

PEOPLE-CENTRED APPROACHES TO WATER AND ENVIRONMENTAL SANITATION

The development strategy of sustainable regional level water management plan: An agenda for Bangladesh perspectives.

R. Hafiz, S. Chowdhury, S. Sultana, Bangladesh

In common with current global concerns over wise use and effective management of water, the Government of Bangladesh is committed to exploring, developing and using its water resources to the benefit of all users. To this end the Ministry of Water Resources published the first National Water Policy in 1999, whereas the paper focuses the Regional Water Management Plan (RWMP) with the intention of guiding both public and private actions in the future for ensuring optimal development and management of water that benefits both individuals and the society at large. This Paper aims to ensure progress towards fulfilling national goals of economic development, poverty alleviation, food security, public health and safety, decent standard of living for the people and protection of the natural environment. The Plan is presented in three phases: in the short-term (2000-05) it is considered a firm plan of ongoing and new activities; in the medium-term (2006-10) it is an indicative plan, and in the long-term (2011-25) a perspective plan. Implementation of the plan is to be monitored regularly and it will be updated every five years (IWRM, 2002). Water is central to the way of life in Bangladesh. Indeed, the river systems, many of which emanate from outside the country, have shaped much of the history, economy, literature and rich culture of the people. However, with a burgeoning population of 129 million expected to rise to 181 million by 2025 and to 224 million by 2050 (IWRM, 2002), the country faces many challenges ahead in an era of increasing globalization. Rapid urbanization is expected with 40% of people living in the towns and major cities by 2025, and 60% by 2050 (WARPO, 2001). Poverty is still endemic with over half the population classified as poor. In addressing these and other related issues, this paper sets new paradigms for the water sector, which include: decentralized water management; cost sharing and cost recovery; private sector participation; community participation; nontraditional financing modalities; regulation separated from supply; and new rights, obligations and accountability.

Introduction

Regional Programmes fall into the sub-categories of generic and region-specific. Generic programmes are those that are applicable to all or most regions. Some actions are required that are common to all regions. They are not necessarily needed throughout each region, and their precise locations will be confirmed at detailed programme design stage. The National Water Resources Database holds much valuable information that will facilitate this process (Egareas associated with different levels of arsenic risk, the locations of different FCD schemes, fish habitats etc.). A central theme of the NWMP (2002) is to develop and manage the river systems on an integrated basis. BWDB (1999) will be responsible for the main and regional rivers, and community groups and individual farmers will be mobilized to improve water management and conservation in small khals, lesser channels and drainage lines. Local Government will interface with both BWDB and the communities, manage the intermediate channels and, along with others, help promote community-based developments (Espejo, N. et al. 1993). Programmes are planned to provide the necessary support at each level throughout the system. These programmes will be separate to, but coordinated with, efforts to rationalize the condition

and management of the large number of public flood control and drainage schemes and irrigation schemes. Many are now underperforming in technical and environmental terms and O&M funding has become a major issue. Policy sets out the directions in this regard. Programmes in the institutional development and enabling environment clusters will provide tactical guidance and necessary legal and regulatory support (Wegelin-Schuringa, M. 1996). The process will be participatory and will involve environmental audit as required under the environmental policy and regulations. Where found feasible and affordable, new public irrigation schemes will be taken up in those areas where irrigation expansion would otherwise be constrained. Continued support will be given to small-scale and minor irrigation, and actions will be taken to promote increased use of force-mode technologies and to improve efficiencies generally (IWRM, 2002).

Southwest region

The SW region has been identified as one that needs urgent attention. Major issues specific to the region are:

- Preservation of the Sundarbans
- Restoration of dry season freshwater inflows to the region

- Maintenance of the coastal embankment system
- Alleviation of coastal drainage congestion
- Improved cyclone protection
- Remedial actions for existing FCDI schemes
- Flood proofing needs in the charlands and low lying areas.

Northeast region

Much of the NE region is taken up by the environmentally important haor basins, and efforts are needed to sensitively manage these in the context of the wider development requirements. Major issues specific to the region are:

- Environmental management of the Haor Basin
- Flash flooding and remedial actions for existing FCD schemes
- Flood proofing of villages in the Haor Basin
- Erosion of old Brahmaputra left bank
- Drainage congestion in the Kalni, Kushiya and other rivers
- Local development of hill irrigation

North central region

As home to the nation's capital, development of the NC region is particularly dependent upon plans to manage urban expansion. Major issues specific to the region are: Major programmes will be taken up to address the water supply,

- Bulk water supplies and pollution clean-up for Dhaka City
- Encroachment on Buriganga and other rivers and channels in Dhaka
- Flooding and drainage problems in parts of the region
- Flood proofing needs in the charlands and low lying areas

Northwest region

The NW region suffers a number of problems associated with flooding in some parts and dry season shortages in the higher land to the west. Major issues specific to the region are:

- Erosion along the right bank of the Brahmaputra
- Flooding and drainage problems
- Remedial measures for existing FCD(I) schemes
- Drought in the western fringes, especially the High Barind
- Flood proofing needs in the charlands and low lying areas (WARPO, 2001)

South central region

Although the SC region has a marked excess of dry season water supplies, it experiences severe flooding from the Padma-Meghna rivers and a number of other problems in the coastal areas. Major issues specific to the region are:

- Maintenance of the existing coastal embankment sys-

tem

- Siltation and drainage congestion
- Improved cyclone protection
- Flood proofing needs in the Charlands and low lying areas

Policy and strategic framework for water management plan

The National Water Policy (NWP) and the Development Strategy constitute the main policy and strategic framework for the Regional Level Water Management Plan (WMP). Besides these, a wide range of policies for various sectors has direct or indirect bearing on the water sector. These include:

- National Policy for Safe Water Supply and Sanitation (1998)
- National Agricultural Policy (1999)
- Industrial Policy (1999)

All these policies and the Development Strategy together provide an extensive framework for management of the water sector. However, a policy for land use planning had not been approved during the NWMP preparation. The efficient design of water services will depend on the principles established for management of the massive urban expansion expected over the next 25 years. There is also as yet no integrated transport policy that would better guide investments in navigation ((Bhatia, Falkenmark 1993).

Regional level water policy goals

- Address issues related to the harnessing and development of all forms of surface water and groundwater and management of these resources in an efficient and equitable manner.
- Ensure the availability of water to all elements of society including the poor and the underprivileged, and to take into account the particular needs of women and children.
- Develop a legal and regulatory environment that will help the process of decentralization, and sound environmental management, and will improve the investment climate for the private sector in water development and management.
- This Strategy, agreed by Government as guideline for the Plan, places equal importance on each of the national goals of:

- Economic development
- Health and Safety
- Poverty Alleviation
- Standard of living
- Food Security
- Environment.

Table 1. Basic water information of Bangladesh in regional aspects

Indicators		Data	Year	Source
Water Resources				
Total annual water resources (AWR)		1,211 cu. km.		9
Water from international rivers as share of annual water resources		91 %		9
Total resources per capita		8,808.0 cu. m.	2000	4,9
Reservoir capacity as percentage of AWR		0.28 %	1995	3
Water Use				
Total annual water withdrawals as share of AWR	Total	1.2 %	1990	9
	Domestic	12 %	1990	9
	Industry	2 %	1990	9
	Agriculture	86 %	1990	9
Water withdrawals per capita		134 cu.m.	1990	9
Irrigated land as percentage of irrigation potential		49 %	1990	1
Groundwater withdrawals per capita		97.6 cu.m.	1990	9
Watershed Management				
Annual rate of change in forest cover (1990-2000)		1.3 %	2000	2
Water and Poverty				
Population with access to water supply	Urban	99 %	2000	7
	Rural	97 %	2000	7
Population with access to sanitation	Urban	82 %	2000	7
	Rural	44 %	2000	7
Incidence of diarrhoea in children under 5 years of age two weeks prior to the survey		6.1 %	2000	5
Number of deaths due to floods and droughts	1990-2001	1,929 persons		8
Economic losses due to floods and droughts	1990-2001	3,204 \$ million		8

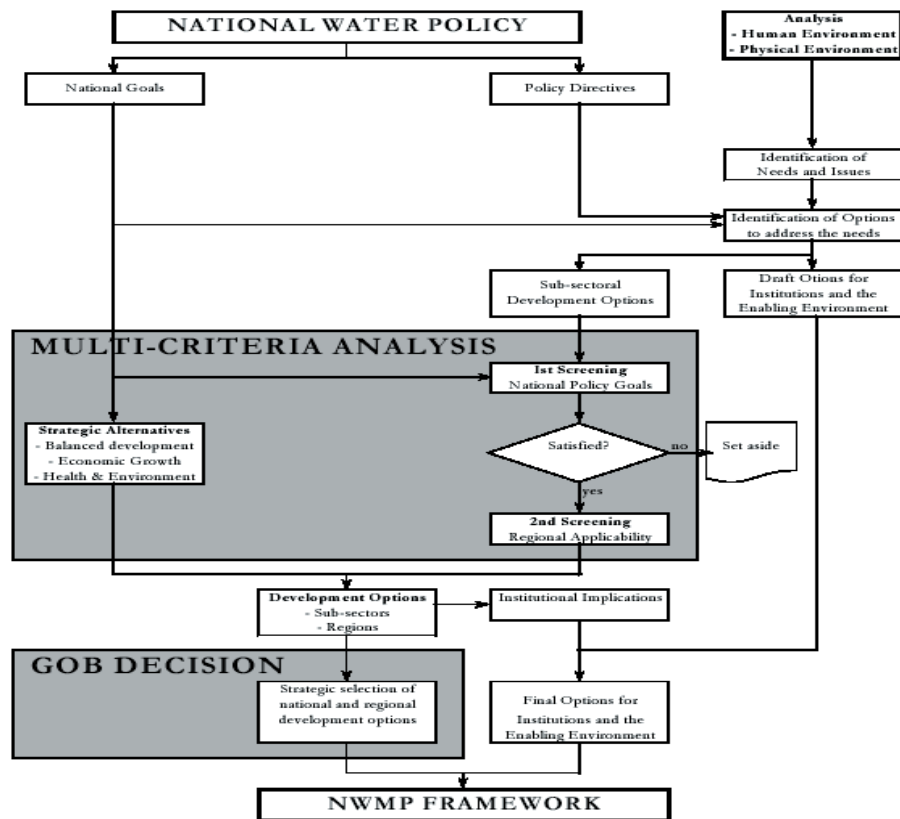


Figure 1. Regional level strategic and planning framework

- Ensure the availability of water to all elements of society including the poor and the underprivileged, and to take into account the particular needs of women and children.
- Develop a legal and regulatory environment that will help the process of decentralization, and sound environmental management, and will improve the investment climate for the private sector in water development and management.

Conclusion

Responsibility for overall coordination of implementation of the Regional Level Water Management Plan lies with the National Water Resources Council (NWRC, 2002), who may issue directives as required through its Executive Committee. As secretariat to the NWRC, it is the responsibility of Water Resource Planning Organization (WARPO, 2001) to overview implementation of the Plan and draw to Council's attention issues that require their particular consideration (Bhatia, Ramesh and M. Falkenmark 1993). To this end, Regional Level Water Management Plan will maintain a Projects Database of all projects relating to Plan implementation which will seek cooperation from all concerned agencies in this regard, and will work closely with Planning Commission to ensure that the information is kept up to date to mutual advantage. The Projects Database is compatible with the Programmes Database, making possible the tracking of individual Programme implementation. At a working level, coordination of project activities will conform with directives as issued from time to time by Government. The present arrangements for District Level Inter-sector Project Evaluation Committees (DLIPEC) should be established by a Planning Ministry instruction which will be kept under review and are expected to be evolved as the capacity of Local Government institutions is strengthened and smoothly implement the Sustainable Regional Level Water Management Plan.

References

- Asian Development Bank (1997). "Second Water Utilities Data Book – Asian and Pacific Region". Philippines, Manila, ADB.
- Bhatia, Ramesh and M. Falkenmark (1993). "Water Resources Policies and the Urban Poor: Innovative Approach and Policy Imperatives". Water and Sanitation Currents, UNDP-World Bank Water and Sanitation Program.
- Integrated Water Resource Management (IWRM), Global Water Partnership, 2002.

Integrated Water Resource Management by TAC, GWPTAC Background Papers no.4. Global Water Partnership, 2002.

Lyonnaise des Eaux (1998) "Alternative Solutions for water supply and sanitation in areas with limited financial resources". France, Nanterre, Lyonnaise des Eaux.

National Water Management Plan (NWMP) Development Strategy WARPO, 2001, Dhaka, Bangladesh.

Raskin, P et al. (1997). Water Futures: assessment of long range patterns and problems. Stockholm Environment Institute.

Sara, Jennifer, M. Garn and T. Katz (1998) "Some key messages about the Demand Responsive Approach".

Washington, USA, The World Bank.

UNCHS (1998) "Partnership in the Water Sector for Cities in Africa". Report of the Cape Town Consultations. Kenya, Nairobi, UNCHS.

Contact address

Roxana Hafiz Ph.D

Associate Professor,

Dept. of Urban and Regional Planning (URP),

Bangladesh University of Engineering and Technology

(BUET), Dhaka and

Chief Editor,

Nagar Shaily (Journal of URP Dept. BUET)

Shariful Alam Chowdhury

Research Associate,

Delta Planners and Builders Ltd,

Dhaka, and

Post-Graduate Research Student of Urban and Regional

Planning (MURP),

Dept. of Urban and Regional Planning,

Bangladesh University of Engineering and Technology

(BUET), Dhaka.

Sabera Sultana

Teaching Assistant,

Dept. of Urban and Regional Planning and

Post-Graduate Research Student of Urban and Regional

Planning (MURP),

Bangladesh University of Engineering and Technology

(BUET), Dhaka – 1000.
