

## Member's Annual Report 2005

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### **1. About the organization**

#### (1) Name of the organization

Institute of Water Modelling (IWM)

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#### (2) Purpose and roles of the organization

##### a) Historical background of the organization

IWM owes its genesis to the Surface Water Simulation Modelling Programme (SWSMP) launched in 1986 by the Ministry of Water Resources under the Master Planning Organization to develop a high level of analytical capabilities by use of state-of-the-art mathematical water modelling. For developing a sustainable professional institution in carrying out all the mathematical water modelling tasks in Bangladesh including hosting of all Flood Action Plan models, the SWSMP continued in its 2nd and 3rd phases with the technical guidance of Danish Hydraulic Institute (DHI) by forming a new project organisation Surface Water Modelling Centre (SWMC). By the end of 1996, SWMC was transformed into an independent organisation under the Trust Act by a Cabinet decision. From the 1st of August, 2002 Surface Water Modelling Centre has been renamed as Institute of Water Modelling (IWM) in matching with its research and learning status created in its user community. DHI, almost all the FAP studies (particularly the Co-ordination Advisory Technical mission comprising renowned water experts around the world), all the Water Institutions of the country and BUET actively contributed towards adoption of appropriate technology in IWM.

##### b) Purpose and role of the organization

Bangladesh is located in the lowest part of the three major river basins, the Ganges, Brahmaputra and Meghna, and the country is criss-crossed by huge river networks. Impact of one project on the other or the proposed one on the upcoming projects often become so severe and complex that the impact can only be assessed by suitable mathematical modelling of the river system of the floodplain. With this concept, SWMC (presently IWM) started its journey in 1996 and continued to support the planners, designers, implementers and project operators providing with design variables. With the increased stress on water resources because of the increased demand and deterioration of the quality a sustainable water management can only be possible with the participation of

the stakeholders. The IWM models can develop options and present to the stakeholder to participate in the decision making. The participants contributing to the decision making thus are expected to participate in the post-project operation in a more sensible way. IWM does also transfer the technology of participatory decision making using mathematical model to the project managers. Thus, IWM supports in improved decision making.

IWM has provided solutions to both in-country and foreign clients for problems of national concern, conducted research and development activities in relevant fields and arranged trainings for the technological enhancement of its clients and own staffs.

(3) Outline of the organization

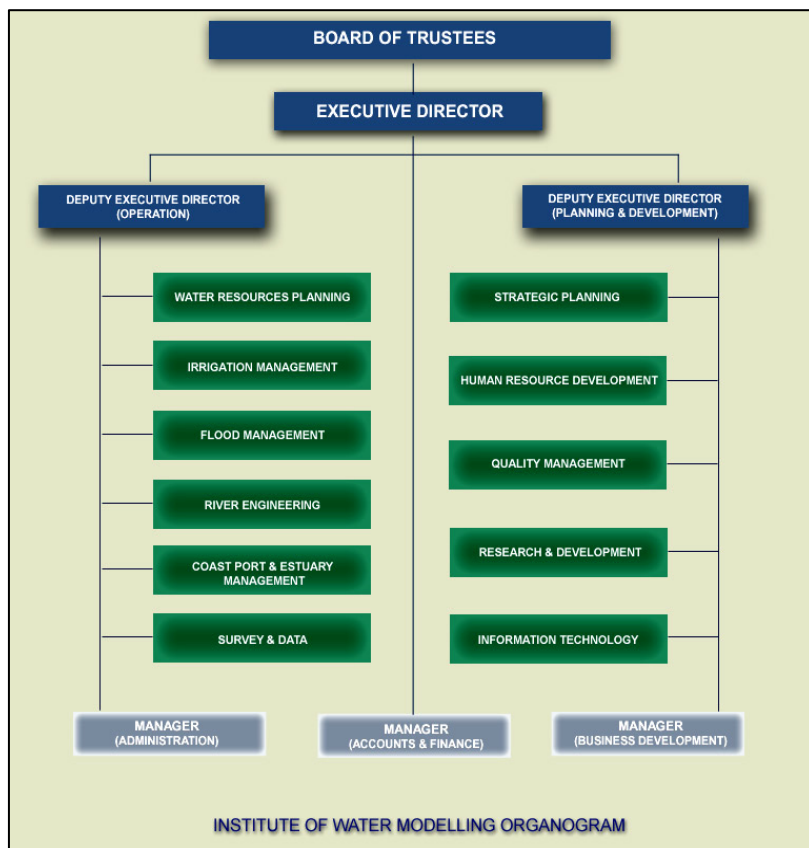
1) Number of staff

Engineers/Specialists : 117  
 Technical/Support staff : 37  
 Admin/Accounts/General staff : 46

2) Amount of the annual budget

Taka 163.10 Million (USD 2.35 Million)

3) Organizational chart



4) Ongoing major projects

Sl.	Name of Project	Scope of Work	Client	Time of Completion
1	Monitoring of Hydrological and Hydraulic Parameters on tidal river management under KJDRP	Support the decision makers for sustainable development of tidal river management	Bangladesh Water Development Board (BWDB)	Jan 2007
3	Mathematical modelling study for improvement of navigation and environment of the Karatoya river in Bogra town	Improvement of navigation and environment in the Korotoya river in and around Bogra town.	BWDB	Jul 2006
4	Real time data collection for FFWC and update & model validation of General/national & 6-Regional models.	Continue support to FFWC super model.	BWDB	May 2007
5	Feasibility study for protection of Brahmaputra river right bank at Bariragirhat & Chilmari bandar under Kurigram district.	Protection of the right bank of Brahmaputra river at Bairagirhat and Chilmari under Kurigram district.	BWDB	Jul 2006
6	Feasibility study for protection of flood embankment of Faridpur -Barisal project from the erosion of the river Padma in the Sadar and Charbhadrasan Upazilla under Faridpur district.	O & M of - Protection of flood embankment for Faridpur -Barisal project and Faridpur town from the erosion of Padma river in Faridpur district	BWDB	Sep 2006
7	Mathematical modelling & Topographic Survey for integrated water resources management of Chalan Beel area including Beel Halmi Development Project.	Carry out primary data collection to support model study & to investigate hydraulic and morphological processes, GW and SW resources.	BWDB	Apr 2007
2	Hydro-Morphological study at proposed Zia Nagar Bridge site at third km of Togra-Zia Nagar -Balipara-Kalaron-Sanaysi Road on Baleswar River.	Determine suitability of the proposed bridge location and approach road alignment from hydro-morphological considerations, provide hydraulic design variables of the proposed bridge structure and approach road.	Roads & Highways Department (RHD)	Sep 2006
8	Resource Assessment and Monitoring of Water Supply Sources for Dhaka City	Quantitative and qualitative assessment of GW and SW resources, develop demand management plan and monitoring system.	Dhaka Water Supply & Sewerage Authority (DWASA)	Dec 2006
9	Development of a GIS Based MIS for DWASA, Network Analysis and System Metering Including Zone Demarcation	Developing an MIS for managing and mapping of various system and asset of DWASA, carry out a water supply network analysis based on mathematical models and GIS, plan a system metering system following zone demarcation study.	DWASA	Dec 2006
10	Dhaka Water Supply Project (ADB TA 4651-BAN-DWASA)	Support the main consultant in devising a Master Plan for water supply system of Dhaka city.	Carl Bro, Denmark	Aug 2006
11	Industrial Environmental Compliance and Pollution Control in Greater Dhaka – Phase I	Identify sources of industrial effluent, determine SW impact and GW vulnerability zones and suggest appropriate technical interventions.	World Bank	Oct 2006

(5) Big events in 2005

a. IWM Users' Conference 2005

Institute of Water Modelling (IWM) organised its 5th Users Conference on December 6, 2005 at BIAM Auditorium, Dhaka as a part of its annual activities. The conference exchanged ideas between the IWM and its valued clients and potential users and helped to get feedback from them to contribute to the development of mathematical model as a decision support tool in all phases of water management. The conference brought IWM in close contact with all potential clients in a single forum.

The conference was attended by more than four hundred water professionals and decision makers. State Minister for Planning and Finance, State Minister for Civil Aviation and Tourism, State Minister for Communications, Secretary and Addl. Secretary to the Ministry of Water Resources were on the stage as the honoured guests. The Executive Director of IWM presented the welcome speech and the key note paper. The speakers and guests applauded IWM for its tremendous jobs in flood forecasting issues, irrigation and drainage development, urban water management, major bridge projects and river bank protection works. The occasion ended with vote of thanks by the Deputy Executive Director (Planning & Development) of IWM.

Prior to the Users Conference, three associated seminars were held on Mathematical Modelling in Urban Water Management and Mathematical Modelling in Water Resources Management on 28 November 2005 and Seminar on Mathematical Modelling in Road Infrastructure Management on 4 December 2005. The recommendations were highlighted in the report presented in the conference by the Executive Director of IWM.

b. Training Programmes arranged by IWM during 2005

Sl.	Name of Training	Participants	Held on / in
1	Training on Mathematical Modelling in design of water Management Infrastructures	23 Fresh design and experienced Design engineers of BWDB	April and May'05
2	Training Programme on "Topographic Survey, Mapping and Hydrological Data Collection by Applying Satellite Based Survey Technique	8 BWDB Engineers	20-24 March'05
3	Training Programme on GIS Mapping and Data Processing	14 DWASA Officials	28 May-5 June' 05
4	Training on "Interactive Information System"	11 BWDB Engineers	May ' 05
5	Training on "MIKE-Urban"	9 Junior Engineers of IWM	16 July to 28 July
6	Presentation on study projects	DWASA and IWM resource personnel	23 July'05
7	Training on water Resource Planning	8 Engineers of IWM	from 7 Aug to 01 Sep 05 (3 days in a week, total 12 days)
8	Computer Aided Project Management	15 Engineers of IWM	31 Dec 05 to 05 Jan 06

### c. About NARBO activity

(1) Activities the organization implemented in 2005 as the member

a. Participated in World Water Week, held during 20-26 August, 2005 in Stockholm, Sweden. IWM had been placed as a co convenor of a session: Modelling of World of Water, Examples from Bangladesh and the Executive Director made a presentation on the topic. The presentation was appreciated by the audience and many of the attendees had shown interest to work with us. IWM representatives actively participated in other international seminar/conferences addressing issues of water resource and its management, like the 3rd DHI Asia-Pacific Software Conference held during 21-22 February 2005 in Kuala Lumpur, Malaysia, the Third International Symposium on Flood Defence held during 25-27 May 2005 in Nijmegen, The Netherlands.

b. In the country, IWM participated in seminar/conference on national and contemporary issues like IWRM, Conflict Resolution, Flood management in Bangladesh and Germany.

As its regular activity IWM carried out several R&D projects, arranged seminars and workshops for stakeholders participation and conducted trainings for technology transfer to the clients.

(2) The contact person and organization's web-site

1) The name of the contact person and contact number (including e-mail address)

Emaduddin Ahmad

Executive Director,

Ph: +88-02-8822105-6, 8824590-1, ext 112, Email: eua@iwmbd.org

2) The organization's web-site URL (English and local language)

<http://www.iwmbd.org>

(3) Resolutions and expectations for NARBO activities

1) The organization's resolutions

IWM is determined to remain the market leader and provide world-class service in the field of water modelling, Computational Hydraulics and allied sciences keeping in mind the implementation of the suggested interventions in an integrated way in line with the national goals and policies of the water sector. At the same time IWM intends to broaden its horizon in the field of education, training and research. The overall degradation in water related environment in the country requires more attention and IWM intends to carry out extensive research and training in these fields.

2) Expectations for NARBO activities

IWM's vision is to be a reference centre in the region by this year and in Asia by 2010. To assist in fulfilling its goals IWM expects future collaboration projects and twinning programmes with foreign organizations and educational institutes. With its technological and manpower resource in hand it can act as a Regional Training Hub and contribute in human resource development.

(4) Accessibility to the NARBO web-site (<http://www.narbo.jp>)

1) Whether IWM has access to the NARBO web-site

Yes

2) Whether IWM has access to the ADB's web-site (<http://www.adb.org/>) and the ADBI's web-site (<http://www.adbi.org/>)

Yes

3) Who can access NARBO web-site usually

All staffs

4) The way of the access (Dial up or others)

Broadband Internet