, particularly in diverse fish species. There are **143 indigenous** and **12 exotic species** along with several species of freshwater prawns in Haor region. Reportedly, due to over exploitation and continued environmental degradation, Haor fish production has reduced to near half in between 1995 - 2003. Popular fish species like Nandina (Labeo nandina), Angrot (Labeo angra), Pangus (Pangasius pangasius), Tor mohasol (Tor tor), Baghayree (Bagarius yarelli) and Sarpunti (Puntius sarana), Catla (Catla catla) and Mrigel (Cirrhinus mrigala) (Tsai 1997) are nearly extinct. The fish species Piplashol (Channa barca) which was once abundant is reported to have become extinct already.

Apart from diversified fish species, the region has a rich wildlife community including 257 species of birds, 40 species of reptiles, 29 species of mammal and 9 species of amphibians. Among the birds, 30% are waterfowls, 26% waders, 20% bush and her bland birds and the rest are grassland, air hawking prey, etc. 129 species (62.3%) of birds are resident and the others are migratory. The list of extinct Haor birds includes Spotbill Pelican, Pelican, Scavenger vulture, Bengal florican, Pinkheaded duck, Greater adjutant and King vulture. There are several endangered species. Poachers pose the biggest danger to migratory birds. Although the Wildlife Preservation Act prohibits hunting of migratory birds and wild animals, the law is not being implemented. Open sales of wild and migratory birds in the cities are all too flagrant.

The extinct fauna of the area includes a few species that are included in the IUCN Red Data Book as highly endangered species, including One-horned Rhinoceros (Rhinoceros unicornis), Swamp Deer (Cervus duvauceli), Hispid Hare (Caprolagus hispidus), Swamp Partridge (Francolinus gularis), Bengal Florican (Eupodotis bengalensis) and Marsh Babbler (Pellorneum palustre).

Haor areas are also enriched with numerous wetland plants and lowland plantation. Bangladesh National Herbarium recorded 78 plant species in Haor areas (Khan, 2001). These include 11 free-floating species, such as Pistia stratiotes (Topa pana), Salvania natans (Tetul pana) etc., 5 suspended species, such as Utricularia aurea (Chhotojanghi), Cerato-phyllumdemersum (also known as Chhotojanghi), etc., 20 rooted species with floating leaves, such as Nymphaea nouchali (padma), Trapa maximowiczii (Pani phal) etc.,

116 emergent species, such as Phragmites kakra (Nal Khagra), Polygonumbarbatum (bish katali) etc., 5 climbers, such as Clematis cadmia, Oxystelma secamone (dudhi lata), Cascutaaustralis (saran lata) etc., and 8 swamp forest trees and shrubs, such as Barringtonia acutangula (hijal), Pongamia pinnata (koroch), etc.

NATURAL FOOD SOURCES

Haor based foods are both rich in nutrients and serve as alternative foods for poor. Foods like the rootstocks of Ghechu (Aponogetom spp.), Tatro or Kachu, Indian lotus and Water-lilies are rich in starch. The seeds of Makhna (Euryale ferox) are also relished. Two wild species of rice, Dhane (Oryza coarctata) of brackish water and Jhora dhan (Oryza rufipogom) of fresh water bodies, are used as substitute for cultivated rice. Paniphal (Trapa bispinosa and T maximowickzii) are plentifully available in large water bodies and provide nutritious starchy kernels. A number of other aquatic herbs are consumed as leafy greens. Ghechu is cultivated after the harvest of boro in the low-lying areas of Kishoreganj and Itna where the tubers reach a size of about 1.5 cm in diameter and are harvested in October and November as the floods recede. The Ghechu tubers yield milky white flour having nutritive value like potatoes. As the tubers are not damaged in flood waters, ghechu forms one of the most important famine foods. Many people collect these resources for earning livelihoods and for household consumption (BCAS, 2006).

Haors and beels support major subsistence and commercial fisheries. The fisheries of Bangladesh provide about 80 per cent of the dietary protein for her people. Several species of freshwater mussels and snails are also available in Haor region, which have rich uses and nutrients. Snails are harvested to use their meat for feeding Golda Chingree (freshwater giant prawn) under cultivation (BCAS, 2006). Freshwater fishery is an important source of employment and the fishes are a supply source of animal protein.

Seasonally flooded lake margins support major rice-growing activities, and the abundant aquatic vegetation provides rich grazing for domestic livestock and an alternative source of fuel and fertilizers for the local people.

Once extensive forests of Hijal in the area used to provide an important source of firewood, but these forests are now almost completely destroyed. In recent times, various herbs and aquatic plants are being collected for use as fuel. On top of that, aquatic plants are also being collected for use as fertilizers.

People harvest food, fuel, fodder, building materials and water for irrigation and domestic uses from Haors (IUCN, 2005).

MEDICINAL RESOURCES

Haors also provide a wide variety of medicinal resources. A number of species of Polygonum, locally known as bishkatali of kukra, are effective antibacterial agents. The flowers and seeds of paddo (Indian lotus) are prescribed for piles, as a cardiac tonic and for the elimination of ringworm. The flowers of water lilies are reputed as a remedy for heart ailments. Local Kabiraz (traditional health practitioners) harvest these medicinal resources for their livelihood and many local people use these for remedy from various diseases (BCAS, 2006).

ECOSYSTEM BENEFIT

United Nations Millennium Ecosystem Assessment and Ramsar Convention found wetlands like Haor to be of biosphere significance and societal importance in the following areas:

- Flood control
- Groundwater replenishment
- Shoreline stabilization and storm protection
- Water purification
- Reservoirs of biodiversity
- Wetland products
- Cultural values
- Recreation and tourism

Beside, Haors have natural potentials to serve as: i) reservoirs for rain and flood water; ii) sources of drinking water; and iii) controllers of siltation

CLIMATE CHANGE MITIGATION & ADAPTATION

Haors perform two important functions in relation to climate change. They have mitigation effects through their ability to sink carbon, and adaptation effects through their ability to store and regulate water.

ECONOMIC/FINANCIAL RESOURCES/ASSETS

CONTRIBUTION TO GDP

In 2010, Haor region contribution to GDP was Tk 263 billion, which was 6% of the total GDP. Sectoral contribution to GDP however measured as under:

Sectors	Contribution
Agriculture	36%
Industry	27%
Service Sector	37%

It is mentionable that the annual average GDP growth rate of Haor region is 5%.

OCCUPATION

More than half of Haor people (53.67%) depend on agriculture. Of them, 68% are land owners and 25% are owners-cum-tenants. Only 7% are completely tenants who have no agricultural land. Apart from agriculture, business (12.52%), non-agricultural labour (6.13%), service (5.65%), fishing (2.59%), and transport works (2.39%) constituted main occupational categories. A significant number of households (3.41%) are completely dependent on remittances coming either from home or abroad. (Source: Haor Master Plan).

The average reported monthly income is Taka 9,029 which is below the average for rural Bangladesh as estimated in HIES 2010 at Taka 9,648 (Rahman, 2011).

AGRICULTURE

Out of gross Haor areas of about 1.99 million ha, the net cultivable area is estimated to be around 1.33 million ha. However, cultivable areas increase significantly during dry season. HMP has estimated rice production areas of Haor region to around 1.74 million ha out of total 10.57 million ha rice area of Bangladesh. That means that the Haor region alone covers 16% of total rice production area of the country. Among rice crop, about 22% is local of variety and 78% is high yielding variety. An estimated amount of 5.25 million metric ton rice produced in haor region in catastrophe-damage-free condition which is 18% of Bangladesh's total production. Of the total rice produced, 60% is Boro, 32.9% Aman and 6.8% Aus.

The region has only 9.8% non-rice cropped areas. The following table summarizes the distribution of non-rice crops areas:

Non-rice crops	Area Coverage (%)
Tea	3.70
Potato	1.20
Jute	1.10
Wheat and Maize	0.70
Fruits	0.42
Pulses, oilseeds, vegetable & sugarcane	1.68
Total	9.80

The gross annual production of different non-rice crops in Haor region has been considered in the following table:

Non-rice crops	Production
Wheat	20,560 tons
Maize	21,540 tons
Tea	54,000 tons
Jute	34,770 tons
Sugarcane	13,770 tons
Pulse	12,500 tons
Oilseeds	26,590 tons
Spices and condiments	53,200 tons
Vegetables	1.04 million tons

Around 3,277 metric tons/kilo liters of pesticides, 743 tons of fungiside, 357 tons of herbicide and 3 tons of rodenticide are applied for crop protection in Haor region.

Major Rice crops, particularly Boro, Aus and Aman, are cultivated under rain-fed condition. Irrigation coverage of non-rice crop area during dry season is estimated to around 62%. Following table present main water sources for irrigation during the dry season:

Water Sources	Coverage (Thousand Ha)
Ground Water	345
Surface Water	472

Among irrigation tools, Deep Tube Wells, Shallow Tube Wells, Low Lift Pumps and traditional methods like sewing basket, dhon are mainly used. However, crop areas are usually irrigated with the help of gravity flow.

FISHERIES

Estimated fish habitat area of around 967,000 ha in the region produces nearly 20% of the total inland fish production of Bangladesh. Total annual fish production, however, is estimated to be around 4.32 lakh tons; of them, 73.7% come from capture fishery and the rest 26.3% from culture fishery.

Fish species found during monsoon are mostly small sized, such as Koi, Kholisha, Bele, Mola, Dhela, Taki, Punti, Meni, Singi, Magur, Chanda, Baim, Pholi, Darkina, etc. Fishes like Aire, Boal, Shol, Gazar and fry and fingerlings of river breeding major carps like Rui, Catla, Mrigal and Kalbaus also visit Haors to feed and grow. Several species of freshwater prawn such as Kucha chingree, Gura icha, Golda chingree, Thengua chingree, etc., and their larvae & juveniles are also found in abundance in the Haor region. In addition, several species of freshwater mussels and snails are also available, which have rich uses and nutrients. Several species of freshwater mussels bear pink pearls; mussel shells are also crushed to make lime for use with betel leaves and nuts. Snails are harvested to use their meat for feeding Golda Chingree (freshwater giant prawn) under cultivation (BCAS, 2006).

Haors are also important for mother fisheries since they serve both as breeding and feeding grounds simultaneously but due to uncontrolled and excessive exploitation, fish production in this vast natural habitat showing sharp decline over the time which demands due attention.

PEARL

Since year round water availability of 0.5-1.0 meter is a requirement for pearl culture practice, the hydrological regime in the Haor basin is favourable for

growing mussels year round, especially in perennial water bodies. Moreover, pearl-mussels are available in natural environment of Haor region. Lamellidens marginalis is very common in haor region.

LIVESTOCK

The region has around 32.68 million heads of livestock in the farms set up by the local people. Livestock population mainly includes buffaloes, cattle, goats, sheep, chicken and ducks. HMP has estimated that approximately 22% of total cattle population in the country comes from Haor region. More than 24% of country's total duck population comes from Haor region. Netrokona and Sunamganj have the highest number of duck population.

Milk production in Haor districts for 2010 was been estimated to around 0.62 million metric tons, meat production to around 0.14 million metric tons and eggs production to around 989 million pieces.

Despite these favourable Haor contexts for livestock development, commercial livestock farming has not yet developed due to poor communication and transport systems.

WATER TRANSPORT

About 205 landing stations, 500 inland vessels, 117 passenger launches and as many as 75,000 bulk head and mechanized boats in the haor area contribute to about one-third of the total IET output in the country. An estimated 800,000 people are employed in water transport sector which is the second largest after agriculture.

INDUSTRY

Country's tea processing industries are mainly based in Haor region. However, main industrial products include fertilizer, cement and liquefied petroleum gas. Among others, food and beverage, textiles and leather, chemical and plastic, non-metallic mineral product and metal equipment are reportedly common. An estimated 1.33% of total Haor population is engaged in industrial production.

Although the Haor region is favourable to grow cottage industries like shitol pati, bamboo and cane furniture makings and herbal medicine factories, it is yet to reach an acceptable level. As a whole, industrialization at Haor region is considered dissatisfactory up to this stage.

TOURISM

The region is famous for tourist sites. Thousands of tourists visited Tamabil, Jaflong, Madhubkunda, Sreemongol, Lauachara forest in Sylhet and the Haors of Sylhet-Sunamgonj every year. Bangladesh Parjatan Corporation (BPC) hotel in Sylhet recorded a total of 6,000 tourists in the year 2009 alone. The following table summarises district wise tourist spots in Haor region in 2010:

District wise tourist spots in 2010				
Districts	cts Natural			
Sunamganj	2	8		
Habiganj	10	22		
Netrokona	4	15		
Kishoreganj	1	14		
Sylhet	6	18		
Maulvibazar	13	13		
Brahmanbaria	1	17		

HUMAN RESOURCES/ASSETS

HAOR POPULATION

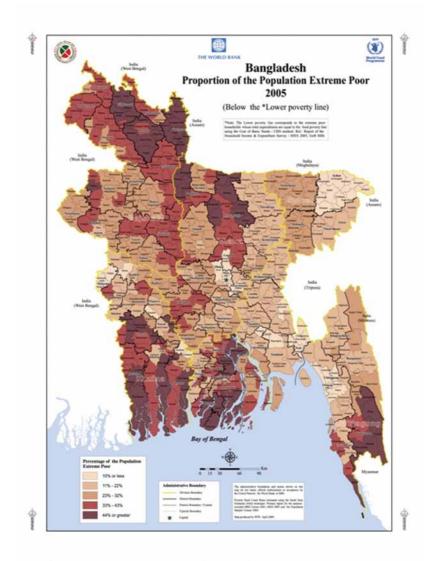
Seven Haor districts have an estimated **19.37** (BBS, 2001 census) million population. Sylhet (3.36 m) has the highest number of population and Moulvibazar the lowest (2.10 m). Overall population growth rate per annum is 1069 which is lower than national rate. HMP has assumed a further decrease of population growth rate over time in Haor region. Haor districts have altogether 3.66 million households. It has more females than males. Though average density (987 per sq km) is lower than national average (1142 per sq. km), Haors located settlements are more densely populated than that of urban slum settlements to some extent. Brahmanbaria district has the highest population density of around 1,593 per sq km.

Districts	Population (Million)	Density/km2
Sunamganj	2.65	722
Habiganj	2.28	865
Netrokona	2.60	924
Kishoreganj	3.31	1232
Sylhet	3.36	963
Moulvibazar	2.10	877
Brahmanbaria	3.07	1593
Total	19.37	987

On average 19.6% Haor people live in urban centrers. Rate of urbanization in Sylhet (27.1%) and Brahmanbaria (26.4%) is comparatively higher around one quarter, though rest of Haor districts has below average urbanization rate. It is mentionable that the Haor Master Plan has a decreasing trend of urbanization in four Haor districts. They are Netrokona, Habigonj, Moulvibazar and Sunamgonj.

HAOR POVERTY

The study Geographical Concentration of Rural Poverty in Bangladesh (IRRI, BARC, LGED and BBS, 2004) identified four poverty "Hot-Spots" in Bangladesh which particularly fall bellow fourth quartile poverty category meaning more than 49% poverty concentration including an extreme poverty incidence of more than 21.3%. Haor basin more particularly four Haor Upazilas from four different Haor districts i.e., Sunamganj, Netrokona, Kishoreganj and Habiganj particularly located around old Brahmaputra flood plain is one of the four main poverty hot-spots in Bangladesh. Three other poverty hot-spots identified were monga-prone areas of the north-west, Faridpur and Shariatpur and Bhola districts in the south-west and the islands, coastal districts and hill tracts of the south-east.



** In the WFP poverty MAP Haor districts don't appear as extreme poverty zone because the MAP doesn't show the "poverty situations" of extreme poverty pockets scattered across the haors. But if we look at the disaggregated data for Haor from different sources/studies, a different picture emerges to address.

On average, 29.56% haor areas population live below lower poverty line which is higher than national average (29.26). Netrokona (39%) has highest population percentage living below lower poverty line followed by Kishoreganj (34%). For rest of the districts, lower poverty rate vary between

24-29 %. It is mentionable that poverty and vulnerability is disproportionate mainly between haor and non-haor locations. Haor locations usually have higher poverty concentration. In a rather limited context, Rahman (2011) found that approximately 35-40% of Haor located households are extremely poor and another 35-40% moderately poor.

FOOD SECURITY

The WFP's 2004 Food Security Atlas of Bangladesh has marked Haor basin as one of the most 'highly food insecure' regions of the country. In a rather limited context, one study conducted by Concern Worldwide Bangladesh found that 61% of Haor located households suffer from some period of food shortage (RIMS 2004), of them 18% suffers food shortage at least five months a year. Same study noted that 90% food shortage households reduce their food consumption during sufferings which among others included skipping of a regular meal.

LAND OWNERSHIP

More than fifty percent (52%) Haor areas households have own agricultural land. Only 7% are completely tenant. In another estimate it has been found that only 3% Haor people has no cultivable land compared to national figure of 14%. It is mentionable that 81% non-farm household has no cultivable land. 51% farm households are small farmers and 34% are marginal farmers. The HMP has assumed an increasing trend of around 12-15% of non-farm households in Haor region by 2030.

EMPLOYMENT STATUS

HMP has considered 61.84% economically active population of above 15 years of age in entire Haor region which is higher than national average (58.74%). In another estimate, it has considered 28.5% Haor people as completely unemployed.

EDUCATION

Haor districts have on average 38% literacy rate which is significantly lower than national average (54.8%). Men are more literate than women. Maulvibazaar (42%) has highest number of literate population and Sunamganj (33%) the lowest. Enrolment in primary school is 71% while national average is 93% for boys and 96% for girls. School dropout is very

high around 44%. Five years completion rate in primary school is 34% whereas the national average is 65%. It is interesting to note that the drop-out rate of boys in primary school is higher than girls whereas in secondary schools the situation is just reversed as girls' drop-out rate becomes higher than that of the boys.

In a rather limited Haor context, Concern Worldwide Bangladesh supported PPRC's Study on 'Haor Education' (2011) has reported seasonal variability in school attendance in Haor region as shown in following table:

	Prima	iry		Secondary	
Month	Ghunghiargaon Adarsha Primary School, Sulla, Sunamganj	Shaharmul Govt Primary School, Nikli, Kishoreganj	Adampur Dewan Ali High School, Austagram, Kishoreganj	Zinnatunessa High School, Gopdighi, Mithamoin, Kishoreganj	Mamachand Bhuiyan Adarsha Dakhil Madrasah, Azmiriganj, Hobiganj
	Attendance figu	res of Class 3	Attend	lance figures of c	lass 8
July, 2010	66.7	86.2	91	80	41.5
Aug, 2010	66.7	77.6	88	75	53
Sept, 2010	70.8	72.4	90	65	43.9
Oct, 2010	66.7	67.2	93	70	47
Nov, 2010	64.6	82.8	94	80	43.9
Dec, 2010	70.8	94.8	97	80	57.6
Jan, 2011	58.2	86.4	91	55	25.9
Feb, 2011	60	80.2	94	65	25.9
Mar, 2011	50.9	82.7	89	45	30.9
April, 2011	73.2	92.6	92	40	29.6
May, 2011	69.6	83.9	94	50	*
June, 2011	67.9	92.6	98	70	21

The same study further has noted around 45% satisfaction against prevalent schooling standard as presented in the table below:

	Satisfaction Index			
Upazila	Very satisfied	Satisfied	Marginally satisfied	Not satisfied
		%		Ÿ
Austagram	19	66	9	6
Mithamoin	1	21	58	20
Nikli	7	34	26	33
Sulla	5	37	32	27
Dirai	5	12	45	38
Azmiriganj	19	79	2	-
All	10	45	27	18

There is a provision from the part of the government to provide free text-books and stipends to primary and secondary students. PPRC study (2011) found that stipends covered an average of 45.8% primary students and 27.8% secondary students in the Haor regions.

Education related issues in regard to Haor regions as expressed in different consultations as well as identified in available secondary literature particularly covers the following:

- Widespread poverty
- Involvement in IGAs by the school going children
- Lack of parental awareness
- Remoteness of educational institutions
- High transport cost
- Low enrolment rate in comparison to other areas in Bangladesh.
- Less no of schools and teachers.
- School calendar is not contextualized.
- Stipend policy is not flexible.
- Many of the positions for teachers are vacant.
- Absenteeism of teachers in the class room.
- Proxy teaching.

HEALTH STATUS

In both national and global development policies and agendas, the issue of physical

fitness has received increased importance as a prerequisite for livelihoods improvement. Reducing child mortality, improving maternal health, combating HIV/AIDS, malaria and other diseases are three of the main goals agreed in the MDG. In spite of all these, Haor districts have one of the lowest statuses of health. The region lags behind mainstream national development to all three stated MDG targets.

Average infant mortality rate and under-5 child mortality rate except Brahmanbaria respectively is 57 and 76, much higher than national IMR of 49 and U5MR of 64. Average under-5 child malnutrition is approximately 46% which is higher than national (43%) average (BDHS, 2007). Immunization coverage is around fifty percent (BMA 2012). DGHS (2009) recorded 5,345 cases of malaria in Habiganj, Maulvibazaar, Netrokona, Sunamganj and Sylhet during 2009. During 2010 more than 1,600 cases of malaria found only at Sunamganj and Maulvibazaar as well as 6 deaths reported in Netrokona. Delivery conducted by skilled health personnel or community-based skilled birth attendant on average is only 13.4% for all

Haor districts whereas national average is 18% (BDHS 2007). 6-15% incidences of HIV/AIDS are also reported at Haor districts (MICS 2009).

Haor region has one of the lowest coverage of population per doctor (23304). Number of population per nurse is 11,729 whereas national ratio is only 5,782 per nurse. Among health infrastructures, Family Welfare Clinic is predominant.

Apparently, poverty burden and infrastructural inadequacy though appeared responsible for low health statuses at haor region, most studies have come up with another common issue that is less services coupled with less medical staffs.

Concern Worldwide Bangladesh commissioned study (DMA, 2012) on Upazila Health Complexes under four Haor Upazilas reported that out of 20 enlisted health services, at least 7 services were missing in all UHCs. Lack of technical staffs, lack/inadequacy of functional equipments, number of vacant positions and indiscriminate absenteeism by medical staffs among others were identified as main reasons for lack of health services.

Status of Medical Professionals at UHCs

Upazila _	No. of Positions			% of	
Health	Sanctioned	l Filled up	Male	Female	filled up
Complex					position
Bahubal	12	6	5	1	50
Dharmapas	ha 11	6	5	1	54.5
Itna	12	5	4	1	41.6
Madon	11	9	8	1	81.8
Total	46	26	22	4	56.5

Source: DMA, 2012

As mentioned in the stated table, DMA (2012) study recorded that out of 46 positions, only 26 (56.5%) were filled up. The study further reported that 40% of technical staff posts were lying vacant. Out of 46 listed drugs, the study found only 17 drugs to be available in all 4 UHCs.

CONTRACEPTIVE USAGE

Sylhet division has the lowest usage (45%) of contraceptive (BDHS, 2011). DMA study (2012) found that only 44% mothers who have children aged 0-11 months and 12-23 months use contraceptives. Around 9% uses traditional contraceptive methods (DMA, 2012).

WATER & SANITATION

WATER USE & SOURCES

Almost all Haor households collected drinking water from nearby Tube Wells though Haor districts have a very low coverage of drinking water sources of around 105 people per tube well. Reportedly, around 50% households are dependent on river/pond/Haor water for domestic purposes. 10% Haor people reportedly have no idea about safe drinking water (HMP, 2010). The following table presents number of coverage for water sources in Haor districts:

Districts	No of Water Sources	No of Population per water sources
Sunamganj	16446	152
Habiganj	20485	93
Netrokona	24848	98
Kishoreganj	30420	93
Sylhet	26235	107
Maulvibazar	18828	126
Brahmanbaria	26158	126
Total	163420	105

SANITATION

Haor region has one of the poor sanitation facilities compared to other region of the country. Only around 44.25% Haor people use sanitary latrines. Netrokana has the poorest coverage of only 35%. The following table presents sanitary latrine coverage for Haor districts:

Districts	Use of Sanitary Latrine (%)
Sunamganj	40
Habiganj	41
Netrokona	35
Kishoreganj	49
Sylhet	55
Maulvibazar	57
Brahmanbaria	46
Total (Average)	44

On average, 11 people use 1 latrine. Almost 99% latrines are constructed without any skilled supervision. 60% latrines are defective. Around 66% latrines are made of sukri/khola or sand or brick. 28% of pits do not have any prepared base.

DMA study (2012) reported following types of sanitation usage in Haor region:

Types of facilities used for defecation by the households

	Type of Latrines	Percent of Respondent families	
		Deep Haor	Moderate Haor
Modern	Septic Tank	2.2	10.4
Devices	Slab Latrine	12.5	33.5
	Pit Latrine	37.2	47.2
Traditional	Hanging latrine	17.8	1.5
Devices	Open Latrine	26.3	7.4
	Bush/Field/Yard	4.1	0.0
Total		100	100

Source: DMA (2012)

It is mentionable that during the 4-7 month monsoon period, the Haor region is mostly submerged with water causing almost all sanitation systems to be washed away.

HOUSING & SETTLEMENTS

Total settlement area and number of houses in Haor region counted respectively as 303,120 ha and 3,244,380 houses in 2010. Settlement area comprises 12% of total Haor areas. Except urban locations, Haor areas housing and settlements are mostly built on earthen mounds into islands. Mainly three types of settlement patters are found i.e., linear settlement pattern, a cluster settlement pattern and scattered settlement pattern.

In both deeply flooded and medium flooded zones respectively consist of 48 and 59 Haor Upazilas, settlements are mostly linear and to some instances scattered. Very few dispersed settlements also reported. Elevation of settlements from ground level is on average 12 to 15 feet. Two/three village's together function as a single entity. Dwelling units (>99%) and institutions (<1%) comprises main types of households. Dwelling units further comprises jhupris, unpaved houses, semi-paved houses and paved houses. More than three quarter lives in unpaved houses. Landlord usually stayed in the middle of the community. Socio-economic groups are scattered in different paras, which are separate linear clusters surround by orchards and periphery land.

However, low flooded zones spread over 47 Haor Upazilas, settlements are mostly clustered and to some extent dispersed. Elevation of settlements from ground level is on average 5 to 6 feet. Settlement pattern of different socio-economic groups is similar to that of deeply and medium flooded zones. However, density of canopy is higher than that of other zones (HMP, 2010).

SOCIAL ASSETS/RESOURCES

As any other regions of the country, strong family culture is prevalent in Haor region. Family size is comparatively lower than national average in Haor locations. Due to prevalence of cluster and linear types of settlements, social bondage is relatively high.

Community life is basically governed through an important role played by the local government institutions, NGOs and religious institutions. A good number of national and international NGOs are active partners in community life. HMP has reported a total of 19,696 mosques, 2,317 temples and 76 churches and pagodas in seven Haor districts. Graveyards and crematoriums are mostly located on low land. Burying and burning the deceased during monsoon thus often create a serious problem in Haor locations.

PHYSICAL ASSETS

POWER & ENERGY

Haor region has one of the lowest electricity coverage. Sunamgonj has the lowest use of electricity consumption with only 17kWh per capita followed by Kishorgonj and Netrokana whereas nationwide average consumption was 200 kWh per capita in 2010. Out of 15,374 Haor villages, only 6,740 reportedly got electricity connections by 2010 which accounts for about 44%, while national electrification coverage was 72% in 2010. On average only 20% households were electrified in 2010 across the seven Haor districts.

COMMUNICATION INFRASTRUCTURES

Despite the fact that two major routes of Asian Highway, the AH-1 and the AH-2 enter into Bangladesh at Tamabil and mainly cross over through the Haor region, the region has one of the poorest communication networks. Popular quip 'Borshakale nao ar Shuknakale pao' literal meaning 'boats during monsoon and feet during dry season' best summarises the communication situation in Haor region.

Reportedly, out of 69 Upazilas in Haor districts, 11 Upazilas are not connected with the Roads and Highway Department network. They are Austagram, Itna and Mithamain under Kishoreganj district, Kalmakanda and Khaliajuri under Netrokona districts, and Dowarabazaar, Jamalganj, Sulla and Tahirpur under Sunamganj districts.



Haor Communication during Monsoon

Photo: Concern Worldwide Bangladesh

Fewer roads are available in Haor region since they are submerged completely during 4-5 months pre-monsoon and monsoon season. Thus it becomes impossible to travel from one place to other without using boats during monsoon.

INLAND NAVIGATION

The region has 25 IWT routes covering a length of 1,829 km of inland waterways. During the dry season, particularly between October-April, inland vessels cannot navigate in about 1,000 km of the waterways.

MARKETS & GROWTH CENTERS

HMP has estimated 282 growth centres and 992 rural markets in seven haor districts. Out of 628 rural unions in haor districts, 93 have no growth centres or rural markets. It is mentionable that growth centres are mostly located

around Upazila Headquarters whereas rural markets usually are weekly in nature, which are locally referred to as 'hatt'.

People in rural haor locations usually travel a long distance to buy and sell both household inputs and produces from weekly markets.

FOOD GO-DOWNS

Based on BBS data, HMP has counted a total of 267 food go-downs in seven Haor districts as shown in following table:

Food Godowns By Districts	
Districts	Food Go-downs
Sunamganj	38
Habiganj	47
Netrokona	34
Kishoreganj	50
Sylhet	37
Maulvibazar	23
Brahmanbaria	38

Mostly (>85%) food go-downs (depots) have 500 metric tons storage capacity. A few reportedly have 750 metric tons storage capacity. Still, there are few with 1000 metric tons storage capacity. It is mentionable that 92% of growth centres and 99% of rural markets do not have any food go downs in their vicinity.

POLICE STATIONS

Seven Haor districts have 80 police stations in total.

SHOCKS AROUND HAOR LIVELIHOODS

As analyzed livelihoods resources/assets in previous sections, along with livelihoods opportunities, a great number of livelihoods shocks were also identified. Following is a brief listing of livelihoods' shocks prevalent in Haor region:

- Haor region is extremely vulnerable to climatic extreme events and climate change.
- Land formation process is still incomplete in Haor region and is the region subject to a continuous but slow process of subsidence over time.
- Subsidence causing gradual shifting of river courses resulting too rapid sedimentation and loss of navigability of rivers.
- Both maximum and minimum temperature recorded an ever increasing trend for most of the months for last couple of decades.
- Decadal rainfall particularly in between 1901 to 2009 showed an increasing trend for most of the months.
- Excess rainfall in upstream hilly areas and/or in upstream river catchments and subsequent runoff caused a regular phenomenon of flooding in entire Haor region. Turning Haor settlements mostly built on earthen mounds into islands.
- Geographical aspects extensively contribute to flash flooding and Afal. On average, flash floods destroy crops every 2-3 years.
- Wave/river bank/village erosion is common round the year.
- Arsenic contamination of groundwater comparatively is high in this region.
- Due to over exploitation and continued environmental degradation Haor biodiversity has degraded to a great extent. Deforestation, hill cuttings, landslide are common practice.
- Agriculture works are seasonal cover only 4-5 months a year during dry season. More than 80% farm households constituted with small and marginal farmers.
- Around one-third (28.5%) Haor people are completely unemployed.
- Commercial livestock farming has not yet developed due to poor communication and transport system.
- Industrialization at Haor region is dissatisfactory up to this stage.
- Access to common pool resources is restricted through faulty Haor Management policies. Few politically or economically powerful people enjoy mostly Haor resources through exploiting leasing policies.

- People in rural haor locations usually travel a long distance to buy and sell both household inputs and produces from weekly markets.
- Haor districts have a fourth quartile poverty range meaning more than 49% poverty concentration including an extreme poverty incidence of more than 21.3%.
- It is one of the 'highly food insecure' regions of the country.



Village Erosion at Haor Location

Photo: Concern Worldwide Bangladesh

- Population density in Haor locations is very often even higher than slum areas in cities.
- Haor region lags behind national mainstream development in all the MDGs health and education related indices.
- The region has one of the lowest education statuses; literacy rate is on average 38%.
- The region has one of the lowest health services coupled with less medical staffs.
- Haor districts have a very low coverage of drinking water sources of around 105 people per tube wells.
- Haor region has one of the poor sanitation facilities only around 44.25% Haor people use sanitary latrines. During 4 to 7 months monsoon period almost all sanitation systems washed away.
- Roads are submerged completely during 4-5 months pre-monsoon and monsoon season resulting in an underdeveloped and fragile communication infrastructure into this region.
- During dry season particularly between Octobers to April inland vessels cannot navigate in about 1,000 km of the waterways.
- The region has one of the lowest electricity coverage.
- Most of Haor lands are incorrectly to poorly drained.

TWO FACTORS CONTRIBUTING TO LIVELIHOODS SHOCKS

A set of both geographical and manmade factors have contributed to these shocks to Haor livelihoods. Haor region is considered as one of the geographically disadvantaged areas. Scientific data revealed that during evolution of the Indian sub-continent due to a collision between the northward moving Indian plate and the standstill Eurasian plate a part of the north-east Indian plate cracked and sank down the sea-level. By a process of deltaic sedimentation into this tectonic basin called Bengal Basin was formed. **Haor area** or **Haor basin** is basically a sub-basin of this Bengal Basin and constituted the northeast part of the Bengal basin. Because of structural and sedimentary depression-related characteristics of formation, Bengal basin is subject to a continuous but slow process of subsidence leaving surface area shifting downward over time. **Haor area** is reportedly in the centre of the subsidence zone. Empirical data evident that the region

has subsided 30-40 feet in last several hundred years at a rate of 3-6 mm every year. This has resulted several times shifting of river courses of this region particularly from both the west and the east towards the north before turning towards the south. By this continual process, the lowlands became an immense tract of submerged area covered with clean still water of no great depth and subsequently came to known as Haor. Apart from this, physically Haor region is in *climate change vulnerable zone*. The area is bounded by the hill ranges of India. Thus, situated just below the hilly regions, the area is prone to extreme rainfall. Further to this, the region is in the Bangladesh's entry point of the eastern continuation of the central broad Indo-Gangetic plains. Moreover, as many as 23 trans-boundary rivers have entered into Bangladesh from this North East Haor region. Major parts of the catchments of these rivers are outside the country. The rainfall is as high as 12,000 mm in the headwaters of some catchments. Because of its existence in between natural levees of rivers, it is simply claimed that combined flow of Meghalaya, Barak and Tripura system, and old Brahmaputra finally drained out between and over Haor region through Meghna to the Bay of Bengal. Excess rainfall in the upstream hilly areas and/or in upstream river catchments and subsequent runoff has caused a regular phenomenon of flooding and very often flash floods to this region. Drainage congestion over time due to river-sedimentation and poor navigability as well has linked with this. The usual trend of flash flood is that it happens in every 2-3 years. Whereas, between July to November each year due to flooding from rainfall either from upstream hilly areas or from river catchments or from both, Haor areas go under deep water and look like seas with erosive water surface. During wind storm these waves reportedly often reach up to 1.5 m in height. This has further resulted in an underdeveloped and fragile communication infrastructure into this region. There is even scientific prediction that if the sea water level rises due to climate change, then the Haor region may experience complete water logging.

Apart from these geographical factors, Haor biodiversity has degraded significantly over the years as well as incurred massive loss of natural habitats due to a number of **manmade factors** particularly caused by anthropogenic actions, there is an increasing trend to fill up Haor wetlands for housing, industry and agricultural practices. Unplanned fishing, fishing in breeding season, over fishing, hunting water bird and other factors are causing depletion of biodiversity. Over-exploitation of swamp forests is reportedly an ever increasing trend. Pollution of water due to discharge of untreated solid and liquid waste from various sources and residual pollution of chemical fertilizer and pesticides are reported common. There is indiscriminate reporting that physical Haor habitats have been altered by

channelization, construction of embankments and diversions, siltation, and degradation of Haors. Unplanned road and water management infrastructure, deforestation and hill cuts, landslide, improper drainage along with limited work opportunity and limited government and NGO services have all contributed to a costly spiral of poverty and underdevelopment that have manifested in the Haor region.

Based on above stated analyses, the study would like to consider Haor livelihoods as one of the most *disadvantaged* in the sense that although a rich set of natural and economic assets are prevalent in Haor livelihoods and right-bearer stakeholders are informed of its distinct geography, still its geographical distinctness has been neglected at the policy regime over the years. This has further impacted human, social and physical assets building negatively. Misunderstood vulnerability to climatic extreme events and climate change has been linked with this over time. Compounding to all these, Haors have been manifested with backward livelihoods compared to other regions of the country. Due to the lack of any special and different treatment, the region lacks behind by a clear margin in almost all the national development benchmarks.

OVERVIEW OF POLICY & PRACTICES

In order to ensure sustainable Haor livelihoods, it is important that legal/policy regime has appropriately taken into consideration the distinctness of Haor geography and its climatic characteristics. Unfortunately, the legal/policy regime is missing to this end. Instead, historically, single policy applicable for all other regions of the country had been executed for managing of Haor resources. Private ownership was initially granted on Haor resources by the Permanent Settlement Regulations, 1793. Many of Haor resources had been dedicated in the name of God either as Wakf (by Muslims) or Debottar (by Hindus) as in the case of some fisheries and wetlands of the districts of Mymensingh and Sunamganj. After the Zamindari system was abolished, though the lawful settlers under the Zamindars were made owners or tenants under the State Acquisition and Tenancy (SAT) Act, 1950, Haor resources except the man-made or artificial ones were made public pool. Apart from this, few Haor areas forming part or adjacent to a natural forest had been made part of a different regulation known as the Forest Act, 1927 or the Private Forest Ordinance, 1950.

Wetland management policies were made or corrected after the liberation in 1972, 1974, 1984, 1986 or 2009; but things have changed a little. In spite of being treated as common pool resources, in practice, few people who are politically or economically powerful and have the capacity to manage the leasing authority enjoy mostly the Haor resources leaving majority of Haor people in abject poverty. Last upgrading of this policy happened in 2009 by the current government popularly known to all as 'Wetland Management Policy 2009' particularly established an added criterion for leasing of Haor water lands. Thus, 'Jal jar, jola tar', meaning that 'who have the net for fishing, he will be the owner of the water body' came to be the determinant criterion for wetlands leasing. This policy was made aiming to establish right of real fishermen and for higher revenue collection, conservation of fisheries and biodiversity and increase production. According to the policy, government can lease state-owned wetlands to real fishermen. The whole management activity will be done under the Ministry of Land. Authorization of wetlands is divided according to their sizes. Wetlands measuring up to 20 acres are entrusted with Upazila administration and larger than 20 acres are entrusted with concerned district administration; even leasing can be directly taken through the Ministry of Land. A lease generally lasts for 3 years, starting from the first of Baishakh till the end of Chaittra. The wetland committee decides the rent for a year and asks for tenders and the highest bidder is supposed to get the lease. Registered and

real fisherman association can apply for a lease for 6 years in certain cases. Lessees have to be committed with some responsibilities such as social forestry, not catching mother fishes, etc (WMP, 2009), although these are hardly followed in practice.

Apart from this, a common set of sectoral policies practiced all through the regions of the country also have been executed for managing distinct Haor region. These policies are basically sectoral - issue driven, independent and divided. Thus, instead of any focused, coordinated and comprehensive policy framework, multiplicities of policy instruments are linked to different sectors simultaneously in order to govern Haor issues. For instance, the

National Water Policy 1999,

SECTORAL POLICIES & HAOR LIVELIHOODS

National Water Policy 1999 provisioned that haor like natural water bodies to be preserved for maintaining aquatic environment and facilitating drainage. National Agriculture Policy 1999 has emphasized surface water uses for irrigation and development of crop varieties and quality seed. National Fisheries Policy 1998 has provisioned for preservation and reviving of haor for fish culture, conservation of biodiversity and others. National Education Policy has provisioned stipend facilities to reduce drop out. National Health Policy 2010 aims to ensure sustainable health within 2015 in line with the MDG. Apart from these, National Land Transport Policy 2004, National Tourism Policy 2009, National Environment Policy 1992, National Land Use Policy 2011, National Rural Development Policy 2001, National Jalmahal Management Policy 2009, Bangladesh Climate Change Strategy and Action Plan 2009, Comprehensive Disaster Management Act, Perspective Plan, Sixth Five Year Plan, North East Regional Water Management Plan (FAP 6) 1993, National Environment Management Action Plan 1995 and many others have direct bearing on that of Haor poverty issue.

National Agriculture Policy 1999, National Fisheries Policy 1998, National Education Policy, National Health Policy 2010, National Land Transport Policy 2004, National Tourism Policy 2009, National Environment Policy 1992, National Land Use Policy 2011, National Rural Development Policy 2001, National Jalmahal Management Policy 2009, Bangladesh Climate Change Strategy and Action Plan 2009, Comprehensive Disaster Management Act, Perspective Plan, Sixth Five Year Plan, North East Regional Water Management Plan (FAP 6) 1993, National Environment Management Action Plan 1995 and many others are implemented in the Haor region in full swing.

Along with these multiplicities of policy instruments a significant number of agencies/institutions have been liked with Haor development. The Haor Master Plan has that 17 Ministries, 34 government, NGO, INGO, public and

research agencies are at present directly/indirectly involved for implementing of different sectoral policies at haor regions apart from law enforcing agencies. Ministry of Agriculture, Ministry of Water Resources, Ministry of Fisheries and Livestock, Ministry of Land, Ministry of Local Government and Rural Development, Ministry of Health, Ministry of Education, Ministry of Environment, Agriculture Extension Offices at district and Upazila level, Water Development Board, LGRD, Hospitals and clinics, Land Registry Offices at district and Upazila levels, Ditrict and Upazila Administration, Union Council, Upazila Parishad, NGOs, Financial Institutions and many other institutions reportedly are involved with this.

There is even conflict between policies, overlap of functions of the service providing organizations, and their respective power and authority is not always clear. Lack of coordination among different institutions, policy coherence and pro-poor legislation and regulation, as well as a top-down provider- recipient service delivery mechanism are in place where the Haor people are conceived merely as governed rather than as active partners in governing their own business. In the midst of all these, visible initiatives on the ground remain confined to the delivery of infrastructural packages mostly encompassing the construction of embankment, water plants, power plants and some other physical infrastructures and the restructuring of a few existing institutions together with a few regulatory measures. But, in reality, such infrastructural packages and restructuring are not sufficient to ensure sustainable Haor development.

POLITICAL ACTORS & HAOR ISSUES

It is a matter of great hope that present political actors of the country seem aware of the Haor differences to some extent. The formation of 'Haor Development Board' as early as in 1977 through a government ordinance 9-1977 in continuation of an earlier decision taken in the first parliament clearly reflects the same.

Unfortunately, the Board was abolished in 1982 for reasons still not known publicly. 18 years later, in September 2000, the Board got re-established in paper under the name of 'Haor and Wetland Development Board' and finally came into being in September 2009. Structurally, the Prime Minister has been made the Chairperson of this board. Board members among others include the Ministers from the Ministries of LGRD, Environment & Forest, Water Resources, Agriculture, Fisheries & Livestock and Planning and 3 selected MPs from the Haor locations. Secretary, Ministry of Water Resources performed the 'Member Secretary' role for this board. To get the

Board moving, there is an 'Executive Committee' headed by the Minister of the Ministry of Water Resources as 'Convener'. By default, the Secretary, Ministry of Water Resources performed the 'Member Secretary Role' for this executive committee. Functionally, the Board is responsible to bring about desired coordination among

Ministries/
departments/ Local
Government
Institutions, to formulate
and implement
development projects as
per necessity in line with
a prior developed Haor
Master Plan and to
monitor the project
implementation.

'Haor poverty is different, needs special drive by both the Parliament and the government to address them. It is important to prioritize Haor development issues for balanced development of the country since regarding the MDG target achievements, Haor districts clearly lag behind to that of the other districts' performances'

-Honourable Md. Israfil Alam MP, Chair, All-Party Parliamentary Group (APPG) on Extreme Poverty and Urban Pavement Dwellers, Bangladesh Parliament and

Chairman, Parliamentary Standing Committee on Ministry of Labor and Employment, Bangladesh Parliament.

'A special and different programme is needed to save Haor livelihoods and biodiversity. Since, life in Haor areas are totally different from other regions of the country'

-Honourable Mustaque Ahmed Ruhi MP, Vice-Chairperson, All-Party Parliamentary Group (APPG) on Extreme Poverty and Urban Pavement Dwellers, Bangladesh Parliament.

'Proper coordination and monitoring at all levels particularly at execution level is important to have a balanced development at Haor region'

-Honourable Mr. Anisul Islam Mondol MP, All-Party Parliamentary Group (APPG) on Extreme Poverty and <u>Urban</u> Pavement Dwellers, Bangladesh Parliament.

However, the organization and structuring of the Board is mismatched with that of its assigned responsibilities and thus overall progress is recognized to be very slow.

CIVIL SOCIETY MOVEMENT

In pursuit of influencing further commitments of the government and the MPs from haor constituencies, a strong civil society movement is currently underway to address pertinent issues related to the development of haor and its population. Local level movements continued for a long time, particularly gained the first momentum in March 2008 through the first National Haor Convention held at Engineering Institution, Dhaka. Through the process of deliberate coordination and consensus building among all concerned such as politicians, economists, representatives from haor communities, NGOs, researchers, professionals and others, a 'Draft Haor

Declaration 2008' was formulated followed by the Convention. Further to this, a 21-members national committee was formed to finalize the Haor Declaration. On 27 April 2008, this committee publicly announced the final 'Haor Declaration 2008 through a press conference held at National Press Club, Dhaka.

Haor Declaration 2008 among others emphasized for:

- Restructuring and strengthening of Haor Development Board;
- Keeping wave erosion/river erosion/village erosion plans to the central of all Haor relevant infrastructural development plans;
- Initiation of community led flood control projects;
- Increased attention on Haor communication development;
- Strengthening of agricultural extension services;
- Innovation and introduction of climate adaptive varieties;
- Enhanced coverage of social safety net programmes and alternative employment generation;
- Large restructuring and strengthening of education and health services;
- Initiate survey to identify numbers of Haor and their areas and other common Haor resources;
- Initiation of survey to identify mineral resources like natural gas.;
- Planned forestation;
- Making public the bilateral, multilateral and international river-management related contracts that have potentials of impacting Haor;
- Strengthening local government institutions;
- Increasing participation of public in all haor development programmes;

Duotostian and development of Haan fishenies and livesteels

Haor declaration was followed by a series of campaign and advocacy programmes. Among them, Channel-I initiated an opinion exchange programme at Mohongonj Upazila under Netrokona district prior to declaration of the national budget 2008 where approximately 10,000 people had gathered. Mohongonj Decleration in August 2008, formal submission of Haor Declaration to the then Agriculture Adviser, holding a series of workshops at 7 Haor districts by Concern Worldwide Bangladesh in September 2008, development and formation of a high-powered intra-ministerial Haor Development Committee on early August 2008 and

development and submission of a National Haor Plan in December 2008 based on the outcomes of district level workshops created next level of momentum to forge into meaningful movement to address issues around the vulnerability of haor population. The *National Haor Plan* in fact was the first comprehensive development plan of its kind covering issues affecting Haor in a holistic view. This plan was then placed in the second Intra-ministerial Haor Development Committee meeting held on 2 December 2008.

National Haor Plan 2008 among others, included the following:

- Policy and institutional reform plan for Haor regions;
- Production, conservation and disaster management plan for Haor regions;
- Communication & infrastructure development plan for Haor areas;
- Agriculture & livestock development plan for Haor regions;
- Education development plan for Haor regions;
- Health & sanitation development plan for Haor regions;
- Environment, wetland and biodiversity conservation & water and mineral:
- Resources management plan for Haor regions;
- Law & order maintenance plan for Haor regions.

Second National Haor Convention in 2012: Concern Worldwide Bangladesh initiated and organized second National Haor Convention on 17th November 2012 bringing 31 organizations on board. That was another big momentum in raising collective voice to get allocation in the national budget for implementation of Haor Master Plan.

The intra-ministerial high powered National Haor Development Committee did not continue, instead, the Wetland and Haor Development Board re-established in September 2009 to oversee Haor issues. As per decision of this Board, a comprehensive 'Haor Master Plan' was developed in late 2012. This is basically a 20 years long perspective plan covering 153 development projects under 17 development areas. A total of BDT 3,108,315 lac has been estimated for this. Mentionable that the national budget 2013-14 has provisioned a lump-sum amount of BDT 50 core for Haor development. However, the relation between Haor Master Plan and sourcing of proposed budgetary allocation is still ambiguous since the respective authority yet to identify appropriate directives for funding sources to implement the master plan.

CONCLUSION & RECOMMENDATIONS

Summing up from previous chapters, the study hereby concludes that the Haor region, which spreads over 13.5% of the country's total surface area, is particularly a depressed and distinct wetland ecosystem and thus, different from other parts of the country. Because of its structural formation and physical location, the region is considered simultaneously rich in biodiversity and mineral resources. The area is also located in climate change vulnerable zones and prone to natural extreme events like earthquake and flash floods. This aspect of distinct geographic formation has been neglected in the policy arena. Instead, a set of common sectoral policies that govern all other regions of the country have been applied in full swing in Haor region. Thus, along with unsustainability of its infrastructural development packages, natural habitats got degraded over the years.

On the other hand, because of its legal identity as common pool resources, access by the poor communities who need it the most to maintain their livelihoods either by fishing or agricultural practices or collecting of daily dietary needs and other livelihoods assets has been very much restricted over the years, leaving the region over exploited by only a few influential quarters. Having been in such a spiral of non-suitable macro policy processes, expected improvements in lives & livelihoods of Haor people did not take place. Rather, Haor region as a whole remained behind the mainstream national development. Available statistics suggest that Haor region has large poverty pockets comparatively. Haor communication till date is not up to any acceptable standard. Essential services like education, health care, sanitation, housing, electricity and agricultural extension services are all in very critical stage.

Despite all these, what is worth mentioning is that political communities are reportedly informed of the Haor distinctness and vulnerabilities of its life and livelihoods. Establishing of Haor Development Board only in 1977 clearly witness the same. Along with political communities, there is a strong civil society movement around Haor development issues as well as media sensitization on this. However, overall progress is yet to reach any satisfactory stage. The Wetland and Haor Development Board that got re-established only in 2012 still, is not functioning enough. Although the Haor Master Plan was prepared only in 2012, necessary allocation and implementation are still a big challenge. In view to all these, following recommendations have been made:

 Haor region is vulnerable to extreme climatic events like gradual subsidence, earthquakes, flash-flooding and continuous village

- erosion. Rigorous geological study is needed to identify both opportunities and shocks from geographical Haor differences. Based on study findings, Haor Master Plan needs reviewing and updating. Raising parliamentarians' voices in parliamentary debate/discussions can help achieve this.
- Both maximum and minimum temperatures in Haor region have recognised an increasing trend over the last couple of decades. Apart from this, Haor region is extremely vulnerable to both excess rainfall and excess glacier melt from either upstream hilly areas and/or upstream river catchments. These aspects of climate vulnerability need to be dealt seriously. Instead of rhetorical statements only, climate change issue has to be made centre in all Haor Development Plans. Free-flow of excess water through ensuring navigability of river systems and canals on a regular basis, building and maintaining climate adaptive infrastructures and development, institution based continued investigation and research on climate change impacts and Haor friendly adaptations are few of the important alternatives that have been prioritized high in both secondary literatures and consultations. A critical review on the weaknesses of Haor Master Plan including looking at rapid and slow-on-set consequences of climatic change appeared to be the first priority steps to reap expected benefits. Unless an enhanced role is played by the parliamentarians, these appear to be quite impossible.
- A special drive is needed to start implementing Haor Master Plan instead of making this only a historical document. Resource mobilization is the first priority at this stage. Creation of particular authority along with transparent coordination and implementation mechanisms has been the second priority. Revisiting and re-adjusting of Haor Master Plan with that of the other national planning documents like Budget, Sixth Five Year Plan and perspective plan has been as the third priority. Periodic review and development based on past learning and emergent climate change impacts and vulnerabilities has been the final priority. Parliamentarian-led campaign and mass mobilization can expedite the priorities implementation processes.
- In view to stated set priorities, re-structuring and strengthening of Haor Development Board has been as important first step at this stage. Instead of a rhetoric one, this Board to be made centre to all Haor related planning and development. Coordination mechanism by the Board to be made further transparent and effective. Inclusion of

- Members of Parliament from Haor Constituencies within the Board along with defined implementation-level roles and responsibilities have been would help the Board to achieve greater mobility and functional effectiveness. Decentralized office set-ups at Haor locations along with budget receiving and spending authority and accountability would have helped attaining required efficiency by the board at implementation level.
- Since, Haors mostly constitute common pool resources, restricted but equal access building to these resources by vulnerable communities and collective management and development of Haor resources have been a must to achieve greater food security and to encounter environmental degradations. For this, the first prerequisite would be to revisit Wetland Management Policy with particular focus to create poorer access to Haor resources. Recommendations often have been obtained to identify and declare a few particular Haors accessible by vulnerable Haor communities' all through the year.
- However, before agreeing to any further decisions or initiatives
 regarding Haor resources management and their uses, it has been
 indiscriminately recommended to develop a common 'defined
 mechanism' to assess and valuate Haor resources and benefits first,
 including economic, ecological and socio-cultural benefits. This will
 help in achieving a sustainable solution to Haor issues and
 management.
- Planned and systematic influencing of private sector investment for Haor regions needs a new urge, particularly from the policy level actors. To encourage private investment, government can think of facilities like tax holiday, special investment loan, and provide special arrangements for health, transport, communication and law and order facilities.

Recommendations Expressed By Honourable Parliamentarians in Two Leadership Orientation Session

- Special and comprehensive Haor Master Plan along with clear-cut coordination strategies is a must to protect and develop country's Haor regions.
- Re-structuring and strengthening of Haor Development Board is needed to develop backward Haor regions particularly.
- Due to comparatively backward regions and increased poverty, both

- allocation and coverage of social safety net programmes need further strengthening in the Haor regions.
- Need special programme to protect highly vulnerable Haor villages from erosion.
- Parliamentarians need to raise their voices for increased allocation to Haor development programmes through national budget.
- Since, Haor regions are known as 'Food Basket' of the country, agriculture extension services need further strengthening to protect Haor farmers.
- Haor Declaration 2008 should guide the development of Haor Master Plan.
- 'Haor Development Bank' can ensure credit access to poor Haor farmers.
- Haor-centred agricultural research deserves further strengthening in view to development and execution of Haor-friendly seed varieties.
- Identification of common Haor resources and their proper distribution among real poor certainly would help.
- Dredging and excavation of ponds, canals, haors and rivers is a must to ensure water flow instead of flooding to protect biodiversity and other Haor resources.
- Need systematic developing of agriculture and fisheries to ensure employment and livelihoods of the Haor poor. Agriculture and fisheries related industries can be one option for this.
- Communication infrastructures of Haor regions need drastic improvement.
- Special incentives to government officials working at Haor regions surely will help better services to the residents in Haor area.
- Poor people's access to khas land and haor bodies needs to ensure.
- Need influencing private sector investment for Haor regions.
- Need to ensure fishermen's access to free fishing zones outside the lease areas.
- Regulation of water body leasing policy is needed to ensure real fishermen access to haor bodies and to conserve Haor bio-diversity as well.



Leadership Orientation Session on Haor Livelihoods. Hon'ble Speaker Md. Abdul Hamid Advocate, MP present as Chief Guest



Leadership Orientation Session on Haor Livelihoods. Hon'ble Deputy Speaker Md. Shawkat Ali, MP present as Chair

Photo: All-Party Parliamentary Group (APPGs)

To deal with immediate livelihoods issues, the following recommendations have been considered further:

- Due to comparatively backward regions and increased poverty, both allocation and coverage of social safety net programmes need to increase and ensure that eligible people are getting the allocation under the government of safety net programmes.
- Systematic improvement of agriculture, fisheries and livestock is needed to ensure employment and livelihoods in the Haor zone.
- Communication infrastructures of Haor regions need drastic improvement. Submergible roads certainly would help during monsoon. Appropriate attention has to be given in enhancing water communication since it involves greater space for employment.
- Special incentives to government officials working at Haor regions surely will help enhanced services to Haor people.

How Parliamentarians can proceed?

- Parliamentarians can debate on Legislative Programme.
- Parliamentarians can debate on Government Bills.
- Parliamentarians can raise Private Members' Bills.
- Honourable Members of Parliament can also influence policies through Standing Committees, connection among All Party Parliamentary Groups (APPGs), collaboration with International Parliamentary Alliances-Forums and Writing to Ministers about questions and correspondence from their constituents.
- Committee Work: Members can press for inquiries into aspects of government policy.
- Parliamentary Questions: Members can send in written questions and/or ask questions on the floor to press for information, action or clarifications regarding government policy.
- Debates: Members can hold relevant Ministers to account through debate/discussion, call for clarifications of policy or seek commitments from the government to advance more affective or just action on urban poor/pavement dwellers issue.

ANNEX I

First Round Leadership Orientation on Haor Issue

The first round leadership orientation session on 'Neglected Haor Livelihoods in Bangladesh: Role of Parliamentarians' held on 20 November 2011 Sunday at IPD Conference Room of Minister Hostel of Bangladesh Parliament. Honourable Speaker of Bangladesh Parliament and Chair of the APPGs Commission of Bangladesh Parliament Md. Abdul Hamid Advocate, MP (who is now the H.E. President of People's Republic of Bangladesh) was present as chief guest. Mr. Shishir Shil, Secretary General of the APPGs of Bangladesh Parliament moderated. Among others 26 Members of Parliament attended the session.

List of Participants

- Honourable Md. Abdul Hamid Advocate, MP, Speaker, Bangladesh Parliament and Chairman, APPGs Commission, Bangladesh Parliament (now the H.E. President of People's Republic of Bangladesh);
- 2. Honourable Md. Emaj Uddin Pramanik, MP;
- 3. Honourable Narayon Chandra Chanda, MP, Vice-Chairperson, All-Party Parliamentary Group (APPG) on Climate Change and Environment, Bangladesh Parliament;
- 4. Honourable Meher Afroze Chumki MP, Chair, All-Party Parliamentary Group (APPG) on Water, Sanitation and Hygiene; and Chairman, Parliamentary Standing Committee on Women & Children Affairs, Bangladesh Parliament;
- 5. Honourable Nur Afruze Ali MP, Vice-Chair All-Party Parliamentary Group (APPG) on Water, Sanitation and Hygiene, Bangladesh Parliament;
- 6. Honourable Col. (Retd.) A. A. Maruf Saklain MP, Vice-Chair, All-Party Parliamentary Group (APPG) on Water, Sanitation and Hygiene, Bangladesh Parliament;
- 7. Honourable Mr. Azizul Hoque Chowdhury, MP, Vice-Chairperson, All-Party Parliamentary Group (APPG) on Extreme Poverty and Urban Pavement Dwellers, Bangladesh Parliament;
- 8. Honourable Brig. General (Retd.) Sk. Abu Bakr, MP, Vice-Chairperson, All-Party Parliamentary Group (APPG) on Extreme Poverty and Urban Pavement Dwellers, Bangladesh Parliament;

- 9. Honourable Mr Nani Gopal Mondal, MP, Vice-Chairperson, All-Party Parliamentary Group (APPG) on Extreme Poverty and Urban Pavement Dwellers, Bangladesh Parliament;
- 10. Honourable Hafiz Uddin Ahmed, MP, Vice-Chairperson, All-Party Parliamentary Group (APPG) on Climate Change & Environment, Bangladesh Parliament;
- 11. Honourable Md. Sohrab Ali Sana, MP, Vice-Chair, All-Party Parliamentary Group (APPG) on Water, Sanitation and Hygiene, Bangladesh Parliament;
- 12. Honourable Tanvir Shakil Joy, MP, Vice-Chairperson, All-Party Parliamentary Group (APPG) on Climate Change and Environment, Bangladesh Parliament;
- 13. Honourable Md. Atiur Rahman Atik, MP, Bangladesh Parliament;
- 14. Honourable Golam Shabur, MP, Vice-Chair, All-Party Parliamentary Group (APPG) on Water, Sanitation and Hygiene, Bangladesh Parliament;
- 15. Honourable Md. Faridul Hoque Khan, MP, Bangladesh Parliament;
- 16. Honourable Md. Shafiqul Islam, MP, Bangladesh Parliament;
- 17. Honourable Showkat Ara Begum, MP, Bangladesh Parliament;
- 18. Honourable Jainal Abedin, MP, Bangladesh Parliament;
- 19. Honourable A. K. M. A. Awal MP, Bangladesh Parliament;
- 20. Honourable Rowshan Jahan Shathi MP, Bangladesh Parliament;
- 21. Honourable Asma Zarin Jumu, MP, Vice-Chair, All-Party Parliamentary Group (APPG) on Water, Sanitation and Hygiene, Bangladesh Parliament;
- 22. Honourable Advocate Md. Shafiqual Azam Khan, Vice-Chairperson, All-Party Parliamentary Group (APPG) on Extreme Poverty and Urban Pavement Dwellers, Bangladesh Parliament;
- 23. Honourable Md. Akabbar Hossain, MP, Bangladesh Parliament;
- 24. Honourable Shamsur Rahman Sherif, MP, Bangladesh Parliament;
- 25. Honourable H.M. Golam Reza MP, Whip, Bangladesh Parliament;
- 26. Honourable Professor Apu Ukil, All-Party Parliamentary Group (APPG) on Agriculture, Food and Rural Development, Bangladesh Parliament;

- 27. Mr. Shishir Shil, Secretary General, All-Party Parliamentary Group (APPGs), Bangladesh Parliament;
- 28. Md. Abdul Haque APS-I to Honourable Speaker, Bangladesh Parliament;
- 29. Capt Faruq Hasan, Serjent at arms, Bangladesh Parliament;
- 30. Chowdhury Kamrul Hasan, APS-II to Speaker, Bangladesh Parliament;
- 31. Mr. A. K. M. Musa, Country Director, Concern Worldwide Bangladesh;
- 32. Mr. Mustafa Zabbar; Chairman, Bangladesh Computer Association;
- 33. Mr. M. Anowar Hossain, Head of Technical Unit. Concern Worldwide Bangladesh;
- 34. Dorothy Sreeporna Chowdhury, UNDP;
- 35. Mahabuba Rahman, Senior Coordinator, All Party Parliamentary Group (APPGs), Bangladesh Parliament.

ANNEX II

Second Round Leadership Orientation on Haor Issue

Second round leadership orientation on 'Neglected Haor Livelihoods in Bangladesh: Role of Parliamentarians' held on 29 December 2011 Thursday at IPD Conference Room of Minister Hostel of Bangladesh Parliament. Honourable Deputy Speaker of Bangladesh Parliament, Shawkat Ali, MP, also Co-Chair of the APPGs Commission of Bangladesh Parliament and Chairperson of the All-Party Parliamentary Group (APPG) on HIV/AIDS, Human Trafficking, Population and Migration of Bangladesh Parliament was present as chair. Among others 11 Members of Parliament attended the session.

List of Participants

- Honourable Shawkat Ali, MP, Deputy Speaker, Bangladesh Parliament, Co-Chair, APPGs Commission & Chairperson, All-Party Parliamentary Group (APPG) on HIV/AIDS, Human Trafficking, Population and Migration, Bangladesh Parliament;
- 2. Honourable Mujibul Haque, MP, Vice-Chairperson, All-Party Parliamentary Group (APPG) on Extreme Poverty and Urban Pavement Dwellers, Bangladesh Parliament;
- 3. Honourable Md. Abdul Majid Khan, MP, Bangladesh Parliament;
- 4. Honourable Md. Abu Zahir MP, Vice-Chair, All-Party Parliamentary Group (APPG) on Water, Sanitation and Hygiene, Bangladesh Parliament;
- 5. Honourable Zafar Iqbal Siddique, MP, Vice-Chair, All-Party Parliamentary Group (APPG) on Water, Sanitation and Hygiene, Bangladesh Parliament;
- 6. Honourable Principal Khadija Khatun Shefali, MP, Bangladesh Parliament;
- 7. Honourable Jahanara Begum, MP, Bangladesh Parliament;
- 8. Honourable Farida Rahman MP, Bangladesh Parliament;
- 9. Honourable Shefali Momtaz, MP, Bangladesh Parliament;
- 10. Honourable Shahin Monowara Haque, MP, Bangladesh Parliament;
- 11. Honourable Noor-e-Hasna Lily Chowdhury, MP, Vice-Chair, All-Party Parliamentary Group (APPG) on Water, Sanitation and Hygiene, Bangladesh Parliament;

- 12. Mr. Shishir Shil, Secretary General, All-Party Parliamentary Group (APPGs), Bangladesh Parliament;
- 13. Mr. A. K. M. Musa, Country Director, Concern Worldwide Bangladesh;
- 14. M. Anowar Hossain, Head of Technical Unit, Concern Worldwide Bangladesh.
- 15. Chowdhury Kamrul Hasan, APS-II to Speaker, Bangladesh Parliament;
- 16. Mustofa Jabbar; Chairman, Bangladesh Computer Association;
- 17. Mahabuba Rahman, Senior Coordinator, All Party Parliamentary Group (APPGs), Bangladesh Parliament.

ANNEX III

Formation and activation of All-Party Parliamentary Group on Haor Livelihoods

All-Party Parliamentary Group (APPG) on Haor Livelihoods formally launched on June 2012 through official notification and approved by the All-Party Parliamentary Group (APPGs) Commission Chair and Honourable Speaker of Bangladesh Parliament Mr. Md. Abdul Hamid Advocate, MP. Mr. Shishir Shil, Secretary General of APPGs, Bangladesh Parliament has been appointed to perform as the Secretary General for this APPG. Peoples' Empowerment Trust (PET) has been made the alternative secretariat for this group. The structure of the All-Party Parliamentary Group (APPG) on Haor Livelihoods as follows:





All-Party Parliamentary

All-Party Parliamentary Group (APPG) on Haor Livelihoods

Statement

Bangladesh possesses enormous wetlands. Among those wetlands haors have an important role on our country's socio-economy. Haors of Bangladesh have enormous ecological, economic and commercial value as they are rich in biodiversity having rich flora and fauna. Haors are also important for mother fisheries, and potential wetland for migratory birds of global and regional significance along with other aquatic wildlife. The ecology and biodiversity of haor areas is different from other parts of Bangladesh. But the species and individual number of plant, fish and wild animals are decreasing for both natural and manmade causes. The majority of the haor residences are living under the poverty line. It is crucial to explore and develop an in-depth understanding of the causes of extreme poverty in haor areas. To find a sustainable development strategy for haor areas of the country, poor people's voice should be amplified in the policy level that might bring positive impact and way out. Develop a comprehensive mechanism in this regard is needed.

Persistence of extreme poverty in some identified areas of the country has been a stark reality in Bangladesh. Haor area is one of the extreme poverty pockets due to different reasons including lack of education & health facilities and thus has shown worst performance in achieving targets of MDGs especially in health and education related indicators. The major reasons for this under performance are the non-responsiveness of the public service sector to cater for the needs of people specially the poor and most vulnerable living in this remote area, lack of accountability of service providers, lack of awareness among people on their rights and responsibilities, physical barrier to access services and inadequate development initiative by the govt, and development actors to address the problems of health and education sector. Actions are needed to fill the gaps and complement the current initiatives through improving access and quality of health and education services and contribute to the attainment of MDGs related to health, education and women's empowerment which will have a multiplier effect on achieving other MDGs as well.

In recent past, the government has adopted a number of policies to eradicate poverty from the country. Poverty in Haor areas is different and it should be reduced through proper initiative by the government and if we could be able to do so, it would also be helpful to the reduction of poverty by 2015. Government has approved Haor master plan to develop haor areas and established Haor Development Board which is still not very effective. In order to improve poverty situation and lives of extreme poor people in haor, concerted efforts is essential, where, we, the Members of Bangladesh Parliament can play an important role to address the problems.

Considering the aforementioned situation, a significant number of members of Bangladesh Parliament belonging to different political parties have responded positively to an effort to form an All-Party Parliamentary Group on Haor Livelihoods issue. This initiative was taken by the All-Party Parliamentary Group (APPGs) of Bangladesh Parliament under the leadership of the Hon. Speaker of Bangladesh Parliament and People's Empowerment Trust (PET), the official Secretary of APPGs, with the support from the Concern Worldwide Bangladesh.

This initiative is also a part of sincere promise of our national leadership on Haor Livelihoods. We feel Haor Livelihood issue is also one of the highest national priority issues of Bangladesh considering securing the food security, as the Haor areas are one of the major supplier of rice, sweet water fish, etc. and it must be addressed with concerted efforts with highest national priority with national consensus.

We believe, now is the appropriate time to raise voices of all concerned within and outside Parliament as Jan 134 well as home and abroad to ensure the fundamental rights of the people of Haor areas in Bangladesh

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All-Party Parliamentary Group

Irrespective of our political differences, we agree that we will contribute our highest possible efforts on improving Haor Livelihood through ensuring their fundamental rights to live on. Therefore, after thorough discussion and orientations over the issues for the Members of Bangladesh Parliament, we have decided to constitute an 'All-Party Parliamentary Group (APPG) on Haor Livelihoods', the key part of Bangladesh's response to eradicate poverty and secure food security.

As per rules of procedure and decision taken by of APPG in 2006 and ratified in 9th Parliament of Bangladesh by the Hon'ble Speaker of Bangladesh Parliament and Chairperson of APPGs Commission Mr. Md. Abdul Hamid Advocate MP, we hereby declare All-Party Parliamentary Group (APPG) on Haor Livelihoods of Eleven Lawmakers initially, to help our common people specially the poor and vulnerable ones in the Haor areas towards taking effective steps to fulfill their fundamental rights.

The All-Party Parliamentary Group (APPG) on Haor Livelihoods shall comprise of the following members of Bangladesh Parliament:

Chief Patron: Mr.Md.Abdul Hamid Advocate, MP Hon. Speaker, Bangladesh Parliament and Chairperson, APPGs Commission

Chairperson: Mujibul Haque, MP Former Deputy Minister

Vice-Chair: Rebecca Momin, MP

Vice-Chair: M. A. Mannan, MP

Vice-Chair: Md. Abu Zahir, MP

Vice-Chair: Md. Abdul Majid Khan, MP

Vice-Chair: Md. Shofiqur Rahman Choudhury, MP

Vice-Chair: Md. Shahab Uddin, MP

Vice-Chair: Md. Matiur Rahman, MP

Vice-Chair: Md. Afzal Hossain, MP

Vice-Chair: Musammat Shammi Akhter, MP

Vice-Chair: Shah Jikrul Ahmed, MP

We request all the Members of Bangladesh Parliament, specially the Hon. MPs of Haor areas to join this initiative to protect the country and country people unitedly.

And according to the rules of procedure of APPGs, People's Empowerment Trust (PET), the founder Secretary of APPGs will also act as Secretary of APPG on Haor Livelihoods, PET Secretariat will also act as alternative secretariat of APPGs on Haor Livelihoods up to the starting of 10th Parliament for smooth functioning of this APPG. And according to the rules of procedure, APPG is hereby appointing Mr.Shishir Shil, Secretary General of APPGs (seven other all-party parliamentary groups) and Executive Director of PET as the Secretary General of APPG on Haor Livelihoods up to the starting of next 10th Parliament of Bangladesh. The APPG on Haor Livelihoods will nominate honorary staff members, honorary policy advisors panel later as per rules of procedure.

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ACRONYMS AND ABBREVIATIONS

APPG All-Party Parliamentary Group

APPGHL All-Party Parliamentary Group on Haor Livelihoods

BDHS Bangladesh Health and Demographic Survey

BBS Bangladesh Bureau of Statistics
BMA Bangladesh Medical Association

BARC Bangladesh Agriculture Research Council
BPC Bangladesh Petroleum Corporation
BCAS Bangladesh Center for Advanced Studies
BWDB Bangladesh Water Development Board

CWW Concern Worldwide

CARE Cooperation of American Relief Everywhere

DMA Data Management Aid

DGHS Director General of Health Service

DMA

FGDs Focus Group Discussions
FA Five Years Action Plan
GDP Gross Domestic Production

HIES Household Income and Expenditure Survey

HMP Haor Master Plan

IGA Income Generating Assets

IGVGD Income Generation for Vulnerable Group Development

IET

IRRI International Rice Research Institute

IUCN International Union for Conservation of Nature LGED Local Government Engineering Department

MDGs Millennium Development Goals
MICS Multiple Indicator Cluster Survey
NGO Non-government Organization
PRA Participatory Rural Appraisal

PPRC Power and Participation Research Centre
RIMS Results and Impact Management System

SMC School Management Committee SAT State Acquisition and Tenancy Act

UHC Upazila Health Complex

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