

BANGLADESH**1.4.1.4. Technology action plan for Tidal River Management (TRM) including Computer simulation of tidal flow**

a) Aggregation and grouping of identified measures

Following identification of measures in the stakeholders' consultation workshop, the identified measures have been grouped under broader strategic measures presented in the table below;

Table 12: Grouping of measures under broader criteria

Technology	Strategic measures	Specific measure	Timeline	
			Short and Medium Term (1-5 years)	Long Term 1-10 years
Tidal River Management (TRM) including Computer simulation of tidal flow	Investment	Increasing sector specific budgetary allocation for TRM	√	
		Increasing budgetary allocation to the local administration for the development and maintenance of local level water infrastructures	√	
		Providing free access to the tools and devices e.g. Remote Sensing and Satellite Image Data, for climate modeling, simulation etc.		√
		Making a sector and technology specific proposal and generating funds from the development partners and other international adaptation funding sources	√	
	Capacity development	Reviewing technical and institutional capacities of the existing institutions e.g. Bangladesh Water Development Board and the Institute of Water Modeling	√	
		Increasing institutional capacity on the modeling of sediment transportation	√	
		Developing of a comprehensive action plan with time scale from introducing tidal river management technology to the existing water regulating structures	√	
		Developing site specific geo-informatics database on sediment		√

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		transport, erosion and accretion modeling		
	Organizational/ behavioral change	Increasing collaboration between national and local level authority in planning, designing and implementation of TRM in local level	√	
		Ensuring participation of local people in the planning and designing of TRM and its management	√	
		Learning from local wisdom on the regulation of water flows while not creating water logging and not hampering the agriculture production	√	
	Policy and law	Waive copyright fees for the technologies and software for computer simulation of the tidal flows		√
		Scheduling a structure maintenance plan with the participation of local people		√

b) Technology Action Plan

Table 13: Technology action plan for tidal river management including Computer simulation of tidal flow

Sector: Water					
Specific technology: Tidal River Management (TRM) including Computer simulation of tidal flow					
Measures (Grouped under broader category)	Importance of the measure	Implementing agency	Timescale	Cost for the measures/TRM ('000 USD)	Monitoring, Reporting and verification for measure
	1	2	3	4	5
Investment					
Increasing sector specific budgetary allocation for TRM	To have available fund for tidal river management	Ministry of Finance, MoDMR, MoWR	2013-2017	40	Available funds for the introduction of TRM to the sluice gates

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Increasing budgetary allocation to the local administration for the development of maintenance of local level water infrastructures	To ensure involvement and participation of local government authority in the project planning, implementation and maintenance activities	Ministry of Finance, MoWR	2013-2017	30	Ensured maintenance local level water infrastructures by the local government authority.
Providing free access to the tools and devices e.g. Remote Sensing and Satellite Image Data, for climate modeling, simulation etc.	To reduce investment costs and will increase data quality	SPARSO, BMD, IWM, CEGIS, BUET, DoE,	2013-2023	40	Availability tools and devices in the water sector and engineering institutions
Making a sector and technology specific proposal and generating funds from the development partners and other international adaptation funding sources	To have access to immediate and long-term funds from international sources.	Ministry of Finance, MoDMR, MoWR	2013-2017	20	Readily available technology specific cost estimation for the policy makers and investors
Capacity development					
Reviewing technical and institutional capacities of the existing institutions e.g. Bangladesh Water Development Broad and the Institute of Water Modeling	To identify technical and institutional capacity gaps of the existing institutions	SPARSO, BMD, IWM, CEGIS, BUET, DoE	2013-2017	25	Identified capacity gap of the respective institutions
Increasing institutional capacity for the modeling of sediment transportation	To have well equipped institutions with technical experts.	SPARSO, BMD, IWM, CEGIS, BUET, DoE	2013-2017	45	Institutions are staffed with skilled and expert human resource
Developing of a comprehensive action plan with time scale from introducing tidal river management technology to the	To help policy makers and other stakeholders to prioritize actions and make investment decision on the	MoWR, BMD, MoDMR,	2013-2017	60	Readily available comprehensive action plan for the policy makers and

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existing water regulating structures	priority action. This also will maximize potentials of the respective organizations.				investors
Developing site specific geo-informatics database on sediment transport, erosion and accretion modeling	To help water sector experts and decision makers in designing and implementing infrastructure projects in an efficient manner.	SPARSO, BMD, IWM, CEGIS, BUET	2013-2023	150	Availability of open and accessible database for research use and project designing
Organizational/ behavioral change					
Increasing collaboration between national and local level authority in planning, designing and implementation of TRM in local level	To learn and enhance understanding and knowledge on TRM	BMD, IWM, CEGIS, BUET	2013-2017	50	Increased involvement of local government authority in project design and implementation.
Ensuring participation of local people in the planning and designing of TRM and its management	To ensure proper planning and implementation of TRM	MoDMR, MoWR, BMD, LGED	2013-2017	50	Increased local ownership and social acceptance of TRM technology
Learning from local wisdom on the regulation of water flows while not creating water logging and not hampering the agriculture production	To reduce the risk of any environmental impacts and risk of water logging	MoDMR, MoWR, BMD, LGED, IWM, CEGIS, BUET, DoE, NGOs	2013-2017	30	Reduced environmental impacts of TRM
Policy and law					
Waiving copyright fees for the technologies and software for computer simulation of the tidal flows	To reduce investment costs and will increase data quality	MoDMR, MoWR, BMD, LGED, IWM, CEGIS, BUET,	2013-2023	30	Removed IPR barriers in accessing research tools and technology and reduced technology cost.

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Scheduling a structure maintenance plan with the participation of local people	To ensure proper maintenance of TRM infrastructure	MoWR, BMD, LGED, IWM,	2013-2023	20	Increased involvement of local people in the maintenance of TRM technology.
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1.4.1.5. Technology action plan for Tidal barriers (Sluice gates) Technology

a) Aggregation and grouping of identified measures

Following identification of measures in the stakeholders' consultation workshop, the identified measures have been grouped under broader strategic measures presented in the table below;

Table 14: Grouping of measures under broader criteria

Technology	Strategic measures	Specific measure	Timeline	
			Short Term (1-5 years)	Long Term 1-10 years
Tidal barriers (Sluice gates) Technology	Investment	Making a detail sectoral plan with cost estimation and timeline for construction of new sluice gates and up-scaling the existing ones	√	
		Reviewing and increasing budgetary allocation for the construction and maintenance of the sluice gates	√	
		Making a sector and technology specific proposal and generating funds from the development partners and other international adaptation funding sources	√	
	Capacity development	Developing of a comprehensive action plan with time scale for construction of new sluice gates and up-scaling of the existing ones	√	
		Launch a project together with the TRM for technological innovation for suitability for the coastal areas of Bangladesh.		√
		Developing site specific geo-informatics database on sediment transport, erosion and accretion modeling		√
	Organizational/behavioral	Creating network of experts and generate updated knowledge on river mechanics studies and sediment transport modeling	√	