



“My Village-My Town”: Technical Assistance Project

Strategy Paper on Development of Rural Waterways through Ensuring Effective Engagement of Local Government Institutions



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Local Government Division
Ministry of Local Government, Rural Development and Cooperatives

01. Context

1.1 Waterway is an important sector of Bangladesh. A portion of the classified waterways is operated under the jurisdiction of the Bangladesh Inland Water Transport Authority (BIWTA). Apart from this, there are innumerable rivers, creeks, canals, beels, haors, baors and waterbodies in the rural areas. These vast waterbodies located in rural sphere take no specific authority to manage them. There is no specific guidance in this regard in any law or policy or action plan related to waterbodies. The need to bring vast rural waterbodies under a management framework is acutely felt. To this the involvement of local government institutions in the formulation and implementation of this governance infrastructure is being considered as an important issue. The need to formulate strategies for ensuring this involvement has also emerged. If rural waterways are dredged, maintained and kept navigable throughout the year, it will have an immense positive impact on the country's particularly in transport, agriculture, fisheries, environment and biodiversity.

1.2 Considering the vision of a prosperous Bangladesh, the present government is formulating several remarkable policies which includes - Eighth Five Year Plan for 2021-2025, Delta Plan 2100, Sustainable Development Goals adopted by the United Nations and Election Manifesto 2018 titled Bangladesh in the March of Prosperity of the current government. In these development plans, the need to conserve not only the national waterways but also the extensive waterbodies located around the country have been given importance. It should be noted that the Local Government Engineering Department has already drafted a Rural Waterway National Policy in 2018.

1.3 The navigability in rural waterway is one of the major challenges in Bangladesh. Mainly due to reduced rainfall, erratic flow of water from upstream, pollution, encroachment, illegal infrastructure, siltation and lack of dredging, both national and rural waterways are gradually losing momentum, becoming increasingly constricted. During the rainy season when the flow of water is normal, the width of the waterway is greatly increased, but during the dry season it is reduced to a great extent.

1.4 Due to lack of proper authority, rural water ways management structure has not been developed. For this the development of waterways, transportation, boat licensing, fitness, passenger safety, rent, lease, ghat, platoon and connecting road, goods-passenger transport could not be established. Its proper management would have ensured much more than the benefits derived from the extensive waterbodies. But the commitment and investment needed to develop this waterway was insufficient in proportion to the demand. Institutional linkages and delegations of responsibilities to specific institutions are identified as major issues.

1.5 A special pledge in the 2018 election manifesto is "My Village-My Town": Extension of Modern Civil Amenities in Every Village where the government announced this special commitment to ensure balanced, equitable and inclusive development. Honorable Prime Minister Sheikh Hasina announced this special program to build Sonar Bangla, the dream of Father of the Nation Bangabandhu Sheikh Mujibur Rahman by extending all civic amenities of the cities to the villages. One of these is to build a strong communication network across the country with close connection of multimodal transports where waterway is considered as the

communication channel of poor or low-income people. Transportation of goods and passengers by waterway is much more economical.

1.6 “My Village-My Town”: under the Technical Assistance Project on Extending Modern Urban Amenities to Every Village, various studies are undertaken to overcome the challenges in extending urban civic amenities to villages. In that context, a study was conducted on how to ensure effective involvement of local government institutions in the development of rural waterway transport system. In fact, the main objective of this study was to investigate the areas of involvement of local government institutions in the rural waterway management, challenges and opportunities. In view of the results and recommendations obtained in the study, a strategy paper is formulated considering the involvement of local government institutions in the management of rural waterways.

1.7 Overall Objective of the Strategy

Strengthening the involvement and role of local government institutions aiming at improving water crafts safely movement round-the-clock and ensure uninterrupted passenger and goods transportation in the rural waterways.

1.7.1 Specific Objectives of the Strategy:

- Ensuring rural people easy access to water-based, cost-effective and safe transport services by strengthening the involvement and role of local government institutions;
- Developing of rural trade through goods and passenger transport;
- Improving of rural water transport system by integrating with other transport systems;
- Expanding safe transportation and reducing accidents through development of rural waterways;
- Ensuring livelihood security, biodiversity and environment protection.

1.8 Survey Methodology and Scope

This survey report has been prepared by analyzing qualitative and quantitative data collected through participatory method. This method used as a three-dimensional approach. Qualitative data was collected mainly based on the interviews of the respondents. In this study, data obtained from primary and secondary sources have been used also. Analysis was done through focus group discussion, interviews and verification of the data obtained. In the survey, the rural water system and communication map of Kazipur upazila of Sirajganj district, Hatia upazila of Noakhali district, Manpura upazila of Bhola district and Galachipa and Rangabali upazilas of Patuakhali district were studied in details.

Majorly the current water-centric transport system, problems, possibilities and the involvement of local government institutions are explored. That is, the involvement of local government institutions in rural waterway management and what initiatives can be taken to improve the quality of its management services have been highlighted in detail.

In the survey, the opinions of the local public representatives, passengers, drivers and owners and the lease association of the ghat have been taken. At the same time the relevant laws and policies and schemes have been reviewed. Based on the overall review, the following

strategy was formulated with the aim of strengthening the involvement and role of local government institutions in the management of the rural water supply system.

This strategy paper will help to get the necessary direction in the expanding rural waterway management in the future.

1.9 Scope of the Strategy

Rural waterways are considered those flow predominantly run in the rural areas outside the classified inland waterway network. Rural waterways linked to other modes of transport which will be an integral part of an integrated rural transport system. This strategy paper will include the development and maintenance of rural waterways navigation along with the construction of necessary infrastructure and the establishment of connections with community, social and economic service centers and institutions. This strategy will cover the rural waterways exist across the country. The relevant ministries or organizations will formulate an action plan keeping the local government institutions at the center to ensure the fruitful implementation of this strategy.

2.0 Rural Water Way Development and Maintenance

2.1 Classification of Inland Water Way

Bangladesh Inland Water Transport Authority (BIWTA) is responsible for navigation, development, maintenance and control of specific waterways including inland waterways. About 6,000 km of waterways are navigable by large vessels during the monsoon; during the dry season it falls to 3,600 km.

The World Bank's 2007 Revival of Inland Water Transport: Options and Strategies and Masterplan Study Report 2009 recommended the reclassification of inland waterways along with designation of maintenance-friendly routes. BIWTA is responsible for the development and maintenance of inland river ports and ghat at places adjacent to classified IWT routes.

Due to natural and hydrological conditions, the condition of the rivers has become increasingly fragile, making it difficult for BIWT to maintain the navigability of the water routes network. Widespread waterway outside the classified network have been providing significant transport services mainly in rural areas.

According to the master plan study of IWTA, about 10 lakh substandard engine boats are providing transport services in rural waterways. Features of rural waterways and rural water transport system are as follows:

- The capacity and extent of services provided by the informal sector has not yet been assessed; However, it is believed to be much higher than formal waterways;
- Boat owners cannot afford to ensure efficient and safe transportation;
- Lack of government support and recognition;
- Rural waterways development is considered as a backward concept hence no expenditure is allocated for this waterways development.

As a densely populated country, it is a difficult task to ensure equitable and accessible transport facilities for all. The government of Bangladesh has developed a rapidly expanding road network across the country where waterways is also considered in its development plans.

Development of rural waterways will not only benefit local or rural trade and transport systems but will also significantly increase the level of navigation on the classified IWT network. It should be noted that most of the rural water routes do not have navigable vessels, even small boats cannot ply on these routes during the dry season. There are very few navigable waterways, but due to the shortage of navigability in the dry season, the waterways vessels are facing difficulty. The restoration of navigation to these waterways through maintenance will have a positive impact on the rural economy. The waterways network is broadly divided into two parts;

- a) National Waterways: The inter-country routes known as IWT network at various times including waterways connecting seaports, major and medium seaports, important wharves and landing stations of the country shall be considered as National Waterways;
- b) Rural Water Way: Apart from, water way under the category of IWT, remaining waterways which is connected with upazila, union, growth center, market, health center, social and educational institutions will be considered as rural waterways.

2.2 Bangladesh has 24,000 km of waterways, of which 5,968 km are categorized as Inland Waterway (IWT) designated as Light and Heavy Inland Waterway (IWT) networks. The rest of waterways lie mainly in rural areas which are integral to rural waterways navigation.

More than one million different types of boats ply on this waterways and about 50 percent of the people of rural areas are dependent on this water transport system for movement. The rural waterways have wide-ranging socio-economic and environmental impacts. There is no fully designated government authority or organization has taken any initiative for development, maintenance and management of existing rural waterways outside the graded waterways network under IW. This strategy will help in building an effective and sustainable rural communication network involving rural road network as well as rural waterways for economic growth and poverty alleviation.

2.3 Involvement of local government institutions in the management of rural waterways in view of this, there is a need to formulate and approve a national strategy paper involving local government institutions in the management of rural waterways.

The utility and importance of rural waterways have already been discussed. Besides, this strategy paper is being formulated to set the direction in managerial, technical and financial aspects for developing improved, efficient and safe rural water transport system to make people's communication easier and movement more dynamic. How rural waterways can be kept active and effective by increasing the effective involvement of local government institutions and integrating the rural water network under an institutional framework is highlighted in the strategy paper.

3. Rural Waterways: Law and Policy Framework

The legal and policy frameworks related to rural waterways have two aspects- one is the aspect related to water management, maintenance and development, the other is the aspect related to waterway management and navigation. This section will analyze the main aspects of national water management laws, policies and action plans and review the relevant laws and policy frameworks related to waterways.

This part of the strategy paper reviewed the national laws, policies and strategies on water with the main objective of analyzing the main contents of these legal frameworks as well as studying how the involvement of local government institutions in rural watercourse management has been functioned. The laws, policies and plans that are directly related to the issue of national water and waterways are National Water Policy 1999, National Water Act 1913, Water Regulations 2018, Eighth Five Year Plan 2021-2025, Delta Plan 2100.

In addition, other policies and strategies directly and indirectly related to this issue are the National Water Management Plan 2001, Government Waterbodies Management Policy 2009, all municipal areas of the country, including the Municipal Areas of Metropolitan, Divisional Cities and District Cities, Playgrounds, Open Spaces, Parks and Natural Areas and Water Conservation Act, 2000 and United Nations Sustainable Development Goals 2030.

Disaster Management Act 2012, Comprehensive Small-Scale Irrigation Policy 2011, Coastal Development Strategy 2006, Coastal Zone Policy 2005, National Safe Water Supply and Sanitation Policy 1998, Environment Protection Act 1995, National Forest Policy 1994, Groundwater Management Ordinance 1985 and Forest Act 1927.

In this regard it appears relevant to review three important documents related to rural waterways; These are- National Water Policy 1999, National Water Act, 2013 and the National River Protection Commission Act, 2013.

3.1 National Water Policy 1999

The objective of the National Water Policy is to take all necessary steps in the water resources management of the country in a comprehensive, integrated and balanced manner. The importance of national water management in this policy, strategy, institutional legal framework and special emphasis has been laid on environment, agriculture, industry, health, public investment, government-private sector involvement and public participation issues.

Section 4.10 of this Policy on Water and Navigation Section on Inland Water Transport and its Economic Importance, recommends taking other appropriate measures including dredging of rivers to maintain navigable waterways, including removal of silt to maintain navigable waterways, where necessary.

Simultaneously, the issue of public-private involvement in water management has been highlighted in section 4.4 of this policy. Part E of 4.6 of the policy gives responsibility to local governments to create public awareness on prevention of water pollution and wastage. 4.16 In the stakeholder participation part, the government will play a central role in building local institutions in water resource management and creating a sense and unequivocal consensus

among them about this system. A review of the National Water Policy 1999 shows that there is a lack of clarity on the involvement of local government institutions in the management of rural waterways. The policy mentions the involvement of local government institutions in very general terms but does not specify how this will be implemented.

3.2 National Water Act 2013

Chapter-2 of the National Water Act 2013 specifies the composition, functions and powers of the National Water Resources Council, the apex body on water management. Honorable Prime Minister served as the chairperson of this council. Its total membership is thirty-five. The senior secretary or secretary of the Ministry of Water Resources performs the secretarial duties of this council. The main responsibility of this council is the integrated development of water resources, fair use, safe extraction, equitable distribution, protection and policy formulation and guidance.

It is mentioned in the third chapter of this Act that for the smooth implementation of the functions of the Council, there will be an Executive Committee, which will be chaired by the Honorable Minister of the Ministry of Water Resources. The law specifies the responsibilities of the executive committee. This Act has laid special emphasis on overall water management, development and balanced use.

Article No. 20 of the Act states that no person or institution shall obstruct the normal flow of water. Even no one can illegally construct, embank, or excavate sand. Section 39 of the seventh chapter of the Act states that the Council may, by general or special order, delegate any of its powers or functions under this Act to the Executive Committee, the Chairman of the Executive Committee, the Director General, the Inspector or any other officer as may be necessary or subject to such conditions.

Clear guidelines have been given on national water resources management. But the Act does not mention anything specific issues about the involvement of local government institutions in the management of rural water way. However, the structural aspects of national water management and its authority have been clearly outlined in this law. For example, the highest national policy-making forum is the National Water Resources Council and an effective structure for implementing the policy decisions taken by the council is the Executive Committee.

The work of rural water way management and development will be easier if the working method is determined by taking into consideration the fact that the authorities are responsible for the confirmation of the local government institutions in the management of rural waterways.

3.3 Local Government (Union) Act 2009

The Second Schedule to the Local Government (Union) Act 2009 sets out the functions of the Union Parishad. In this part, the activities of the Union Parishad have been presented in detail. Article 23 of the Second Schedule deals with the management and conservation of wells, waterworks, reservoirs, ponds and other sources of water supply. Article 17 of the Fifth Schedule empowers the Union Council to take effective measures to prevent water pollution

from various sources. The government of the devolved watershed within the union territory of the Fourth Schedule may levy tax from the prescribed portion. Fifth Schedule enumerates 54 acts as offences.

Clause 20 of this schedule states that it shall be an offense for the owner or occupier to remove weeds, creepers or plants from any place adjacent to the public road, notwithstanding that they cause obstruction to traffic or pollute water or are declared to be injurious to public health under this Act. will count. But nothing significant has been mentioned under this Act regarding overall management, maintenance and development of rural waterways.

3.4 Perspective Plan 2021

The Perspective Plan is a key determinant to realize the vision 2041 by achieving growth and eradicating poverty. In the Perspective Plan 2021, the vision of the transport sector is to develop an efficient, sustainable, safe and regionally balanced transport system, where different types of vehicles complement each other and where there is healthy competition with each other. It is mentioned here that this vast expansion of waterway connectivity, if properly utilized and maintained, will bring great development to Bangladesh. Emphasis is placed on full utilization of this potential under the Vision 2041 and for cargo transportation.

The analysis shows that the envisaged plan is a very far-reaching action plan with special emphasis on prioritization of river routes, dredging of rivers to bring back navigability, inter-linkages for expansion of trade and commerce. Simultaneously, special emphasis is placed on improving safety standards of shipping, safety facilities, seaworthiness of vessels and maintaining service and quality. Infrastructural development issues have been identified in waterway development, public-private partnership and friendly facility development, and capacity building of Bangladesh Inland Water Transport Authority has also been emphasized for smooth management of these works. The scope, importance and problems of the maritime transport system have come out very well in this plan. And Bangladesh Inland Water Transport Authority is focused for its overall management.

But it should be noted here that there are extensive waterways in the country outside the jurisdiction of the Bangladesh Inland Water Transport Authority. But if the detailed strategy for the implementation of these goals has been fixed in the inland waterway development of the perspective plan 2021, the speed of achieving the goal of developing a developed Bangladesh by 2041 will be accelerated.

3.5 Delta Plan 2100

Delta Plan 2100's vision is to build a safe, climate resilient delta. Its long-term vision is to ensure long-term water food security, economic growth and environmental stability through water resource management of the delta. This is a very comprehensive and data-driven visionary action plan. The plan identifies six hotspots for water resource management in the country i.e. coastal areas, barren and drought prone areas, haor and flash flood prone areas, hilly areas, riverine or estuarine areas and urban areas.

Analysing the key aspects of this plan will provide integration of rural waterway management issue. Because, the issue of water flow and adequacy in river-channel-canal bill and reservoir has been given special importance. If the water flow is normal, one of the indicators on which it has a positive effect is the waterway transport system. And the economy is closely associated to transportation. Because till today waterway is identified as an accessible, low cost and transport route for poor people. So, taking into consideration this basic aspect of delta planning, it is not a very difficult task to find out the area of involvement of local government institutions in rural waterway management.

3.6 Eighth Five Year Plan (2021-2025)

The inland waterway transport sector has been identified as a very energy-efficient, environment-friendly and cost-effective mode of transport in the 6th chapter of the Eighth Five Year Plan, Transport and Communication Strategy. The data mentions that the maritime sector has not achieved its potential growth as the road transport sector has been prioritized to a greater extent. Recently these waterways are facing various challenges.

Challenges include reduction in depth and width of water in the navigable channel during dry season, siltation of channel bottom, erosion of navigable banks, inadequacy of necessary infrastructure for easy unloading of goods from boats and lack of proper road connectivity with boat landing stations. Keeping in view the vast potential of the inland shipping sector, the government formulated the Inland Shipping Master Plan in 2009. In this master plan, along with identifying the major obstacles in the shipping sector, the necessary recommendations for the development of this sector and reform and investment proposals were formulated. However, the implementation of that grand plan did not progress very far.

In the Eighth Five Year Plan, development of the inland shipping system, reduction of transport costs and environmental protection have been emphasized in order to address these obstacles as well as to establish balance between various modes of transport sector. Although there is nothing clear about whether rural water and the scope of work will be under any organization, it is certain that the strategy paper can play a significant role in the involvement of local government institutions in rural water development as part of the effective implementation of the eighth five-year plan.

3.7 Laws relating to Waterways

In this regard, it appears relevant to review two important documents relating to waterways; these are - Inland Navigation Act, 2021 (Draft). An initiative has been taken to formulate the Inland Navigation Act 2021 by converting the Act of 1976 into Bengal. Also National River Protection Commission Act 2013.

The Inland Navigation Act, 2021 (Draft) deals with operation of waterways, safe transportation, possession, pollution prevention, registration and survey of vessels,

classification of vessels, employment of seamen, examination, verification, marine accidents, investigation, prosecution, constitution of courts, protection of vessels and passengers. , rental insurance, cargo-passenger facility connectivity and design planning issues are mentioned.

This Act applies to inland vessels and all vessels owners, masters, drivers, seafarers, associated persons, organizations, docks, jetties, terminal depots and any type of floating establishment in internal waters. Under this Act, it is proposed to entrust the overall management responsibility to the Director General of the Department of Shipping. Rural waterways management and development partnership-based management is now available under this Act. Multi-dimensional use of rivers for socio-economic development including illegal encroachment of rivers, water pollution and environmental pollution, river pollution caused by industrial and factories, construction of illegal structures and various irregularities and restoration of normal flow of rivers, proper maintenance of rivers and making waterways navigable. This commission was formed to ensure this.

Although the River Protection Commission Act does not specifically say anything about the involvement of local governments, the commission can implement programs for the development of rural waterways by involving local government institutions. From the analysis of the above policies, plans and legal frameworks, it can be seen that although nothing is specifically said about the involvement of local government institutions in the management of rural watercourses, there are several effective guidelines available indirectly. To make these guidelines a reality, the formulation of strategies to ensure the involvement of local government institutions, management of rural waterways, involvements of stakeholders will be a timely and necessary step, which will play an important role in achieving the vision of other master plans.

4.0 Strategy

Several strategies are proposed to ensure the involvement of local government institutions to develop rural waterways transport system. The survey report conducted has served as the main basis of this proposal. Based on the field-based information obtained in the survey report and the opinions of the stakeholders and the review of the relevant documents, the strategies which have been found to be suitable are divided into three categories-

4.1 Short-term strategies;

4.2 Medium Term Strategy; And

4.3 Long Term Strategy

Short Term Strategy:

Short-term strategies are strategies that need to be implemented quickly. Basically, informatization, research and critical orientation are identified as short-term strategies. The strategies are:

Strategy-01: Development inventory of rural water way through engaging involvement of local government institutions

It is necessary to create a reliable database of existing ghats, stations, transfer points and facilities existing in the river and canal banks along with rural water way network. Based on this database, plans will be formulated for the development of rural waterways.

- LGED and Local Government Institutions will assist Local Government Institutions in preparing a reliable database of rural Panipat, existing facilities across the country on a priority basis.
- Rural waterways will be divided into categories based on river size, navigability, geographical location, source and destination of the river route;
- Designation of individual unique numbers for each route;
- Government related national institutes will provide necessary support to LGED in developing this database.

Prioritization of Rural Water Way

Prioritization is a prerequisite for investment. Bangladesh is one of riverine country and rural population majority use only rural waterways for communication. These are the time to set priorities. The poverty of the area should be taken into consideration. Also, the issue of road connectivity or accessible transport must be taken into consideration.

The importance of each route of communication and what benefits can be derived from it should be properly determined so as to derive substantial benefit from the investment. for investment prioritization and execution of other objectives in light of the following will be:

- Townships where only water way is the only means of communication and where there are growth centers, rural market, health care centers, social institutions and other government services;
- Area poverty rate
- Transport importance, tourism potential and productivity of these routes
- Availability of other means of transport
- Environmental and social issues.

Strategy 01: Involve local government institutions to prepare inventory on rural waterways		
Strategic Objectives	Programme	Responsible Organizations
Determine over all features of rural waterways Prioritization Classification of rural waterway through involving local government institution	Conduct survey Prioritization and classifications Allocate funds and human resources	BIWTA, WB, RC, Water Modelling Institute, NILG, BADC, BMDA, DPHE, LGED and IWTA

Strategy-02: Strengthen supervision of local government institutions and increase public awareness to ensure safe, smooth and accident-free movement of rural waterways.

It is important to ensure safe security arrangements, lighting for night movement, toilet facilities, encouraging passengers and boat operators and improving the quality of overall passenger service and fixing the role of local government institutions to ensure safe movement on the waterway. The existing legal framework does not cover the construction and operation of vessels for rural waterways. Various committees constituted by the government have recommended bringing rural boats and boats under a legal framework to ensure safe navigation. Lack of waterway marking and landing facilities poses a potential risk in creating safe rural waterways. There are no training opportunities for boaters to improve their skills and knowledge.

- Landing facilities will be developed for safe take off;
- Provision of training for boat drivers and crew;
- Ensure enforcement of laws regarding overloading;
- Electronic monitoring systems will be introduced to monitor the movement of vessels and to ensure that vessels are not exposed to any risk during disasters;
- Government to formulate legal framework for registration of vessels and issuance of survey certificates for safe navigation and to reduce marine accidents in rural waterways; Or take necessary steps to register and issue survey certificates to vessels within the existing legal framework.

Strategy-02: Strengthening monitoring of local government institutions to ensure safe, hassle and accident free traffic and raise public awareness

Strategic Objectives	Programme	Responsible Organizations
1. Ensure monitoring to save losses of lives and asset in rural waterway	1. Conduct study 2. Prepare report 3. Prepare priority list	LGED and NILGs
2. Ensure safety measures		
3. Raise public awareness		

Strategy 03: Strengthening the involvement of local government institutions in fixing ghat posts, route permits, registrations, annual renewal fees, and fares to bring vessels plying on rural waterways under proper management framework.

Rural water way ghat lease, route permit, registration, annual renewal fee, and fare determination need to be brought into one framework. Local government institutions can take effective steps considering the actual situation in this regard. Effective involvement of local government institutions in controlling the above issues will play an important role in building a sustainable system.

The initiative will be a landmark step in establishing harmony in rural waterway. An acceptable solution of the appropriate issues can be found subject to mutual discussion with the concerned stakeholders and beneficiaries.

Strategy 03: Strengthening the involvement of local government institutions in fixing ghat posts, route permits, registrations, annual renewal fees, and fares to bring vessels plying on rural waterways under proper management framework

Strategic Objectives	Programme	Responsible Organizations
Establish governance in rural waterway	Evaluate the current status Dialogues Fix up fees and rent	LGED and NILGs
2. Ensure engagement of relevant stakeholders		
3. Develop services in rural waterway		
4. Establish regular communication and discussion among the concerned stakeholders including ship owners, drivers, shipping associations, wharf management committees.		

Medium-term Strategy

Issues of institutional capacity, financial resources and manpower resources are considered as part of the medium-term strategy. Special priority has been given to the formulation of integrated plans under the medium-term strategy.

Strategy-04: Technical, mechanical and adequate financial and manpower development of local government institutions including nationally responsible organizations to keep rural waterways flowing and usable effectively.

Operationalization of rural water way transport network is extremely challenging. Declining upstream flow, less normal rainfall, filling and encroachment of rivers, creeks, canals, berms and its extensive waterways have made it increasingly difficult to maintain navigability throughout the year. Then there's the grab trend.

Although there is a multifaceted national initiative regarding the use of surface water, people are mainly using underground water for farming, due to which the water level is going down every year. On the other hand, the accumulation of unexcavated sediments like artery and veins spread across the country is gradually narrowing the rural waterways. Because of this, the range of waterway boat traffic during the monsoon season is abnormally reduced during the dry season.

However, if proper initiatives are taken, maintaining the navigability of these rural waterways is not a difficult task. If water can be conserved immediately after the medium monsoon season by regular excavation, eco-friendly rubber dams, construction of sluice gates, it is possible to create opportunities for boating, fishing and agriculture in many cases.

This requires an integrated national plan. If this surface water is used, it will put pressure on the underground water, which will have a positive effect on the environment and surroundings. The initiative will be sustainable and cost-effective if the roles of local government institutions are properly defined and involved in keeping the rural waterways functioning continuously.

There is a lack of effective capacity of local government institutions to keep rural waterways flowing and functioning. If the local government institutions get technical skills, mechanical facilities, manpower and adequate financial allocation, it is possible to keep the rural waterways operational on a priority basis. The financial return will never be less than the investment. Estimates should be prepared for the development of rural waterways and transport systems. Possible sources of funding could be: 1) Government of Bangladesh and; 2) Development partners.

The organization responsible for the development of rural waterway and landing stations will formulate a development plan in phases. And the government can raise funds from its own sources and development partners to implement the plan. Collection of tolls, fees and levies from users of the same waterway could be a potential source of funding. Considering the financial capacity of the rural poor, it will not be appropriate to set a cost-based tariff or charge for the development and maintenance of waterway, consequently alternative sources

will have to be pursued besides the national budget. However, the reality is that the government of the People's Republic of Bangladesh must take necessary initiatives to finance the maintenance of rural waterways.

Strategy-04: Technical, mechanical and adequate financial and manpower development of local government institutions including nationally responsible organizations to keep rural waterways flowing and usable effectively.		
Strategic Objective	Programme	Responsible Organizations
1. Assess needs of local government institutions in aspects of technical, equipment, funding and human resources	1. Assess current situation and needs 2. Explore outsourcing or PPP possibilities 3. Activities started on a limited scale with priority in local resource extraction 4. Assessment of manpower requirements and recruitment of minimum manpower	BIWTA, WB, RC, Water Modelling Institute, NLIG, BADC, BMDA, DPHE, LGED
2. Find out alternatives like outsourcing or public-private partnership approaches to keep rural waterways navigable		
3. Study the opportunities to reduce dependency on national budget and mobilize local resources to keep rural waterway workable		
4. Deploy human resources and take realistic plan		

Strategy-05: Formulation of master plan involving local government institutions for rural waterways development

Well-planned and sustainable planning is absolutely essential for the development of rural waterways. The investment plan for the development of rural waterways and water transport system should be carried out considering its technical and economic perspective. Waterway network needs to be developed in a well-planned and well-planned manner so that it is navigable throughout the year and provides maximum benefits.

The government must have a clear commitment to formulate a master plan in this regard and implement it in stages. The government has to provide the necessary manpower and money for the implementation of this master plan. Even the alternatives of how local government institutions can collect resources through local resource extraction should also be explored.

Strategy-05: Formulation of master plan involving local government institutions for rural waterways development		
Strategic Objective	Programme	Responsible Organizations
1. Developing the capacity of local government institutions to prepare master plans quickly by using innovative strategies	1. Recruitment of skilled and qualified individuals or institutions 2. Resource mobilization nationally and locally 3. Finance and recruitment of manpower	BIWTA, Water Board, River Commission, Water Resources Planning Agency, NILG, BADC, BMDA, DPCHE, LGED, IWTA
2. Deploy Human Resources and allocate budget		
3. Determine realistic priority and make it happen practically		

Strategy-06: Strengthening the involvement and role of local government institutions in preventing pollution of rural waterways, construction of illegal structures and encroachment.

Rural waterways are getting narrowed due to various reasons. Among them, illegal construction and encroachment. If these ill legal drive are not stopped, it will become difficult to maintain the rural waterways and its flow. Planning for sustainable rural waterways development, development. Participation of relevant stakeholders and community groups is essential at every level of implementation and management.

Community people mainly live in the area adjacent to waterways. Boat drivers, service providers, traders and other related individuals or organizations are identified as key stakeholders in rural waterway. Their participation should be encouraged in such a way that they develop a sense of ownership and participate periodically with interest.

Strategy-06: Strengthening the involvement and role of local government institutions in preventing pollution of rural waterways, construction of illegal structures and encroachment.		
Strategic Objectives	Programme	Responsible Organizations
1. Clear encroachment and illegal constructions in the rural waterway	1. Formulation of lists 2. Involving concerned parties including law enforcement agencies	LGED and local government institutions
2. Keep the normal flow of rural waterways		
3. Bring encroachers, encroachers and builders of illegal structures to book under the law		
4. Develop regular communication and discussion among the concerned stakeholders including ship owners, drivers, shipping associations, wharf management committees.		

Strategy-07: Empowerment of local government bodies to specify the type of vessels according to vessel size and engine horsepower and navigability and breadth of waterways

The boats plying the rural waterways are mostly locally built. There is no local authority to supervise the construction of boats. They are made using common experience and learning. Often powerful engines are installed without considering the structural capabilities and type of boat. And it is done in the hope of making more profit. Which creates risk in many cases causing loss of life and property. Engineering aspects of ship building, engine capacity etc. must be built and operated following standard procedures.

Strategy-07: Empowerment of local government bodies to specify the type of vessels according to vessel size and engine horsepower and navigability and breadth of waterways		
Strategic Objectives	Programme	Responsible Organizations
1. Creating safe rural waterways	1. Assess the current situation 2. Discussion with boat owners 3. Expansion of facilities necessary to ensure quality shipbuilding	LGED and local government institutions
2. Involvement of waterway craft owners		
3. Construction and use of quality boats		

Strategy-08: Strengthening the role of government institutions for building easy communication for the people community people living char or remote areas using rural waterway to connect with the national road network.

According to the changing needs of people living in rural areas connectivity of various modes of communication is required especially between roads and waterways. The connection will significantly reduce the cost and time of the users. Coordinate and regularize the responsible agencies with a view to coordination between different transports information must be shared on regular basis. The concerned agencies in charge of roads and waterways in rural areas should formulate an integrated action plan. It will highlighted the rural roads and waterways to ensure minimum transport cost and time. The Action Plan is in line with the direction of the Master Plan to develop an efficient transport system will be ready LGED and BIWTA will formulate plans through regular coordination so that. By using national and rural waterways, the flow of passengers and goods remains uninterrupted.

Strategy-08: Strengthening the role of government institutions for building easy communication for the people community people living char or remote areas using rural waterway to connect with the national road network.

Strategic Objectives	Programme	Responsible Organizations
1. Building integrated communication networks. Connecting waterways and roads	3. Accelerating progress in all socio-economic indicators	BIWTA, Water Board, River Commission, Water Resources Planning Agency, NILG, BADC, BMDA, DPCHE, LGED, IWT
2. Making communication cost effective in terms of money and time		
3. Accelerating progress in all socio-economic indicators		

Strategy-09: Involvement of local government institutions in the construction and maintenance of necessary road-bridges to facilitate communication with nearby roads from river, creek, bill or reservoir ghats.

Effective steps should be taken to facilitate communication where rivers, creeks, bilges or reservoirs terminate. Sometimes the boats face various complications in reaching the specific destination from the anchorage and that is due to the lack of proper road connectivity. Not only a road connection but somewhere or a bridge, culvert construction has a special demand. Even innovative methods of communication for livestock such as submerged roads can be considered. The point is - if the minimum obstacles to develop an integrated communication system can be removed, it is possible to develop the integrated road communication system easily.

Strategy-09: Involvement of local government institutions in the construction and maintenance of necessary road-bridges to facilitate communication with nearby roads from river, creek, bill or reservoir ghats.

Strategic Objectives	Programme	Responsible Organizations
1. Assess needs for building connection	1. Conduct Study 2. Report Preparation 3. Prepare priority list	LGED and LGIs
2. Determine Priority		
3. Implement construction works		

Long-term Strategies:

Long-term strategies are considered to be those that will primarily play a role in determining the law and policy framework and the responsible authority. Besides, it will play a special role on livelihood, environment and environment, communication i.e. overall lifestyle. Permanent structural aspects and sustainable impacts are considered as part of the long-term strategy.

Strategy-10: Advocacy to enact, revise or prepare supportive laws and policy frameworks for local government institutions to manage, maintain and develop rural waterways

Bangladesh Inland Water Transport Authority (BIWETA) has extensive rural waterways under its purview. Waterways have been playing an outstanding role in the field of rural communication since time immemorial. Rural waterways are a cost-effective way to transport goods and passengers. This water plays a special role in keeping the rural economy dynamic.

When the conduit is unobstructed the area of communication is widened and when it is narrowed the communication becomes limited. Rivers-channels-canals-bells have been filled and rural waterways-dependent communication has changed. There is also pollution, filling, encroachment and construction of illegal structures. When waterways are unobstructed, the area of communication is widened and when it is narrowed, communication becomes limited. Rivers-channels-canals-bells have been filled and rural waterways-dependent communication has changed. Along with pollution, filling, encroachment and construction of illegal structures.

Development, maintenance and monitoring of rural waterways as a public property is a national issue of great importance. As there is no specific authority in the field of rural waterways management, this potential is not being utilized fully. If these rural waterways are maintained by proper authorities, it can play a special role in all indicators of national progress. Bangladesh's vast water resources, a large portion of which are located in rural settings, are largely unprotected from official management. The need for greater and effective involvement of the national government as well as local governments such as zila parishads, upazila parishads and union parishads in the management of these rivers, canals and reservoirs, haor and baor is being felt acutely.

For this purpose, the provision of legal and policy frameworks to implement the rural water-based communication system is considered as an important issue for the effective involvement of local government institutions subject to the review of the existing legal and policy frameworks. That is, there is a special need to clarify the scope of work in terms of law and policy framework.

Strategy-10: Advocacy to enact, revise or prepare supportive laws and policy frameworks for local government institutions to manage, maintain and develop rural waterways		
Strategic Objectives	Programme	Responsible Organizations
1. Review of existing related laws and policies and determination of scope of work	1. Formation of law and policy review committee 2. Review, Drafting, Validation 3. Distribution of responsibilities and fixing of scope of work and issuance of policies/circulars	National Water Resources Council, Executive Committee of National Water Resources Council, River Protection Commission, BIWTA, Water Development Board, NILG, LGED
2. Set demarcation and responsibilities of rural waterways		
3. Formulation, extension, modification or adjustment of policy		
4. Creation of central authority or delegation of responsibilities to		

relevant appropriate government agencies		
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Strategy-11: Delegating responsibility for development and maintenance of rural waterways to LGED involving local government institutions

The Local Government Engineering Department (LGED) under the Ministry of Local Government, Rural Development and Cooperatives may be entrusted with the responsibility of development and maintenance of Rural Waterways and Rural Water Transport System with the active participation of the following local government institutions. LGED has been implementing programs in small-scale water resources management with professional excellence since the 1990s.

Jurisdiction to undertake these responsibilities is provided in laws relating to local government institutions: 1) Upazila Parishad Act 1998 and Upazila Parishad (Implementation of Programme) Rules, 2010, 2) Local Government (Union Parishad) Act 2009, and Union Parishad (Development Planning) Rules, 2013, 8th Five Year Plan, Perspective Plan, Delta Plan and United Nations Sustainable Development Goals have given special importance on water resource utilization.

If rural waterways and rural road communication system are initiated, it will be possible to develop rural transport system at low cost, easily and in light of the needs of local people. By involving local government institutions, effective steps will be taken in the development and maintenance of rural waterways, including:

- Establishing inter-coordination with local government institutions;
- Revival of Rural Waterways in phases on priority basis;
- Construction of protection dams;
- Construction of landing stations and wharves for passenger and cargo movement;
- Provision of navigational safety including channel marking;
- Institutional capacity building

Strategy-11: Delegating responsibility for development and maintenance of rural waterways to LGED involving local government institutions			
Strategic Objectives	Programme	Responsible Organizations	
1. Establish coordination between local government institutions and LGED	1. Formulate and approve legislative reforms and policy frameworks 2. Prioritization and realistic planning of waterways Development Plan 3. Issuance of policies/circulars regarding distribution of responsibilities	Ministry of Planning and Ministry of Local Government, Ministry of Law, National Water Resources Council	
2. Prioritization of development plans			
3. Implementation of multi-faceted activities for waterway development			
4. Delegating responsibility to LGED as central authority			

Strategy-12: Environment, Biodiversity and Social Considerations

One of the strengths of the rural water transport system is that it is environmentally friendly. A river or canal requires a certain amount of water for efficient water-intensive transport systems, and greater water flows for biodiversity. The more waterways can be used, the greater the Because shipping 100,000 tons of goods for consumption by waterways emits less than 500,000 cubic feet of carbon; On the other hand, 26 million cubic feet of carbon is released if this amount of goods is transported by road through trucks. Mechanized boats plying on rural waterways do not have a reverse gear system and therefore require more diesel. But if reverse fuel-friendly gear system is introduced in these boats, the carbon emissions will be even lower.

Strategy-12: Environment, Biodiversity and Social Considerations		
Strategic Objectives	Programme	Responsible Organizations
1. Ensuring environmental, social and biodiversity protection	1. Follow environmental and social protection policies 2. Impact assessment and set actions plan	LGED & LGIs
2. Creating a positive impact on people's lives and livelihoods		
3. Sustainable, environmentally friendly development is ensured through the use of water resources		

Strategy-13: Accelerating development of waterway-centric tourism industry at rural level

Development and maintenance of rural waterways will open new horizons for the tourism industry of the country. Development of rural waterways centric facilities will make tourists interested in visiting rural waterways. Rural waterways should be developed, maintained and managed in such a way as to create opportunities for the development of the tourism industry.

Strategy-13: Accelerating development of waterway-centric tourism industry at rural level		
Strategic Objectives	Programme	Responsible Organizations
1. Identify potentials of economic opportunities	1.Prepare List 2.Take steps to develop tourist spots 3.Launch publicity of the tourist spots	LGED and LGIs
2. Take steps to develop tourist spots		
3. Publicity on potentials tourist spots		

Conclusion:

In a nutshell, a vigorous policy advocacy should undertake with the National Water Resources Council, its Executive Council and the National River Protection Commission and its relevant ministries for approval and implementation of the the strategy. The Ministry of Local Government, Rural Development and Cooperatives (LGRD&C) may take lead in this work and the Local Government Engineering Department (LGED) may provide secretarial support. However, the approval and implementation of this strategy for development of rural waterways will have a positive impact on overall development. The effectively involvement of the local government institutions in pivotal in this regard.

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