Report

Preface

As the recognition of importance of IWRM has been surging, the lack of the network to assist RBOs in Asia in their work of introducing and implementing IWRM approach came to light.

With this background, the 3rd World Water Forum was held in Japan in March 2003. At the forum, JWA, ADB and ADBI signed a Letter of Intent to jointly launch NARBO in recognition of the need to cooperate and support RBOs in order to promote IWRM in Asia. Subsequently, the three organizations made inquiries to governmental agencies, RBOs and other related organizations in Asia about their intention to participate in NARBO and solicited their cooperation. After the inaugural NARBO General Meeting was held after the Inception Meeting in Chiang Mai, Thailand in November 2003, NARBO was established in February 2004 with 43 member organizations.

Six years have been passed since the establishment of NARBO. The number of members becomes 71 (member list is attached in Baseline 3) organizations from 16 countries as of March 31, 2010.

Various NARBO activities had been conducted from April 2009 to March 2010 and those activities are summarized in this NARBO annual report 2009.

1. General Information of NARBO

(1) Introduction

The world community has recognized the importance of managing water resources in a more integrated manner. Over the past decades, a series of regional and global water conferences, including the World Water Forums in 1997, 2000, 2003, and 2006, and 2009 have underlined the need to adopt and operationalize the approach of integrated water resources management (IWRM), which is defined by the Global Water Partnership as "*a process to improve the planning, conservation, development, and management of water, forest, land, and aquatic resources in a river basin context, to maximize economic benefits and social welfare in an equitable manner without compromising the sustainability of vital environmental systems*."

By focusing on the management of water and related resources in a river basin context, it is implied that IWRM will be undertaken with the involvement of stakeholders at the basin level. The water conference in Dublin in 1992 referred to the need for management of water resources at the lowest appropriate level. This has

become one of the basic principles underpinning the IWRM approach, and it has led to increased recognition that river basin organizations (RBOs) can realize IWRM at the basin level. Since Dublin, the world community has also recognized the importance of promoting gender and development work as part of the IWRM approach to ensure that women participate in water management at all levels.

"Many forms of RBOs have been established in recent decades, and countries have developed various governance approaches for RBOs, for example, river basin commissions in the People's Republic of China, river basin parliaments in France, river basin committees in Australia, river basin authorities in the United States and Sri Lanka, a lake basin development authority in the Philippines, water resources public corporations in Japan and Indonesia, inter-state RBOs like the river basin tribunals in India and the Murray-Darling Basin Commission in Australia, and international RBOs in the Mekong basin, the Syr and Amu Darya basins, and in the Tumen basin.

Some RBOs were established decades ago and have ceased to exist, while many new RBOs have been established recently. Some RBOs have a large technical capacity, employing thousands of staff, while others may employ just a handful, like the newly established river basin committees in Southeast Asia. While there are many differences between these RBOs, they share a common mission, which is to operationalize IWRM in their respective river basins.

A network to assist RBOs in Asia in their work of introducing and operationalizing the IWRM approach does not yet exist. Consequently, RBOs lack opportunities for exchanging information and experience on their operations, and access for their staff to training and capacity building that draws on the technical and non-technical experience in managing water resources in Asia.

The need for partnerships for action to achieve IWRM was recognized at the 3rd World Water Forum held in Kyoto, Osaka, and Shiga, in the Lake Biwa and Yodo River Basin, Japan, in March 2003, where it was noted that several developed and developing countries in Asia have already established RBOs to implement IWRM. The 3rd World Water Forum highlighted the need to support these RBOs through knowledge sharing and capacity building, especially in developing countries.

The 3rd World Water Forum also emphasized the contributions that IWRM can make to improve the water security of the poor, by incorporating the needs of the poor explicitly in water policies and management practices at all levels.

Recognizing the need for networking and capacity building in the implementation of IWRM, the Water Resources Development Public Corporation of

Japan (reconstituted as Japan Water Agency in October 2003), the Asian Development Bank, and the Asian Development Bank Institute decided at the 3rd World Water Forum in March 2003 in Kyoto, Japan, to collaborate in launching a Network of Asian River Basin Organizations (NARBO), and a letter of intent was signed at the Forum on 21 March 2003. After the forum, the three organizations made inquiries to governmental agencies, RBOs and other related organizations in Asia about their intention to participate in NARBO and solicited their cooperation. The inaugural NARBO General Meeting was held after the Inception Meeting in Chiang Mai, Thailand in November 2003 and the Preparation Meeting for NARBO General Meeting in Tokyo, Japan in January 2004.

(2) Purposes

The goal of NARBO will be to help to achieve IWRM in river basins throughout Asia.

NARBO's objective will be to strengthen the capacity and effectiveness of RBOs in promoting IWRM and improving water governance, through training and the exchange of information and experience among RBOs and their associated water sector agencies and knowledge partner organizations in Asia and to advise the establishment of RBOs in Asia."

To promote IWRM in Asia, the focus of NARBO's activities will be as follows:

1) Activities for the whole of NARBO

The activities joined by all members of NARBO will be as follows:

- Advocacy and raising awareness for IWRM among RBOs, water sector apex bodies, and leading water sector agencies in the region, mainly through regional workshops.
- Sharing of information, good practices, and lessons learned for IWRM among the participating organizations, mainly by operating databases and a web site for IWRM exchanging information, and by sending a newsletter by e-mail as well as posting on the web site and holding (sub) regional workshops.

2) Activities for regional areas of NARBO

RBOs, national and federal governmental organizations with expertise in IWRM, regional and interregional knowledge partner organizations for IWRM, and bilateral and multilateral development cooperation agencies, will be requested to support RBOs in Asia in the following types of activities.

- Supporting NARBO members to improve water governance, including the enabling policy, institutional, and legal framework for IWRM, and the formulation of the action plans.
- Building capacity of RBOs in implementing IWRM, mainly through staff exchange and training among participating organizations.

- Supporting RBOs with technical advice in regard to the planning, conservation, development, and the proper and efficient operation and maintenance of water resources facilities, to improve IWRM.
- Fostering regional cooperation for improved management of water resources in transboundary river basins.

3) The scope of IWRM activities to be supported by NARBO will be approved by the NARBO General Meeting.
4) NARBO's activities will initially focus on the monsoonal areas of Asia.

(3) Charter

NARBO Charter serves as a constitution because it stipulates NARBO organization and activities. The charter was presented and explained by NARBO Secretariat on February 23, 2004, the first day of the 1st General Meeting, and then it was duly approved without change. The charter consists of introduction and five sections. These five sections are as follows:

"Section 1. Denomination and Working Language", "Section 2. Goal and Objective", "Section 3. Activities", "Section 4. Organizations" and "Section 5. Resources".

The secretariat revised the charter partially in August 2005, February 2006 (At the 2nd General Meeting) and February 2008 (At the 3rd General Meeting) in an effort to make it to be completed.

About the whole NARBO Charter, please refer to BASELINE 1

(4) Action Plan

The action plan 2008-2009 was proposed by the secretariat at the 3rd General Meeting on February 22, 2008. The action plan was divided into three categories:

A. Advocacy, Raising Awareness, and Exchange of Information and Good Practices on Integrated Water Resources Management (IWRM)
B. Capacity Building in River Basin Organizations (RBOs)
C. Network Support.

In each category, the activities are divided in two parts, namely led by the NARBO Secretariat and NARBO member organizations. Since NARBO is a network organization, members' contribution is highly required.

About the whole NARBO Action Plan, please refer to BASELINE 2

(5) Members

At the 1st General Meeting, 43 organizations from 11 countries signed the Agreement to Membership in NARBO and 8 organizations signed the Expression of Interest for Membership in NARBO.

After the 1st General Meeting, 11 organizations newly joined NARBO and one organization withdrew (It was abolished in the organizational reform in its country) and another 3 organizations joined NARBO at the 2nd General Meeting (February 14-16, 2006) in Indonesia. As a result, the number of members became 56 from 12 countries.

After the 2nd General Meeting, 9 organizations newly joined NARBO by the 3rd General Meeting (February 20-22, 2008) in Indonesia. As of March 31 2010, the number of members became 71 from 16 countries. (Australia, Bangladesh, Cambodia, China, India, Indonesia, Japan, Korea, Laos, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand Vietnam, and Nepal)

If an organization wants to become a member, the organization is requested to get the application form from NARBO website (http://www.narbo.jp/narbo/registration/join_NARBO.htm).

All they need is to fill registration form and to get a recommendation letter from the existing member, and to send it to the Secretary General. The membership fee is not collected for the time being.

[The list of NARBO members]

As of March,31 2010

Category	Member
River Basin Organization (RBO)	25
Government Organization (GOV)	18
Regional Knowledge Partner (RKP)	19
Inter-Regional Knowledge Partner (IRKP)	8
Development Cooperation Agency (DCA)	1
Total	71

River Basin Organizations (RBOs)

Classification		Country/Region		Organization
Member	RBO	Indonesia	M	Jasa Tirta I Public Corporation (PJT I)
		Indonesia	M	Jasa Tirta II Public Corporation (PJT II)
		Indonesia	M	Jragung-Tuntang Basin Water Resources Management Unit (BWRMU) (Balai PSDA Jragung-Tuntang)
		Indonesia	M	Balai Besar Wilayah Sungai Bengawan Solo
		Indonesia	M	Balai Besar Wilayah Sungai Pompengan Jeneberang
		Indonesia	M	River Basin Water Resources Management Unit Pekalan Sampean (PSDA)
		Indonesia	M	Balai Pengelolaan Sumber Daya Air Ciujung-Ciliman Banten (BPSDA)
		Indonesia	M	Sermo Water Resources Management Unit (BPSDA)
		Indonesia	M	River Basin Water Resources Management Unit Citarum (PSDA)
		Japan	S	Japan Water Agency (JWA)
		Korea	M	Korean Water Resources Corporation (K water)
		Laos	M	Nam Ngum River Basin Development Sector Project
		Malaysia	M	Selangor Water Management Authority (SWMA)
		Pakistan	M	Indus River System Authority (IRSA)
		Philippines	M	Laguna Lake Development Authority (LLDA)
		Sri Lanka	M	Mahaweli Authority of Sri Lanka (MASL)
		Thailand	M	Bang Pakong River Basin Committee (BPRBC)
		Viet Nam	M	Cuu Long & Dong Nai River Basin Organization
		Viet Nam	M	Red River Basin Organization (RRBO)
		Viet Nam	M	Day River Basin Organization
		Viet Nam	M	Vu Gia Thubon River Basin Organization
		Viet Nam	M	Ca River Basin Management Council
		Viet Nam	M	Cau River Basin Planning Subcommittee
		Southeast Asia	M	Mekong River Commission Secretariat (MRC)
		Indonesia	M	Balai Bsear Wilayah Sungai Brantas

M: Member, S: Secretariat

Governmental Organizations (GOVs)

Classification		Country/Region		Organization
Member	GOV	Bangladesh	M	Bangladesh Water Development Board (BWDB)
		Bangladesh	M	Local Government Engineering Department (LEGD)
		Cambodia	M	Ministry of Water Resources and Meteorology (MOWRAM)
		Cambodia	M	Department of Hydrology and River Works (DHRW)
		Indonesia	M	Directorate General of Water Resources (DGWR)
		Indonesia	M	Water Resources Development, West Nusa Tenggara Province
		Japan	M	Water Resources Department, Land and Water Bureau, Ministry of Land, Infrastructure, Transport and Tourism
		Laos	M	Water Resources Coordination Committee Secretariat
		Malaysia	M	Department of Irrigation and Drainage (DID Malaysia)
		Philippines	M	National Water Resources Board (NWRB)
		Philippines	M	Department of Environment and Natural Resources (DENR)
		Sri Lanka	M	National Water Resources Authority (NWRA)
		Thailand	M	Department of Water Resources, Ministry of Natural Resources and Environment (DWR, MoNRE)
		Viet Nam	M	Department of Water Resources Management, MoNRE (General Office for RBO, WRD, MARD)
		Viet Nam	M	General Office for RBOs in Viet Nam (GO-RBO)
		Viet Nam	M	Southern Institute for Water Resources Planning (SIWRP), Ministry of Agriculture & Rrural Development (MARD)
		Viet Nam	M	Department of Natural Resources and Environment of Dong Nai Province
		Nepal	M	Water and Energy Commission Secretariat

M: Member, S: Secretariat

Regional Knowledge Partner (RKP), Interregional Knowledge Partner (IRKP), Development Cooperation Agency (DCA)

Classification		Country/Region		Organization
Member	RKP	Southeast Asia	M	Global Water Partnership (GWP) SEA RWP
		South Asia	M	Global Water Partnership (GWP) SAS RWP
		South Asia	M	South Asia Network of River Basin Organization (SASNET-RBO)
		South Asia	M	The Capacity Building Network for Integrated Water Resources Management South Asia (CapNet SA)
		Bangladesh	M	Institute of Water Modeling (IWM)
		Indonesia	M	Indonesia Water Partnership (InaWP)
		Indonesia	M	The Foundation on Water Affairs ADHI EKA
		Indonesia	M	Faculty of Engineering, Brawijaya University
		Indonesia	M	Research Centre for Water Resources (RCWR)
		Indonesia	M	Center for Environment & Civil Engineering Research
		Indonesia	M	Post Graduate Study on Water Resources Management Faculty of Engineering Gadjah Muda University
		Indonesia	M	SEMBRANI foundation
		Japan	M	JAWA - Japan Water Resources Association
		Japan	M	Japan River Restoration Network (JRRN)
		Japan	M	Graduate School of Management, Kyoto University
		Japan	M	Civil Engineering Research Institute for Cold Region, PWRI
		Malaysia	M	National Hydraulic Research Institute of Malaysia (NAHRIM)
		Nepal	M	International Centre for Integrated Mountain Development (ICIMOD)
		Thailand	M	Thailand Water Resources Association (TWRA)
	IRKP	Inter-region	S	Asian Development Bank Institute (ADBI)
		Inter-region	M	Asia Pacific Association of Hydrology and Water Resources (APHW)
		Inter-region	M	International Centre for Water Hazard and Risk Management (ICHARM)
		Inter-region	M	International Research and Training Center on Erosion and Sedimentation (IRTCES)
		Inter-region	M	IUCN - The World Conservation Union
		Inter-region	M	International Water Centre (IWC)
		Inter-region	M	International Water Management Institute (IWMI)
		Inter-region	M	The World Wildlife Fund International (WWF International)
	DCA	Inter-region	S	Asian Development Bank (ADB)

M: Member, S: Secretariat

About the NARBO members' list (Detail), please refer to BASELINE 3

(6) Chairperson, Vice-Chairperson and Secretariat

1) Chairperson

Chairperson: Dr. Mochammad Amron
(February 22, 2008 -)
(Director General of Water Resources, Minister of Public Works, Indonesia)

2) Vice-Chairperson

Vice Chairperson: Mr. K. W. Ivan de Silva
(October 31, 2006 -)
(Director General, Mahaweli Authority of Sri Lanka)

3) Secretariat

a) Secretary General

Former Secretary General: Mr. Yasutaka Hamada
(October 1, 2006 – September 20,2008)
Former Acting Secretary General: Mr. Masaru Kubota
(October 1, 2008 – January 15, 2010)

Acting Secretary General: Mr. Katsuaki Kawano
(January 16, 2010 –)
(Executive Director, Japan Water Agency)

b) Vice Secretary General

Mr. Toshiyuki Yoshioka
(November 1, 2008 -)
(Director, International Affairs Division, JWA)
Mr. Wouter Lincklaen Arriens
(February 24, 2004 -)
(Lead Water Resources Specialist, ADB)

c) Secretariat

NARBO Secretariat consists of JWA, ADB and ADBI. The headquarters of the secretariat is in JWA.

2. Record of activities in 2009

Table of activities

Year	Month	Name of Activity	Outline of Activity	Action Plan
2009	January	LOI between ADB and JWA	- Signed on 11 Jan at ADB HQ -Acknowledgement by Chairman and Vice-Chairman	
	February	The Study Meeting on Water-Related Disaster and Its Management in Asian Counties	- Held in Hoi An, Viet Nam on 17 - 21 February - Hosted by JWA - Attended by 5 Delegates from 5 countries	
		The 5th IWRM Training	- Held in Hoi An, Viet Nam on 18 - 25 February - Hosted by VGTB River basin Committee - Attended by 24 Delegates from 6 countries	B.a.1
	March	The 5th World Water Forum	-The Launching Ceremony "IWRM Guidelines at River Basin Level" held on March 16 -Open Workshop "IWRM Guidelines at River Basin Level" held on March 20 - JWA convened session 3.2.1	
		NARBO Newsletter	16th Issue	A.a.2
	April	Regional Launching Workshop of CRBOM	-The Launching Workshop held on April 27 - May 1 in Solo, Indonesia - Attended by 170 participants from 20 countries	A.a.7
		NARBO Newsletter	17th Issue	A.a.2
	May	Twining Program between JWA and MASL in Sri Lanka	- 4 senior engineers took part in the program held in Japan from May 11 to May 30.	B.b.2
	June	The 2nd Technical Advisory Committee	-2nd TAC was conducted on 25 June 2009 at Waterhub in Singapore -19 delegates from NARBO's Knowledge Partner gathered.	C.1
	July	The workshop by IRTCES in China (International Research and Training Center on Erosion and Sedimentation)	-JWA, as one of the NARBO members, dispatched 4 staff to the workshop from July 27 to August 3 to make lectures on IWRM Guidelines at River Level.	A.a.5
2009	August	NARBO Newsletter	18th Issue	A.a.2

Year	Month	Name of Activity	Outline of Activity	Action Plan
		The launch of the K–Water regional knowledge Hub on water quality management in river basins.	-It was held August 21 in Daejeon. -The Citarum river basin project pursuant to a letter of intent (LOI) between ADB and K–water was also announced.	C.2
	October	The 9th International Institute for Applied Systems Analysis – Disaster Prevention Research Institute Kyoto University Conference on IDRM	- The conference held on Oct 12 - 16 - Hosted by DPRI - NARBO secretariat made a presentation on IWRM Guidelines	A.a.5
	November	Twining Program between JWA and MARD in Viet Nam	- Exchange of personnel implemented on Nov 10-26 - 3 water professionals from MARD delegated - Exchange of personnel implemented on Nov 2-6 - 2 engineers from JWA delegated	B.b.2
		The 6th IWRM Training	- Held in Da Nang, Viet Nam from November 30 to December 7. - Hosted by VGTB River Basin Committee and other concerning organizations	B.a.1
2010	January	NARBO Newsletter	19th Issue	A.a.2
	February	NARBO Case Study Workshop - Follow up for NARBO 6th IWRM Training	- Held in Bangkok on February 25 - 26 - Hosted by DWR of Thailand - Attended by 5 Delegates from 5 countries	B.a.1
		Twining Program between JWA and MALS	- Exchange of personnel implemented on February 4 - 16 - 2 engineers from JWA delegated	B.b.2
	March	NARBO Newsletter	20th Issue	A.a.2

A. Advocacy, Raising Awareness, and Exchange of Information and Good Practices on IWRM

I. Website

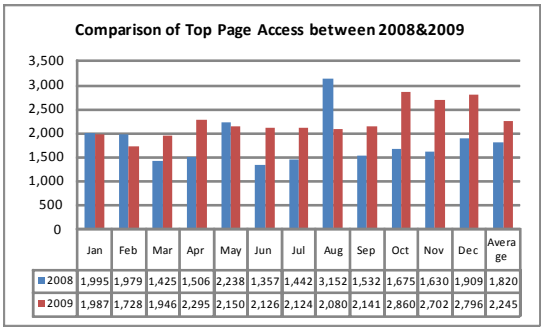
1) NARBO Website

One of the main activities conducted as NARBO activities is to share the information on IWRM. As stated in the action program, NARBO provides news on NARBO activities, information on introducing IWRM in river basins in Asia, and publications related to IWRM through its website. (Fig-1) The website has been managed by JWA, the headquarters of the secretariat, since 2004, and improved for easy handling and visibleness.

Fig-1 NARBO Website

2) Database

One of the main characteristics of NARBO Website is that it has a database for members only. You can see annual reports submitted by the member organizations, sources used in IWRM trainings and workshops, and information on member organizations from the database. You need to enter the password to access it.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
2008	1,995	1,979	1,425	1,506	2,238	1,357	1,442	3,152	1,532	1,675	1,630	1,909	1,820
2009	1,987	1,728	1,946	2,295	2,150	2,126	2,124	2,080	2,141	2,860	2,702	2,796	2,245

Fig-2 Comparison of Top Page Access between 2008 & 2009

3) Hit Count

JWA records the hit count to research the degree of interest to NARBO website. Comparing the monthly average hit count to the top page between 2008 and 2009, there were 1820 access in 2008 and 2245 access in 2009 respectively. This shows its great increase from 2008 to 2009(See Fig-2). Also the monthly hit count in 2009 shows that the access tends to increase at the year-end (See Fig-3).

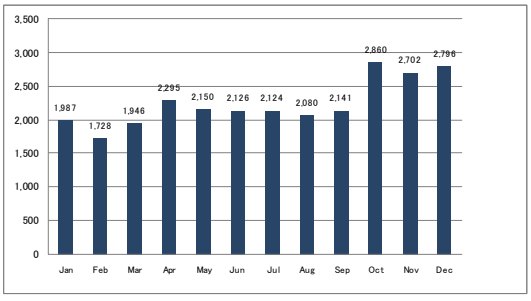


Fig-3 Transition of Monthly Top Page Access in 2009

II. Newsletter

Newsletter is recognized as another useful vehicle for NARBO activities along with website, and Headquarters of the Secretariat (Japan Water Agency) is in charge of newsletter. In the same manner, members' positive involvement regarding information gathering is essential. JWA has issued the 16th, 17th, 18th ,19th and 20th issue in April, May, August 2009 and January, March 2010 respectively.

All newsletters were posted on NARBO website to make it possible for all members to see easily and sent to the contact person at each member organizations by e-mail.

Topics	
Core Activities	Regional Workshop on Water and Climate Change Adaptation Twinning Program (2) - Training Course Held in Japan NARBO's 5th IWRM Training: Keys for Success
Members Initiative	ADB and JWA agreed to strengthen alliance for water security in river basin
Announcement	Introduction of NARBO New Members from Viet Nam
From Secretariat	Submission deadline of Member's Annual Report 2008

The 16th issue

Topics	
NEWS	IWRM Guidelines at River Basin Level launched at the 5th World Water Forum NARBO Members' Activities at the 5the World Water Forum Study Meeting on Water-Related Disaster in Hoi An, Viet Nam, February 17-21, 2009 NARBO Meeting held in Istanbul, 17th March, 2009
Insight	Translation of IWRM Principles into Practical Application - IWRM Guidelines at River Basin Level The 5th IWRM Training in Hoi An, Viet Nam,February 18-25,2009
Announcement	NARBO New Members: ICIMOD and CERI
From Secretariat	Submission Deadline of Member's Annual Report 2008 New Members of NARBO Secretariat NARBO seeks your Articles!!

The 17th issue

Topics	
Insight	Special Topic; Coming NARBO IWRM Training will be announced soon!
NEWS	BBWG Brantas has joined NARBO! "Regional Launch Workshop of the Center for River Basin Organizations and Management (CRBOM)" Report of the 2nd Technical Advisory Committee Meeting IRTCES Silver Jubilee Celebration and International Advanced Training Workshop on IRBM Twinning Program between JWA and MASL- 2009
Announcement	Annual Report 2008 has been issued!
From Secretariat	New Comer

The 18th issue

Topics	
News	The 6th NARBO Training was held in Da Nang, Viet Nam–Preliminary Report MARD–JWA Twinning Program shared Good IWRM Practices in JAPAN JWA and MARD held Twinning Program in Viet Nam The 9th IIASA–DPRI Conference on Integrated Disaster Risk Management New ADB Publication: "Water Rights and Water Allocation: Issues and Challenges for Asia"
Insight	Launching APWF Water Knowledge Hub and Signing of Letter of Intent for the Indonesia Citarum Project
From Secretariat	Newcomer

The 19th issue

Topics	
News	The International Year of Sanitation (IYS) Follow-up Conference NARBO Case Study Workshop – Follow up for NARBO 6th IWRM Training – A memorable exploration of Mahaweli River Basin – A report from Twinning Program between MASL and JWA 2010 in Sri Lanka –
Information	Date of the 4th General Meeting
From Secretariat	New Member of NARBO – The Water and Energy Commission Secretariat (WECS) – Reminder of the Member Annual Report on 2009 and Questionnaire for the NARBO Action Plan 2010-2011

The 20th issue

III. NARBO Promotion

1) IRTCES Silver Jubilee Celebration and International Advanced Training Workshop on IRBM NARBO/JWA held a session on IWRM Guidelines at River Basin Level in the workshop

The International Research and Training Center on Erosion and Sedimentation (IRTCES) held Silver Jubilee Celebration and Seminar on Integrated River Basin Management under Global Climate Change, on July 29, 2009, in Beijing, PR China. It also held International Advanced Training Workshop on Integrated River Basin Management from July 27 to August 3, 2009.

IRTCES was jointly set up by the Government of PR China and UNESCO in 1984 and is UNESCO water-related Category Ⅱ center, and it is a NARBO member (as Inter Regional Knowledge Partner). IRTCES Silver Jubilee Ceremony was held with tne presence of Mr. Chen Lei, Minister of Water Resources of PR China and Mr. W. R. Erderen, Assistant Director General of UNESCO (IRTCES). In the Seminar on Integrated River Basin Management, 4 keynote lectures were provided. Mr. Erderen was also a lecturer and introduced 'IWRM Guideline at River Basin Level' in his lecture. He also mentioned that the Guideline project was conducted with support from NARBO.

International Advanced Training Workshop on Integrated River Basin Management was held as a back to back event of IRTCES Silver Jubilee Celebration. 52 participants (includes 28 international participants) attended both the Siver Jubilee Celebration and International Advanced Training Workshop. Japan Water Agency (JWA), as a NARBO Secretariat, dispatched 4 experts to held a session on IWRM Guidelines at River Level in the Training Workshop.

Session on IWRM Guidelines at River Basin Level was held on 14:00-17:00, July 30, 2009. 28 International participants gathered from various countries such as Afghanistan, Australia, Bangladesh, DPRK, Hungary, India, Indonesia, Iran, Mongolia, Myanmar, Nepal, Romania, Sri Lanka, Sudan, Uganda, and Uzbekistan, and 24 domestic participants attended the session. 4 experts dispatched from JWA held the session at the request of IRTCES through UNESCO and UNESCO Beijing Office. The session was composed of 4 sub-sessions.

Session 1 comprised Opening Remarks, Introduction to background of the Guidelines Project, presentation of the Guidelines Part 1 and Q&A session. At the Opening Remarks, Dr. Kentaro Kido, JWA expert, introducted NARBO and JWA. He also introduced one participant from Sri Lanka to other participants. The person is Mr. K. W. Ivan de Silva, Vice Chairperson of NARBO. He attended the workshop as an activity of UNESCO national commission of Sri Lanka.

Participants actively asked questions to our presentation. Major questions regarding session 1 is as follows;

(1) Has the Guidelines already introduced to the training program?

(2) How to make the highest position of decision maker understand importance of IWRM?

(3) How to utilize the Guidelines in the trans-boundary issues?

Mr. Ivan de Silva made a comment on trans-boundary issues that education of IWRM to all people can finally leads to the solution of the challenges in the future, and that we have to try to work hard for IWRM within their countries respectively now.

Theme of Session 2 is introduction of Part 2 of the Guidelines and sector perspectives. Participants, on the whole, agreed to the necessity of sector perspectives in implementing IWRM and some example description of sector perspectives provided in the Guidelines.

Session 3 focused on IWRM Process with IWRM Spiral and Key for Success. Mr. Takano made a presentation in this session. Participants were very interested in the Key for Success and their linkage to IWRM Process and IWRM Spiral. One typical question was ‘Are Keys for Success indicators?’. Our answer was as follows; Key for Success is not an indicator but a key for action, therefore we don't have to do all the Keys for Success in the implementation of IWRM. One Key for Success may be enough to turn the spiral if the key is needed to overcome the challenge we are facing to.

In Session 4, Mr. Susumu Fujioka, JWA expert and NARBO Secretariat, made a presentation on good example provided in the guidelines. He introduced good example of Tone river, Japan with the implementation of IWRM Process and Spiral. He also explained the Pentagram which is included in the guidelines as useful tool. Participants' reaction was very positive and they told to us that they could understand clearly how the Guidelines is practical.

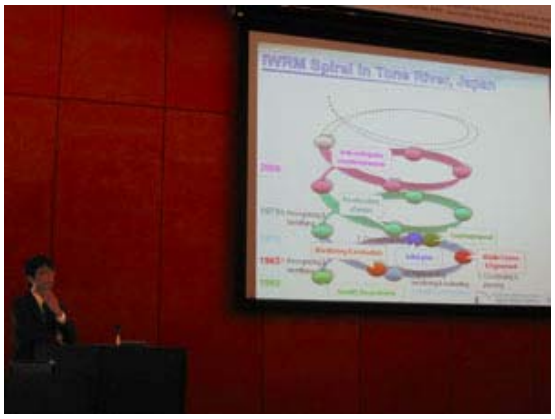
Finally, Dr. Hiromasa Tatsuzawa, JWA expert, addressed Closing Remarks. He mentioned that IWRM is a step-by-step processs toward happiness and satisfaction and 'coordination' is important in order to achieve both.

2) The 9th IIASA–DPRI Conference on Integrated Disaster Risk Management Scientific Challenges in Implementing

Integrated Disaster Risk Management in a Changing World12–16 October 2009

The titled international academic conference was organized by Disaster Prevention Research Institute (DPRI) Kyoto University, Japan in collaboration with International Institute for Applied Systems Analysis (IIASA), Austria. The major concern of this forum is how to put into practice the Integrated Disaster Risk Management as titled. Actually, the Integrated "Water Resources" Management seems to have the same concern.

On behalf of NARBO Secretariat, Mr. Tatsuo KUNIEDA participated in this event and made a presentation of the IWRM Guidelines which was produced by UNESCO in collaboration with NARBO in 2009. The Spiral Model proposed in the Guidelines was praised by many professors and scientists as an ingenious and facilitative idea with lots of good examples and their keys for success descriptions.



IV. Knowledge Networking

1) Regional Launch Workshop of the Center for River Basin Organizations and Management (CRBOM)

a) About CRBOM

The Asia-Pacific Water Forum (APWF) launched its network of regional water knowledge hubs in 2008 to improve water security in the Asia-Pacific region by generating and sharing knowledge in more than a dozen water knowledge domains. Called KnowledgeHubs, the network has 13 confirmed regional hubs to date, among them Indonesia's Center for River Basin Organizations and Management (CRBOM). CRBOM is a newly created alliance of agencies belongs to the Government of Indonesia, composed of the Ministry of Public Works' Directorate General of Water Resources (DGWR), the Ministry's Research and Development Agency, and two corporate-type river basin organizations - Jasa Tirta Ⅰ and Ⅱ Public Corporations in collaboration with NARBO Secretariat partners - Japan Water Agency (JWA), Asian Development Bank (ADB), and ADB Institute. The entities of the Government of Indonesia within CRBOM have decades of experience establishing and operating public utility-type and corporate-type river basin organizations; planning and developing water resource use and conservation; managing technical, financial, and management issues associated with river basin organizations and management; operating and maintaining water resource infrastructure; managing watersheds and river environments; and conducting research and development in hydrology, hydraulic structures and geotechnical engineering, river engineering, and sediment management. CRBOM aims to provide local, regional, and national-level government agencies; river basin organizations; water service providers; and others with the most reliable, effective, and practical information; analysis; advice; and

capacity-development services in the field of river basin organizations and management. More specifically, the regional water knowledge hub will:

- Assist clients in establishing river basin organizations and river basin management systems that integrate up-to-date quality management systems;
- Conduct applied research and development on river environments, hydrology, hydraulic structures and geotechnical engineering, river engineering, sediment management (sabo technology), coastal areas and swamps, and irrigation;
- Prepare norms, standards, procedures, guidelines, and manuals for optimal river basin organization and management;
- Instruct water sector personnel in the use of ISO 9001 standards for the design, operation, and maintenance of water resources and infrastructure;
- Educate clients in dam safety and the use of remote sensing and geographic information system (GIS) in water resources management;
- Advise clients on the provision of permits for the preparation, allocation, use, and exploitation of water resources in river basins;
- Act as an information clearinghouse by conducting seminars and workshops, publishing a journal on river basin organizations and management, and facilitating the face-to-face and electronic exchange of river basin-related information; and
- Provide consulting services to river basin organizations in the areas of technology, policies, and management.

b) CRBOM Launch

CRBOM's knowledge partners will include local, national, regional, and international research institutions; water knowledge institutions; and networks dedicated to contributing information and sharing best practices and lessons learned to develop knowledge and capacity in river basin organizations and management. CRBOM and Asian Development Bank, in collaboration with Network of Asian River Basin Organizations (NARBO) and APWF's KnowledgeHubs network were jointly organizing the regional launching workshop of Indonesia's CRBOM on 27 April - 1 May 2009 in Lor In Hotel, Solo City, Central Java, Indonesia. The event launched CRBOM as the regional water knowledge hub for river basin organization and management under the Asia-Pacific Water Forum's (APWF's) KnowledgeHubs initiative, and allowed prospective clients of the hub to share their challenges and expectations for the knowledge and capacity development services to be offered by CRBOM. The event was attended by 170 partcipants from 95 organizations from 20 countries.

The objectives of the event were

(i) to launch CRBOM as a member of

the APWF's KnowledgeHubs network;

(ii) Present findings and lessons learned from the Process Development for Preparing and Implementing IWRM Plans in Bangladesh, Indonesia, Pakistan and Viet Nam;

(iii)Formulate a work plan, modalities for country assessments, performance benchmarking of river basins organizations, and the preparation of action-oriented river basin development roadmaps for investment.

This launching of CRBOM as a member of the APWF's KnowledgeHubs network was conducted together with

(i) A completion workshop for ADB's project RETA 6351 on "Process Development for Preparing and Implementing IWRM Plans," which will present findings and lessons learned from Bangladesh, Indonesia, Pakistan and Viet Nam;

(ii) An inception workshop for ADB's project RETA 6470 on "Managing Water in Asia’s River Basins: Charting Progress and Facilitating Investment,"which will support NARBO's activities related to implementing integrated water resources management.

CRBOM was launched officially by Mr. Iwan Nusyirwan, Director General of Water Resources on behalf on Minister of Public Works, Government of Indonesia on 28 April 2009. On this occasion, it was inagurated the members of CRBOM team consists of

(i) Mr Isnugroho — Executive Director,

(ii) Mr Hermono Suroto Budinetro — Deputy Director of Information and Technology,

(iii) Mr Rahardjanto — Deputy Director of Programme and Evaluation,

(iv) Mr Fahmi Hidayat — Deputy Director of Training and Dissemination,

(v) Mr Hetomo — Deputy Director of General Affairs,

(vi) Mr Leonarda B. Ibnu Said — Liaison Officer.

There were many expectations stated by the prospective CRBOM's clients during the regional launch workshop. In supporting RBOs performance benchmarking, they expected CRBOM to establish consolidated database of RBOs in Asia, to conduct regular updating of RBO initiatives of each participating countries, to conduct constant upgrading and easy access of region-wide river basin database and RBO learning and experiences shared among member countries. In supporting roadmaps for IWRM Investments, they expected CRBOM to support preparation of roadmaps and conduct evaluation and monitoring of IWRM investments. The clients also expected capacity building, training, short course and educational trips for all network member countries, supporting IWRM processes including guidelines and support to implement IWRM, evaluation and lesson learned, exchange and disemination of experiences and knowledge and organize the network meetings and conferences. CRBOM will do its best to meet the expectation of all clients.

B. Capacity Building in River Basin Organizations (RBOs)

I. IWRM Training

1) The 6th IWRM Training

NARBO secretariat conducted the sixth NARBO IWRM Training (the sixth Training) in Da Nang, Viet Nam, from 30 November 2009 to 7 December 2009, which was hosted by the Vu Gia–Thu Bon (VGTB) River Basin Organization and People's Committee of Da Nang City and Quang Nam Province with support from the Ministry of Natural Resources and Environment (MONRE) and the Ministry of Agriculture and Rural Development (MARD), Government of Viet Nam.

IWRM Training is one of the NARBO's flagship activities based on its action plan 2008 – 2009 and aims to develop capacity of NARBO staff members in introducing, implementing and improving IWRM in their respective river basins.

The sixth Training was directed by Mr. Peter Oliver from the International Water Center (IWC), Australia. It used the VGTB river basin as case study in applying the spiral model of the IWRM process, following lessons learned from the previous training held in the same river basin.

IWRM Guidelines at River Basin Level was used as a main reference material. This document provides practical information on implementing IWRM in river basins with focuses on

(i) using 'Keys for Success (KfS)' in a spiral of adaptive management to increase water security,

(ii) optimizing the interests of stakeholders at each phase,

(iii) generating a triple bottom line of economic, social and environmental outcome.

19 middle–level participants, representatives of seven countries and of eight river basin organizations (RBOs) were awarded certificates. Four of them were praised for their remarkable performance.

The Training employed the following learning structures effectively:

(i) knowledge and experiences from participants (posters, presentations, group work discussions;

(ii) knowledge and experiences from lecturers (presentations and discussions on theory and other case studies);

(iii) understanding and use of IWRM Guidelines (presentations and group work);

(iv) VGTB case study (sector perspectives, situation analysis and study visits).

These structures helped to achieve the following learning objectives:

(i) to clarify IWRM and the implementation process;

(ii) to provide a sound understanding of sectoral perspectives;

(iii) to apply the IWRM Guidelines;

(iv) to understand 'KfS for IWRM' through case studies;

(v) to introduce performance benchmarking of RBOs, investment roadmap on IWRM, and benefit sharing ;
(vi) to critically evaluate VGTB case study in terms of barriers and enablers to IWRM;
(vii) to explain how KfS may be applied in their own river basins.

All respondents to the feedback survey gave satisfactory rating to Overall Rating, which demonstrated the success of the training. Most of the training elements also received positive feedback from the participants. One participant confirmed that the training exceeded his expectations. In this regard, the 6th Training was completed successfully and participants were of the view that their expectations have been achieved.

II. Workshops

1) NARBO Case Study Workshop – Follow up for NARBO 6th IWRM Training

The titled workshop was held in Bangkok on 25 – 26 February 2010 subsequent to 6th IWRM Training held in Da Nang in December 2009. This time, the workshop was hosted by the Department of Water Resources (DWR) of Thailand and conducted by Japan Water Agency (JWA) with financial and technical support of Ministry of Land, Infrastructure, Transport and Tourism of Japan (MLIT) and Asian Development Bank (ADB).

The workshop aimed to collect case studies and try to figure out possible solutions for each case. On the first day, participants respectively presented the current situation, emerging challenges including sectoral perspectives in their basin. Then possible solutions were presented and discussed on the second day.

The outcome of this workshop has already compiled as a report and sent out to the NARBO members in mid March. It contains eight case studies from five NARBO member countries; the Brantas and Citarum Rivers in Indonesia, the Vu Gia–Thu Bon River and the Red river in Viet Nam, Laguna de Bay in Philippines, the Maduluruoya and Kotomale Rivers in Sri Lanka and the Bang Pakong River in Thailand.

The IWRM Guidelines were used as a platform for structuring discussion materials. Every participant well prepared IWRM Spiral of their own river basin, which clearly illustrates the past achievements and experience and future actions to be taken and much improved after the 6th IWRM Training.

In the workshop, other delegates from IUCN, MLIT and Water Resources Association in Thailand actively supported

and contributed to the discussion. Particularly, Dr. Apichart delivered a very interesting presentation of adaptive approach for IWRM implementation which has been carrying out in Yom River basin.

III. Twining Program

1) What is Twining Program?

Agreements on Twining Program were concluded between Japan Water Agency (JWA) and Indonesian NARBO, Viet Nam NARBO and Sri Lanka NARBO. The personnel exchange program under Twining Program is a part of NARBO activities to share knowledge and information among NARBO member organizations and enhance their capacity to implement IWRM.

Based on the agreement, first personnel exchange between JWA and Indonesia NARBO was implemented in 2005.

2) Brief Report of Activities in 2009

JWA accepted 4 engineers from Mahaweri Authority of Sri Lanka (MASL) on May 11 - 30, and accepted 3 water professionals from Ministry of Agriculture and Rural Development of Viet Nam (MARD) on Nov 10 – 26 likewise. In the meantime, JWA dispatched 2 engineers to MARD on Nov 2 -6, and also dispatched 2 engineers to MALS on Feb 4-16.

a) Exchange Personnel Between JWA & MASL on May 11 - 30

For this program, four senior engineers from MASL, namely Mr. D.B. Wijayarathna, Mr. W.A.Chandrapala, Mr. K.D.J.Premalal and Mr. W.A.Chandrathilaka were dispatched to Japan on 11th - 30th May 2009. During the first week of program JWA had organized important presentations to gain knowledge on Water Resources Policy, Agriculture & Rural Development of Japan, as well as Dam Management & coordination of water uses in draughts. In addition to that the team learns about water right practices in Japan.

During the second week of the tour JWA had arranged field visits to major headwork sites administrates by the JWA, such as Toyogawa Canal Project, Kanayama Intake facility, Kiso River System, Nagaragawa estuary barrage and Tokuyama dam, where the team got knowledge on the latest technology adopt to meet the needs of relevant stakeholders. Also, the team visited Mie canal system, which has completed cost sharing system among the stakeholders is very impressive project.

During 3rd week, the team visited to Tone Canal system, where they learned on canal intake facility and Land Improvement

District. Also, JWA had organized a presentation on Daily Water Management & Facility Maintenance an Effective Facility Maintenance by Stock Management, where clarified some issues raised by the team members.

This program had planned in such away that gave them a wonderful opportunity to become familiar with IWRM practices carried out by JWA almost throughout the Japan and also it allows them to move with Japanese unique historical and cultural heritage.

b) Exchange Personnel Between JWA & MARD on Nov 10 - 26

For this year's twinning program, three water professionals from Viet Nam participated,
namely (i)Mr.N.V.Hung; (ii)Mr. N.H.Nam; and (iii)Mr. N.V.Hai.

During staying in Japan, they had four reports to introduce about Viet Nam, and listened to more than 15 subjects from JWA staff about the following: Dams, canals, river systems, water rights, irrigation, from construction works to management and operation. They also visited Takizawa dam, Urayama dam in the Ara river system; Agigawa dam, Aichi canal, Toyokawa canal, farmer fields, and Research Center.

In this time, they had productive seminars and exchange of information and experiences in the effective and safe management exploitation and operation of water system in Japan.

c) Exchange Personnel Between JWA & MARD on Nov 2 - 6

For this program, two engineers from JWA, namely Mr. Tatsuo KUNIEDA and Mr. Susumu FUJIOKA participated.

The program began with a warm greeting by Vice Minister of MARD, Mr. Dao Xuan Hoc, at the head quarter office of MARD, followed by a greeting with Vice Director General of Department of Water Resources, Mr. Dam Hoa Binh.

Firstly, they visited Nui Coc company office, where the General Director of the branch office, Mr. Phi Ngoc Lam gave us a

brief outline of the Nui Coc area.

Nui Coc company is under the Thai Nguyen company, which is under the Department of Agriculture and Rural Development of Thai Nguyen province.

Nui Coc company has one main reservoir, Nui Coc (width 480 m, height 27 m, earth type dam), and seven other supportive dams. Along with reservoirs, it manages and operates an irrigation main canal of 18 km in length. The total length of first tribal canal is 47 km, and that of second tribal canal is 7,500 km. The irrigation system supplies water for the fields of 12,000 ha. 4,500 ha of them are used for vegetable and 2,000 ha are used for tea.

A small hydropower plant is located in the downstream area of reservoir, operating only when the reservoir has an adequate amount of water. The total produce of electricity is around 1.8 MW.

After brief explanation of outline, they visited Nui coc reservoir. N.W.L. and D.W.L of Nui coc reservoir are 46.2 m and 48.25 m respectively. Its designed flood is 957 m3/s. Capacity of reservoir is 175.5 million m3. As discharge facilities, two pipes whose diameter is 1.7 m, penetrate the lower dam body. The maximum discharge of those pipes is 30 m3/s in total. The catchment area of this reservoir is 500 km2. It has two spillways, one of which has three gates of 8 m in width and the other of which has two gates of the same kind. The maximum discharge of the spillways is 1,430 m3/s. For the water quality survey, the Ministry of Environment and domestic water users independently conduct regular survey of the water quality of the reservoir.

In the afternoon of the first day, they visited Xa huong reservoir. Main purpose of this dam is irrigation, partly for the domestic use for military and a golf club in the downstream area. Total capacity is 12 million m3. The spillway gate, which is operated manually, takes eight labors when opening the gate. Water level tends to increase rapidly when a flood comes. Water level is measured by the ruler attached to the column of the bridge between the water intake facility and the dam body.

After visiting Nui Coc reservoir and Xa huong reservoir, they rode on a car to go to Dien Bien city, Lai Chau province, to visit and see Pa Khong Reservoir. After 14-hours long journey, they finally reached the destination and had the dinner with the Director of Pa Khong Reservoir Management and Operation (M&O) office, Mr. Nguyen Van Chien. In the next morning, they visited Pa Khoang Reservoir M&O office, where General Manager warmly welcomed them and informed them of general outline of the reservoir. Located in the north of Dien Bien city, Pa Khoang reservoir plays an essential role for the lives of citizens there.

Of all its capacity, 3.4 million m3 is allocated for irrigation, whereas 1.9 million m3 for flood control. Spillway is a free overflow type. Irrigation water is provided free of charge, with its water flow and allocation managed by the Operation and Management (O&M) office at the dam site. Irrigation water is partly used for the hydropower generation before provided to the agriculture sectors. Four hydropower generators are installed thanks to ODA from Japan.

Fishery is allowed within the reservoir once the local government accepted applications. The O&M office at the reservoir does not control the fishery activities in its reservoir but concentrates on O&M.

The O&M office is now seeking for the budget to increase the dam height by 1 m in order to realize multi year operation of the reservoir, however, the budget application for the project has not been approved yet, the general director told us.

On the last day of the program, they visited the MARD office again, where they reported what they saw and learnt throughout the program to the General Director of Department of Irrigation and Water Management, Ass. Prof. Vu Van Thang.

d) Exchange Personnel Between JWA & MALS on Feb 4 – 16

For this program, two JWA staffs, namely Mr. Shigeyuki MIYAUCHI and Mr. Susumu FUJIOKA participated in the Twinning Program, which has two main objectives; to grasp the water resources management within whole Mahaweli river basin and to find out pressing issues on IWRM promotion in the Mahaweli river basin.

The program began with the warm greeting by acting Direct General, Executive Director (Technical Service) Eng. N.C.M. Navaratne, at the head quarter office of MASL, followed by an introduction of Mahaweli programme by Mr. C. Wellappili, Director, Planning and Monitoring Unite, MASL contribution to NARBO activities by Eng. Ananda Sellahewa, Procurement Specialist, Dam Safety Water Resources Planning Project (DSWRPP), and pressing issue in promoting IWRM in system H by Eng. Padmasiri Premakumara, Regional Director of Dambulla.

In the afternoon, they are introduced to Water Management Secretariat (WMS), where Eng. Nimal Wickramarathna explained the water allocation and management practices in Sri Lanka and role of MASL. The seasonal water allocation plan is decided before each of the Maha and Yala season. The seasonal meeting is chaired by MASL, attended by Department of Irrigation, Ceylon Electric Board and other local government powers and related stakeholders. WMS provides water allocation plan found by their simulation system to the meeting, assisting making decision.

Water allocation plan, simulated by WMS has been successful for operation

On the next day, they visited MASL and met Project Director of Dam Safety Water Resources Planning Project (DSWRPP), BSc Eng. S. Elakanda who had made the great contribution to arrange this program. On 7th February, accompanied by Mr. Rajeev, we left Colombo to visited Kotmale Dam, whose former Engineer In Charge (EIC), Eng. W.A.Chandrathilaka, had joined last year's Twinning Program held in Japan, where the present EIC, B.Sc. Eng. W.M.J. Weerasekera showed them the current pressing issue. Among the issues at Kotmale Dam are the sedimentation in the reservoir, recent reduce of rainfall in the basin and the crack monitoring at the crest of the dam body which will be treated by the DSWRPP. A Polgolla visit was also arranged on the very same day before arriving at the Kandy city, which is said to be the third ancient capital of Sri Lanka. Eng.B.M.W.Senevirathna Banda, greeted us and gave us a brief explanation of current facilities and issues there. What we found there is the incline of the gate when operation. Seemingly due to the difference of the extension of the chain at both side of the gate, its incline stops the gate operation sometimes. This problem will be also covered by the DSWRPP project, he told them.

After a stay at Kandy we set out for Victoria Dam after visiting one of the most sacred temples in Kandy. Eng. S. R.K. Aruppola, EIC of Victoria Dam gave them a warm greeting before the explanation of the current issue there. Illegal residents in the upstream of reservoir, maintenance cost problem and operation when flooding was the main topic there. The illegal residents in the upstream, as is commented by Mr. C. Wellappili at the final report of this program, relates to the poverty problem. Some economically suffered people wish to cultivate the land in the reservoir in spite of the risk of being submerged at high water season. Due to the aging of the Dam, which is built in 1980s, telecommunication system doesn't work anymore. The rehabilitation and updating of facility is required, which is also be treated by DSWRPP. In the afternoon of that day, they visited the control office of both Randanigala Dam and Rantanbe Dam, where a clear explanation of current issue of siltation, mainly excavation work in 2007, is presented by Eng. H.M.Kalubanda. Likewise the other dams, the problem will be also treated by DSWRPP.

In the next day, they visited the MASL office at system C, after a brief visit of Minipe Anicut. At System C, they had an opportunity to meet with the farmer organization, where they could interview the farmers so that they can grasp clearer outline of their organization structure and their responsibilities.

After meeting with farmers, they visited the three important reservoirs in the System C and System B area, namely Ulhitia, Raaa, and Maduru Oya.

After a stay at Plonaruwa, which is said to be the second ancient capital of Sri Lanka history, their journey was extended as far as one of the three river mouths of Mahaweli river by way of Trincomalee accompanied by Eng. Wijaratne, EIC at System B area where now further cultivation field is yet to be developed by around 28,000 ha in total. Trincomalee, located near to the river mouth of Mahaweli river, was originally an ancient port city and as is commented at the final report of this program, it has possibility to become the second largest main city after Colombo in Sri Lanka. After seeing the river mouth of Mahaweli river and experience of riding a ferry there, they turned back our way, heading for the Moragahakanda Bungalow, where Eng. Wijayarathne, the Project Director of Moragahakanda & Kalu ganga Project, who also participated in the last twinning program held in Japan, warmly greeted us by a bottle of Arrack.

On the 11th February, after the presentations of the outline of the Moragahakanda & kaluganga project and the re-settlement of the project at the office, they set out for the field tour, which began with construction site of Saddle dam No. 2 at Moragahakanda Project followed by Bowatne reservoir where the diverted water from Polgolla is diverted to the System H area and to the System G area after going through the hydro power generation house. At the construction site of the Saddle dam No. 2, the quality of the core material was seemed to be very satisfactory.

After taking lunch, joining Mr. Malala to accompany them, their journey has resumed to the Kaluganga Project, where they are informed of outline of the development of System F in the downstream of the reservoir. They were amazed that the whole village infrastructures such as police station, post office, hospital and schools, would be simultaneously developed along with the Dam construction.

On the next day they visited Dambuluoya and Kandalama Reservoirs before arriving at the Headquarter office of System H in Thambutthgama, where they could see a familiar face of Eng. Premalal, one of the members of the delegation of the last Twinning Program. After a minute explanation of the canal operation and water allocation by Ms. Kumari, they moved to Eppalawa to see the joint point of Main canal, Branch Canal, Tributery Canal and the Field Canal respectively and saw the operation of the water control facilities and how the water from the reservoir is managed and delivered to the each cropping field. After seeing the local farmer organization awaiting them Though short time, they could grasp the general outline of the farmer organization and irrigation system managed by MASL.

Then they left for Kalawewa reservoir, the most important tank for the System H area. The Kalawewa tank, whose foundation dates back over 2000 years, has never lost its function as a main reservoir.

The Kalawewa reservoir consists of two reservoirs, one is Kalawewa and the other is Balaluwena. At the saddle point of these reservoirs the circuit Bungalow of Kalawewa is located. In the next day, after visiting local temple, where many children clean the garden as a school activity, which can be normally seen in Sri Lanka, they headed for Anurudhapura, picking up Eng. Basnayake from Moragahakanda Office on the way. At the PEACE project office near to Anurudhapura, they met a Japanese specialist, Mr. Saisho, who has been working for the irrigation of Sri Lanka for long time, now engaging in the PEACE project. The meeting was quit enlightening for them to understand the current situation of irrigation government policy in Sri Lanka.

At Anurudhapura, they visited several temples and stupa, as well as main reservoirs in the area, such as Nachchduwa and Nuwarawewa reservoirs. After visiting those points, they set out for our final destination–Colombo.

After a several hours of drive from Anurudhaprura, their field tour came to the end in the evening of 12th Feb.

On the final day of the program, Mr. Elakanda took his time to give them a presentation about the outline of the DSWRPP which summarized the current issues on the water resources management throughout Sri Lanka.

Whole the Twinning Program was coordinated and prepared with the finest efforts of the MASL officers, making it quite informative and useful to grasp the outline of the Mahaweli river basin.

C. Network Support

I. Technical Advisory Committee

1) The 2nd Technical Advisory Committee

a) Background

The Network of Asian River Basin Organizations (NARBO) is keen to improve the quality and credibility of its annual training program on integrated water resources management (IWRM) to the level of a prestigious regional flagship program. At NARBO's 3rd General Meeting at Indonesia in 2008, NARBO agreed to establish the Technical Advisory Committee (TAC) which will review and advise NARBO's leadership and secretariat in revamping the training program, based on experience gained by NARBO over the past four years and taking into account approaches and experiences by other training providers.

The 1st TAC meeting was held at Singapore in April 2008. Positive and active discussions were done by TAC members who consisted of specialists at NARBO's Knowledge partner organizations, and many recommendations were made to NARBO secretariat.

Based on the advice of the TAC, NARBO secretariat prepared the basic framework of the 5th IWRM Training and conducted it successfully at Hoi An, Viet Nam in February 2009.

b) Introduction and Explanations of 2nd Technical Advisory Committee Meeting

2nd TAC was conducted on 25 June 2009 at Waterhub in Singapore with kind support of Public Utility Board of Singapore. It was attended by 19 delegates from NARBO's Knowledge Partner organization. The objectives of this meeting were:

to seek advises on the direction of NARBO's IWRM Training program, including on the design of NARBO's 6th IWRM Training

to share results of the 5th IWRM Training

to introduce and promote the IWRM Guidelines.

"IWRM Guidelines" which was officially introduced at the 5th World Water Forum in Turkey in March 2009, result of the 5th IWRM Training and strategy of NARBO's IWRM Training in the future were explained by Mr. Toshihiro Sonoda of UNESCO and NARBO Secretariats.

Representative of NARBO Secretariat reported the result of the 5th IWRM Training to the TAC members by explaining the concept, steps and way to implement of the 5th training and introduced the evaluation of the participants and secretariats. Then strategy and direction of IWRM Training and concept of the 6th IWRM Training were introduced.

NARBO secretariat plans to conduct IWRM Training for middle-level staff and for senior-level staff in phased manner.

c) Comments on 5th IWRM Training

Main comments to NARBO secretariats on 5th IWRM Training were as follows.

The 5th IWRM Training was successful and could be a good prototype of future trainings.

Feedback survey and several activities to improve the contents of training and should be considered.

d) Comments on the concept of the 6th IWRM Training

The result of the 6th training is expected to be better than that of the 5th training because the 6th training will be improved based on the evaluation of the former one.

e) Suggestions and Recommendations on NARBO's IWRM Training

Main recommendations to NARBO secretariats were as follows.

- More time on the view point of capacity development should be considered for River Basin Organizations and river basin managers, and involve both practitioners and decision makers.
- NARBO's work should focus on establishing certain standards and certification.
- The 6th Training should be refined and contents should be improved by incorporate the IWRM guidelines into the training and more clear materials of contents should be made.
- At the 7th Training, maximization of multiple impacts by training of trainer should be considered.

f) Comments on IWRM Guidelines

Main comments on IWRM Guidelines were as follows.

- IWRM Guideline is useful for trainees because case studies and "Key for Success" are based on real situation and show steps forward. It is useful to think by themselves and apply to their own situations.
- "Spiral Model" is helpful and useful to enhance implementation of IWRM.
- The 6th IWRM training can be an opportunity to promote IWRM Guidelines.

g) Suggestions and Recommendations on IWRM guidelines

Main suggestions and recommendations to disseminate IWRM Guidelines were as follows.

- Translation of the guidelines into local language is recommended to have a wide application.
- IWRM Guidelines should be able to reflect to not only policy makers and practitioners but also for academia. Also principles in the guidelines can be utilized in various basins.
- Making 10 minute short movie to enhance understanding of IWRM and "IWRM game" as educational tools to enhance understanding of IWRM process should be considered.
- Promotion of guideline in many conferences and events should be recommended.

II. Charting Progress and Facilitating Investment for IWRM

1) Launching APWF Water Knowledge Hub and Signing of Letter of Intent for the

Indonesia Citarum Project

a) About K-water regional knowledge Hub

K–water is pursuing innovation and change inline with 'Water for the Happier World' mission to become a 'Best Water Partner' in the world. As a leading water management agency in Korea, K–water has enjoyed knowledge exchange and technical cooperation with NARBO member countries such as organizing the '3rd NARBO IWRM Training Workshop' with the Asian Development bank (ADB) in November 2005 and conducting ADB's Pilot and Demonstration Project to develop a water quality management system for the West Tarum Canal of the Citarum river basin (CRB) in Indonesia with PJT Ⅱ in 2007 and 2008.

Since June 2008, K–water has served as a regional knowledge hub for water quality management in river basins, under the auspices of the Asia Pacific Water Forum (APWF). K–water regional knowledge hub focuses on

(i) water quality monitoring and modeling;

(ii)point and non–point source control;

(iii)river and reservoir water quality management;

(iv)water quality improvement for public health and environment.

The Hub's activities include following:

- Contribution to improve water quality management for healthy and sustainable river basins in Asia–Pacific Society
- Knowledge sharing in technology, information, and experience in river basin water quality management
- Hosting on–the–job training and technical assistance
- Promotion of collaboration with ADB, other Hubs in APWF, NARBO, UNESCAP, and other international organizations
- Providing service and product such as monitoring guidelines, models, and training workshop programs

The launch of the K–water regional knowledge Hub on water quality management in river basins was held on the 21st August 2009 in Daejeon, Korea. It was held back–to–back with two other important international events:

(i) a regional workshop of on river basin management in Asia on 19th August in Incheon, Korea as part of the World City Water Forum';

(ii) launching ceremony of the Citarum river basin project pursuant to a letter of intent (LOI) between ADB and K–water on the 21st August in Daejeon, Korea. The objectives of the event were:

To launch K–water Hub as the APWF's regional water knowledge hub on water quality management in river basins

To allow the prospective clients to share their challenges and issues on water quality management in their river basins and to listen to their expectations from K–water Hub

To allow K–water to showcase their

facilities and to share the knowledge and capacity development services : and

To facilitate networking and collaboration with K–water and other partners for building partnerships on water quality management in river basin

41 water professionals from 15 countries and 28 organizations, including river basin organizations (RBO), government agencies, regional water knowledge hubs and community–based organizations were participated in the event that was hosted by K–water. They shared experiences from their ongoing works to improve water quality in their respective river basins, highlighted issues, initiatives, keys for success, expectations from K–water Hub services, and proposed collaboration with K–water Hub. The workshop was successful in terms of promoting partnership and networking with K–water Hub. The recommendations made by participants for K–water Hub as a regional water knowledge hub on water quality management in river basins are solid and useful; providing scopes for K–water Hub to further develop the hub itself and its network. It was recommended that sharing of data, experiences, and toolkits through a dedicated website can facilitate collaboration and help strengthen coordination among the Hub network members.

b) Indonesia Citarum project

A LOI between K–water and ADB was signed for $6 million worth of collaboration to support Indonesia's Integrated Citarum River Water Resources Investment Program (ICWRMIP). A The objectives of the project are to develop an effective decision support system (DSS) for integrated water resources management (IWRM) for the CRB and to strengthen the capacity of water resource managers for better water quantity and quality management decisions. The DSS to be developed in this project is expected to serve as a standardized framework on which all current monitoring, modeling, and conservation practices can be integrated and analyzed by the river basin managers in the CRB.

The representatives from Indonesian government, ADB and other organizations recognized the event as a successful example of exchanging experience and knowledge for water quality management in river basins, and they highly assessed K–water's 40–year accumulation of technology and experience in water resources management, stating that K–water is expected to lead international cooperation through NARBO and PWF Water Knowledge Hubs. Also, K–water was asked to build relationships of multilateral cooperation, develop other pilot projects, and provide technical supports to resolve water–related problems in Asia Pacific region. Receiving highly positive assessments, K–water successfully finished the launching ceremony and signed the Indonesia Citarum project.

c) Plans for Year 2010

K–water Hub will begin its main activities in 2010 with its core team developed in 2009. One of the main activities will include initiation of the 1st phase of the Citarum DSS project, which is expected to be signed between ADB and K–water in 2010. In addition, K–water Hub will closely collaborate with other Hubs to cope with water resources and water quality management issues in our region.

3. NARBO members' Annual Report

Organizations are arranged in alphabetical order of the abbreviation.

If you want to read more, please see NARBO website.

[URL: http://www.narbo.jp/data/02_ar.htm]

(1) Jasa Tirta I Public Corporation

Date of preparation: 01/03/2010

Name of the editor: Tjoek W. Subijanto, Harianto, Harry M. Sungguh

1. About the organization

(1) Name of the organization and postal address of the office

Jasa Tirta I Public Corporation (PJT I),

Jalan Surabaya 2A Malang, East Java, Indonesia 65115

(2) The representative of the organization

Mr. Tjoek Walujo Subijanto, President Director

(3) Purposes and roles of your organization

a) Historical background of the organization

The history of PJT I can not be separated from Brantas River basin development which commenced in 1961. The development is conducted on series of master plans that involves stage-wise planning in accordance to the national development requirements. These master plans are summarized below:

- Master Plan I was prepared in 1961, emphasizes on flood control by developingdams at the upper reaches and river improvements to increase flood relief capacity.
- Master Plan II was prepared in 1973 after most objectives of the first master plan were achieved. This master plan was founded in accordance to the government policy on flood sustainability, by emphasizing on irrigation development.
- Master Plan III was prepared in 1985 after irrigation schemes were developed in the basin and as result of the irrigation development, agricultural intensification was made possible. The third master plan emphasizes on water supply for domestic and industrial uses, as more urban area is evident in the basin.
- Master Plan IV was prepared in 1998, to emphasize on effective water resources conservation and management.

Development in the basin resulted into 8 reservoirs (Sengguruh, Sutami, Lahor,Wlingi, Lodoyo, Selorejo, Bening and Wonorejo), four river improvement schemes,three barrages, and three rubber dams. Total investment in water resources infrastructure is priced Rp 10.95 trillion based on the year 2010 price level (US$ 0.097 billion, Yen 78.8 billion, Rp. 10,871.1 billion).

After construction period in Brantas River basin, it is necessary to maintain function of

the completed infrastructures in order to ensure maximum benefit to achieve the designated technical life span and to achieve sustainable development. Adequate operation and maintenance activities are necessary to be conducted by a permanent institution, with professional staff and adequate budget. Further, it is necessary to maintain the function of the water resources infrastructures to ensure optimum benefit at their planned lifetime. Adequate operation and maintenance (O&M) activities are necessary to be performed; however, these activities encountered specific problems as follows:

1) Institution

Until 1990, the Brantas River basin has no permanent institution that could perform O&M activities in a conceptual and sustainable manner. Brantas River Basin Development Project (BRBDP) is a temporal institution whose duty is only to carry out the construction and not the O&M. Since there are many sectors in utilization of water resources in the basin, and in the other hand, the water availability is much influenced by climate and human activities, this condition will lead to conflict among uses and users. Then it is required a neutral institution to manage water resources in the basin to meet the various needs.

2) Funding

BRBDP who had then to carry out the O&M, encountered problems in obtaining fund for these activities due to the limited National Government Budget.

3) Water Resources Degradation

Lack of O&M budget resulted in degradation of the water resources infrastructures, and less coordination among related agencies complicated the water resources management. This scheme posed risk of water resources degradation, which in the long run shall harm economic development of the basin. Whereas water degradation is evident, sustainable resources are at risk. To cope with the above problem, PJT I was established in 1990, having working area in the Brantas River basin consist of its main river and 39 tributaries. Based on Presidential Decree No. 129 of 2000, Bengawan Solo River basin consist of its main river and 24 tributaries was added as PJT I working area.

b) Purposes and roles of the organization

The purpose and objective of PJT I are to conduct public utilization on water resources in sufficient and high quality manner for fulfilling public needs, and carry out specific tasks given by the Government in performing river basin management and to join national economic development by participating on national development program especially in water resources management sector.

Main tasks of PJT I based on Ministry of Public Works Regulation No.

56/PRT/1991 on General Policy of PJT I Management (Article 6) are as follows:

- Perform operation and maintenance of the water resources infrastructures;
- Economic dealings in water utilization;
- River basin management including water resources conservation, development and utilization, and;
- Rehabilitation of the water resources infrastructures.

In the framework of performing the main task to perform operation and maintenance of the water resources infrastructures, in the field of operation, PJT I has a vital role in the activities as follows: licensing for water resources utilization, water allocation, flood control, and pollution monitoring. In performing these activities, PJT I coordinates and cooperates with related institutions, particularly with Local Government in the operational matters.

(4) Outline of the organization

1) Number of staff

Number of staff as of December 2009 is 493.

2) Amount of the annual budget in 2008

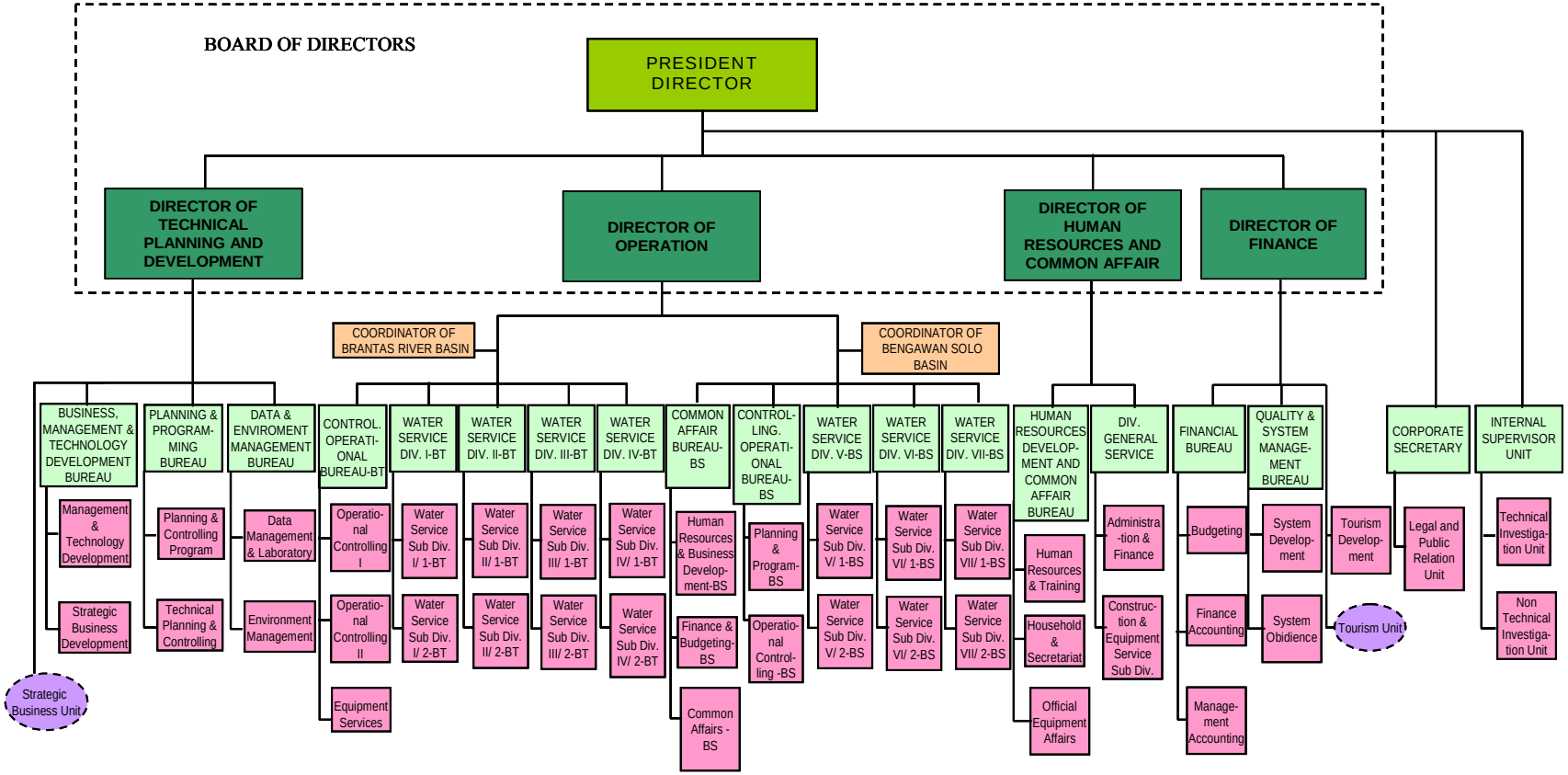
- O & M cost for 2009 = Rp 69,982,280,000.00
- Water Resources Conservation cost for 2009 = Rp 2,707,350,000.00

(Data from Prognosa 2009 (unaudited), the officially finance report is being audited by authorized auditor)

3) Organizational chart

See the attachme

ORGANIZATION STRUCTURE OF JASA TIRTA I PUBLIC CORPORATION



Note :
BT = Brantas River
BS = Bengawan Solo River

(5) Ongoing projects

-

(6) Main events in 2009

- Organize Training Course "Effective Integrated Water Resources Management (IWRM) Implementation in a River Basin for River Basin Organizations (RBOs)" in Malang – Indonesia, cooperation with Ministry of Public Works, UNDP CapNet and CKNet Indonesia, 16 – 20 November 2009. PJT I expects to collaborate with NARBO to implement NARBO IWRM Training in the near future.

2. About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person
Mr. Harry M. Sungguh, phone: +62 341 551971, email: hm_sungguh@yahoo.com
Mr. Fahmi Hidayat, phone: +62 341 551971, email: hidayat.f@gmail.com
Ms. Astria Nugrahany, phone: +62 341 551971, email: astria_air@yahoo.com

2) The organization's website URL (English and local language respectively)
http://www.jasatirta1.co.id

(2) Activities your organization implemented in 2009 as the member

- 2nd NARBO Technical Advisory Committee (TAC) Meeting, Singapore, 25June 2009.
- The NARBO 6th IWRM Training, Da Nang, Vietnam, 30 November – 7 December 2009.

(2) Jasa Tirta II Public Corporation

Date of preparation: 30/06/2010

Name of the editor: Herman Idrus, CES

1. About the organization

(1) Name of the organization and postal address of the office

Jasa Tirta II Public Corporation in English or Perusahaan Umum (Perum) Jasa Tirta II in local Bahasa Indonesia or PJT2 in short.

(2) The representative of the organization

<Please write the name and position of the representative>

Name : Herman Idrus, CES
Position : Head of Planning Bureau

(3) Purposes and roles of your organization

a) Historical background of the organization

In 1956 Ir. H. Djuanda, the Prime Minister of Indonesia declared the commencement of Jatiluhur Multipurpose Project. The main aim of the project was to enhance the rice production to achieve self-supporting national staple food. The project comprised of two major activities, namely, construction of a dam across Citarum River to create a reservoir with impounding capacity of 3.0 x 10^9 m^3 including the hydroelectric power plant with the install capacity of 150 MW, and develop technically irrigation system over 240,000 ha of paddy field in the north plain of West Java Province. The project finished in 1967, since then the dam, the reservoir and the power plant were named Ir. H. Djuanda.

The benefits reveal upon the completion of the project, among other: (1) flood occurs during rainy season that inundated 20,000 ha of fertile land in the North plain could be minimized, (2) farmers have the opportunity to cultivate paddy with technically irrigated system over an area of 240,000 ha, two crops per year, (3) raw water supply for domestics, municipalities and industries especially for Jakarta the Capital City of Indonesia, (4) hydropower plant with the installed capacity of 150 MW, (5) fresh water as well as brackish water fisheries development in coastal area, and (6) beautiful scenery surrounding the reservoir for tourism and water sport.

After the construction project finished in 1967, the Government of Indonesia (GOI) through the Ministry of Industry established the Jatiluhur State-own with the Government Regulation No. 8/1967 dated 24 July 1967. This company was intended to optimize the Jatiluhur Hydro-electric Power Plant (HEPP) generation. As a corporation, the Jatiluhur State-own Company was aimed to gain profit. Thus the operation of reservoir was designed to obtain the maximum revenue from the Jatiluhur HEPP production. In the meantime, the water resources infrastructures for irrigation and other purposes that completed in 1968 was handled by three institutions, those are : West Java Public Works for Purwakarta Region (under West Java Provioncial Government), Jatiluhur Irrigation Project (under Ministry of Public Works), and Jatiluhur Tertiary Irrigation Project (under Ministry of Home Affairs).

In 1969 the Jatiluhur Irrigation Board was established to coordinate and optimize the reservoir operation for multipurpose, consisted of those four related institutions, (1) Jatiluhur State Own Company, (2) West Java Public Works for Purwakarta Region (under West Java Provioncial Government), (3) Jatiluhur Irrigation Project (under Ministry of Public Works), and (4) Jatiluhur Tertiary Irrigation Project (under Ministry of Home Affairs). The reservoir operation then operated firstly to meet the downstream requirements,i.e. irrigation, domestic, municipal, and industry, not only to maximize the Jatiluhur HEPP production. In 1970 those four institutions were merged

became the Jatiluhur Public Authority (POJ) based on Government Regulation (GR) No. 20/1970. After the POJ establishment in the Jatiluhur Irrigation Board was not longer existed.
The POJ has tasks and responsibilities to maintain sustainability of water resources in the basin and extends operation and maintenance of water resources infrastructures and the hydroelectric power plant. The entity also collected the contribution from the beneficiaries of water services for running the operation and maintenance of the system. In the year 1999 the name of the entity was changed to Jasa Tirta II Public Corporation (PJT 2) with the tasks and responsibilities remain the same.

The summary of the historical development of the PJT II is shown in **Table 1**.

Table 1 Historical Development of the PJT II

Name of the organization	Period / Legal	Tasks
Jatiluhur Multipurpose Project	Construction Period (1956 -1967)	To construct and develop the Jatiluhur dam, its reservoir and hydroelectric power generation including the irrigation infrastructures downstream of the dam
▪ Jatiluhur State-own Company	Operation and Maintenance Period (1967-1970)	To manage the Jatiluhur dam and its reservoir especially the hydroelectric power generation
▪ Jatiluhur Tertiary Irrigation Project ▪ Jatiluhur Irrigation Project. ▪ West Java Public Works	(1967-1970)	To manage the Jatiluhur irrigation area and other water resources infrastructures downstream of the dam after the completion of the Jatiluhur Multipurpose Project.
Jatiluhur Authority Public Corporation	Operation and Maintenance Period Based on GR: □ No. 20/1970, May 23rd 1970 □ No. 35/1980, October 13rd 1980 □ No. 42/1990, August 23rd 1990	Incorporates the company purposes for profit making besides the social tasks of managing the water resources supply system downstream of the dam.
Jasa Tirta II Public Corporation	Operation and Maintenance Period Based on GR: □ No. 94/1999, October 13th 1999 □ No.07/2010, January 2010	Managing water resources in the Citarum river basin based on the integrated water resources management principles.

b) Purposes and roles of the organization

Based on the GR No. 7 in the year of 2010, the PJT II has tasks and responsibilities at the Citarum river basin on:

1. Operation and maintenance of the water resources infrastructures and hydroelectric power plant,
2. To carry on business on water resources and hydroelectric power generation,
3. To conduct the river basin management, i.e., conservation, development, and utilization of the water resources,
4. To do the rehabilitation on the hydroelectric power plant.

(4) Outline of the organization

1) Number of staff

The number of staffs as 31st of December 2009 was **1,376** employees, which classified by education as presented in the following table :

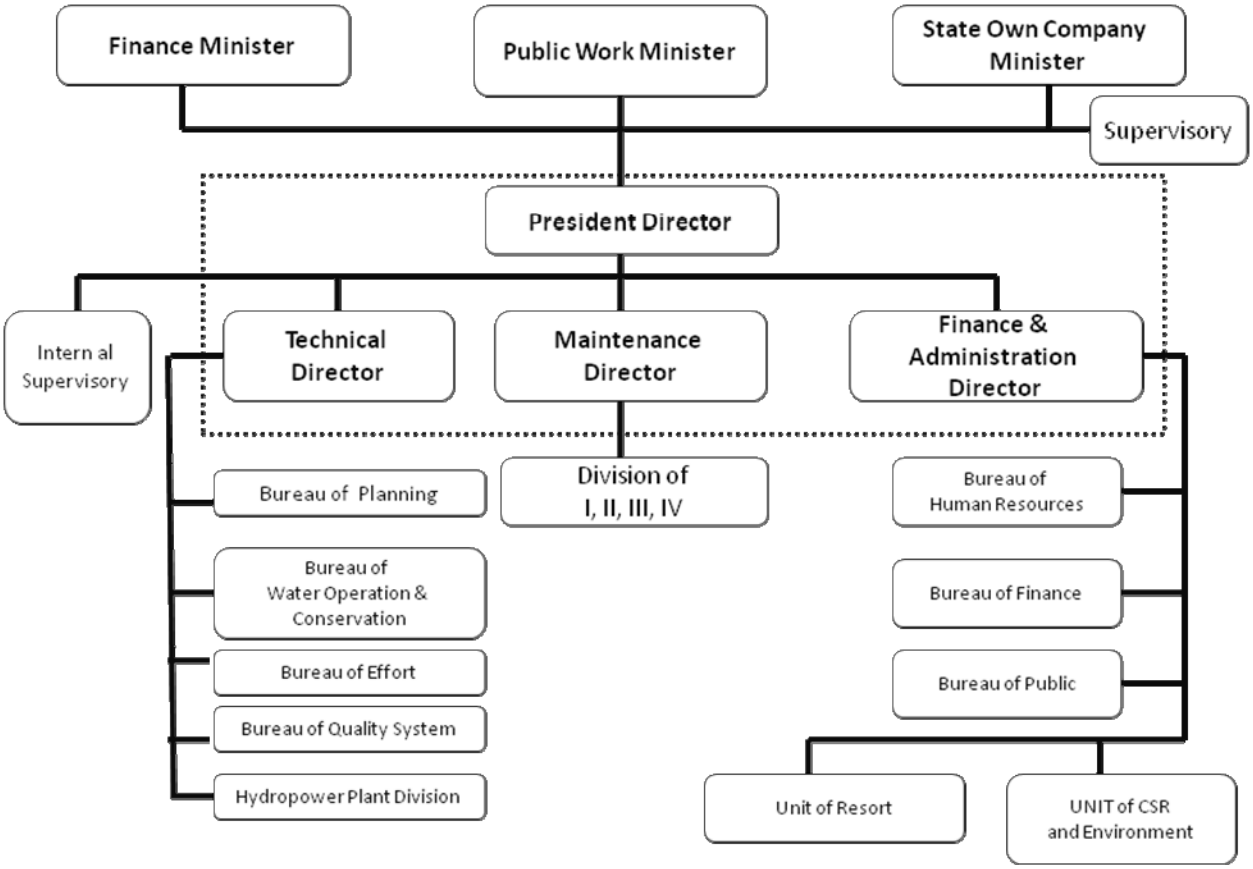
Education Level Description		Number of Staffs
1	Post Graduate (master degree)	45
2	Undergraduate (bachelor degree)	214
3	Higher Education School	49
4	Senior High School	532
5	Junior High School	219
6	Elementary School	238
	Total	**1.376**

2) Amount of the annual budget in 2009

Total annual budget of PJT 2 in 2009 was IDR. 283,385.85 million equal to USD 31,141,300.00.

3) Organizational chart

<Please attach the organization chart here>



4) Ongoing projects

Most activity done by PJT 2 in the Citarum River Basin are routine and operational project, such as rehabilitation of the water resources infrastructures (rising canal embankment, intake gate for irrigation area, canal, etc), development of drinking and clean water, microhydro, refurbishment control system hydropower plant, information and management system, etc

(5) Main events in 2009

Improvement of DSS Suport System on Water Resources.

2. About NARBO activity

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

The name, position, phone & fax number, e-mail address of the contact person

- Name : Herman Idrus, CES
- Phone number : +62 201972 ext 260
- Mobile phone : +62 811 837 964
- E-mail address : planning@jasatirta2.co.id / herman_idroes@yahoo.co.id

1) The organization's website URL (English and local language respectively)

- Website : www.jasatirta2.co.id
- URL : http:/jasatirta2.co.id

(2) Activities your organization implemented in 2009 as the member

- The 5th Narbo IWRM training on "Keys for Succes with IWRM", Hoi-An, Vietnam , 18-25 February 2009
- Study Meeting on IWRM including Water-Related Disaster and its management, Hoi-An Vietnam, February 17 – 21 , 2009
- 6th Integrated Water Resource Management (IWRM) Training, Da Nang, Vietnam, 30 November – 7 December 2009.
- 5th World Water Forum Istanbul, Turkey 14 – 23 March 2009

(3) Pompengan Jeneberang River Basin Organization

1. About the Organization

(1) Name of the organization and postal address of the office

Pompengan Jeneberang River Basin Organization
Jl. Sekolah Guru Perawar No. 3 Makassar Indonesia

(2) The representative of the organization

Ir. Isprasetyo Basuki, M.Sc
(Head)

(3) Purposes and roles of your organization

a. **Pompengan Jeneberang River Basin Organization is the vertical organization of Directorate General of Water Resources, Ministry of Public Work to conduct water resources management and development based on one river one plan one management principle based on Law No. 7 of 2004 on Water Resources and Minister of Public Works Regulation No. 23/PRT/M/2008**

b. - **Conduct planning and programming of water resources in Pompengan Jeneberang which is located in South Sulawesi and West Sulawesi Provinces.**
- **Conduct develop of water resources infrastructure in whole of the river basin.**
- **Conduct Operation and Maintenance of Water Resources infrastructure in whole river basin.**

(4) Outline of the organization

1) Number of staff = **712 persons**
2) Amount of the annual budget in 2009 = **Rp. 796.405.997.000,-**

3) Organization chart
As attached

4) Ongoing Project
- **Disaster Bawakaraeng Sediment Urgent Project**
- **Irrigation Infrastruktur Rehabilitation in Pinrang district and Luwu district**
- **Development Irigation in west Sulawesi Province**
- **Development Barrage in Tempe lake**

(5) Main events in 2009
- **Disaster Bawakaraeng Sediment Urgent Project**
- **Ponre-Ponre Dam and its Irrigation System**

2. About NARBO Activity

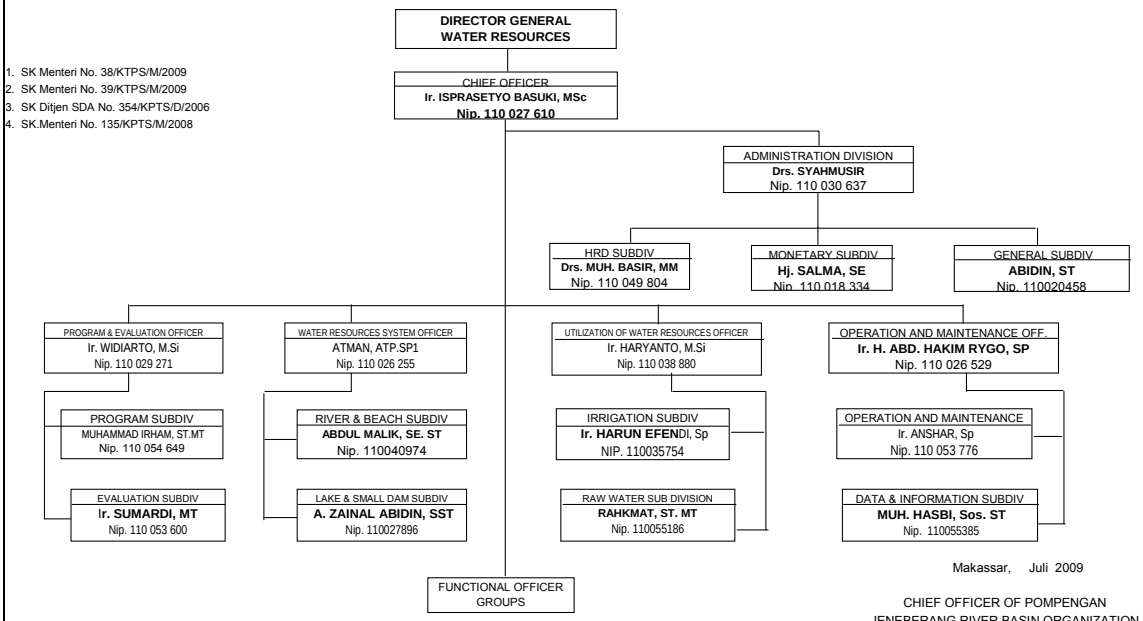
(1) The contact person ang organization's web-site

1) The name, position, phone & fax number, e-mail address of the contact person
(Ir. Isprasetyo Basuki, M.Sc (Head office)
Phone & Fax number : 0411-868792
E-mail : *isprasetya@yahoo.com*

2) The organition's website URL (Engkish and local language respectively)

(2)Activities your organization implemented in 2009 as the member
Participated on Workshop on River Basin Organization in July 2009 in Yogyakarta

STRUCTURE ORGANIZATION SCHEME
POMPENGAN - JENEBERANG RIVER BASIN ORGANIZATION



1. SK Menteri No. 38/KTPS/M/2009
2. SK Menteri No. 39/KTPS/M/2009
3. SK Ditjen SDA No. 354/KPTS/D/2006
4. SK.Menteri No. 135/KPTS/M/2008

Makassar, Juli 2009

CHIEF OFFICER OF POMPENGAN
JENEBERANG RIVER BASIN ORGANIZATION

Ir.Isprasetya Basuki, MSc
Nip. 110 027 610

(4) Jragung Tuntang Basin water Resources Management Unit

1. About the organization

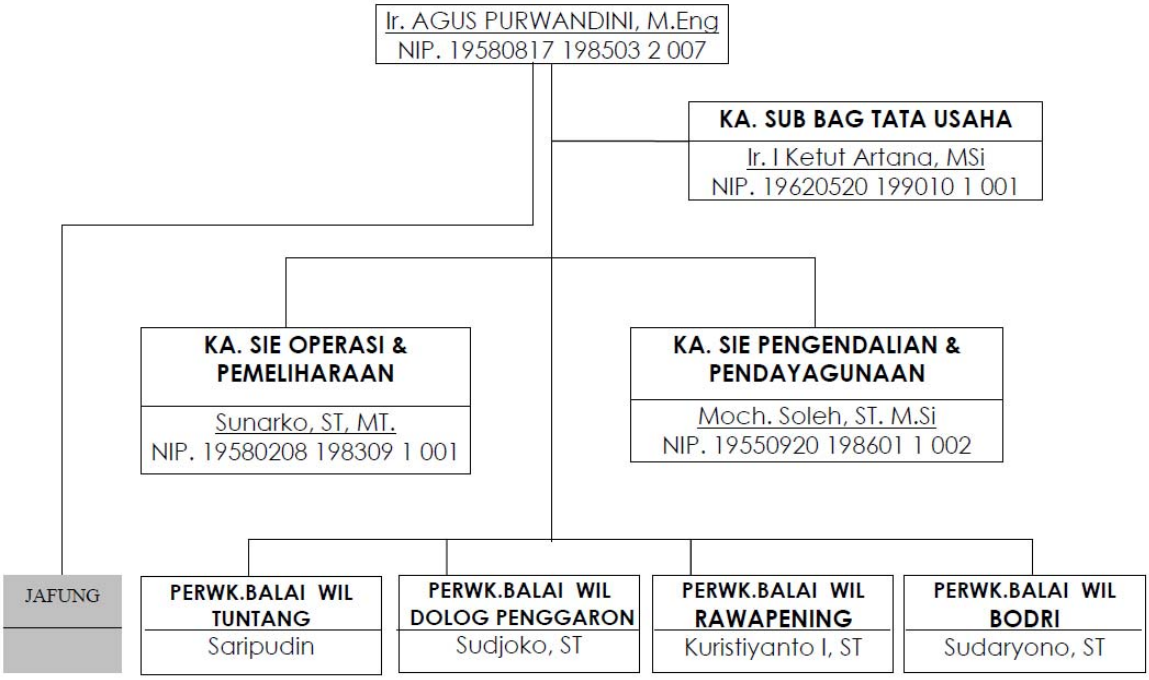
Name of the organization and postal address of the office

"**Jragung Tuntang Basin water Resources Management Unit"**

Jl. Madukoro Blok AA-BB No. 1c Semarang, Indonesia

2. The representative of the organization

ORGANIZATION STRUCTURE OF JRAGUNG TUNTANG BASIN WATER RESOURCES MANAGEMENT UNIT



3. Purposes and roles of your organization

a. Historical background of the organization

Increase of growth peaple, Increase of humanism and troble of food powerself program caused need of water increase in future time. Happening of importance conflict among every water users asked that must be felt according to the time, room, total and quality.

For celebrating the role of good water, water resources management has to bedone institutely until to the level of river basin. Water resources basin is national potention that must be develoved and to be manage wisely so that can be sed for happiness people more and more, for both of importance now generation and next generation. Water can cause the conflict among the user so can be national disintegration potention. Therefor, water resources basin has strategic role in sustainable national development so that maintenance activity and water resources basin expected to be the national comitment activity.

Jragung Tuntang Basin Water Resources Unit is one of the unit of basin water resources in river area that to be made based on the need and to anticipate the problem that happen possible.

b. Purposes and roles of the organization

Proposes of the building of Jragung Tuntang Basin Water Resources Unit is as technichs activity unit of Dinas PSDA central java province to celebrate Basin Water

Resources Management so that there is one work unity and clarify of join role and coordination between every instancy that ménage basin water resources management in work area of Basin Water Resources Management.

Objectives of the building of Jragung Tuntang Basin Water Resources Management is to celebrate basin water resources management that throught, integrated, akuntable and sustainable in river area cystem, so there is clarify about position, job, function and responsibility coordination and work relation of between every instancy related.

4. Outline of the organization

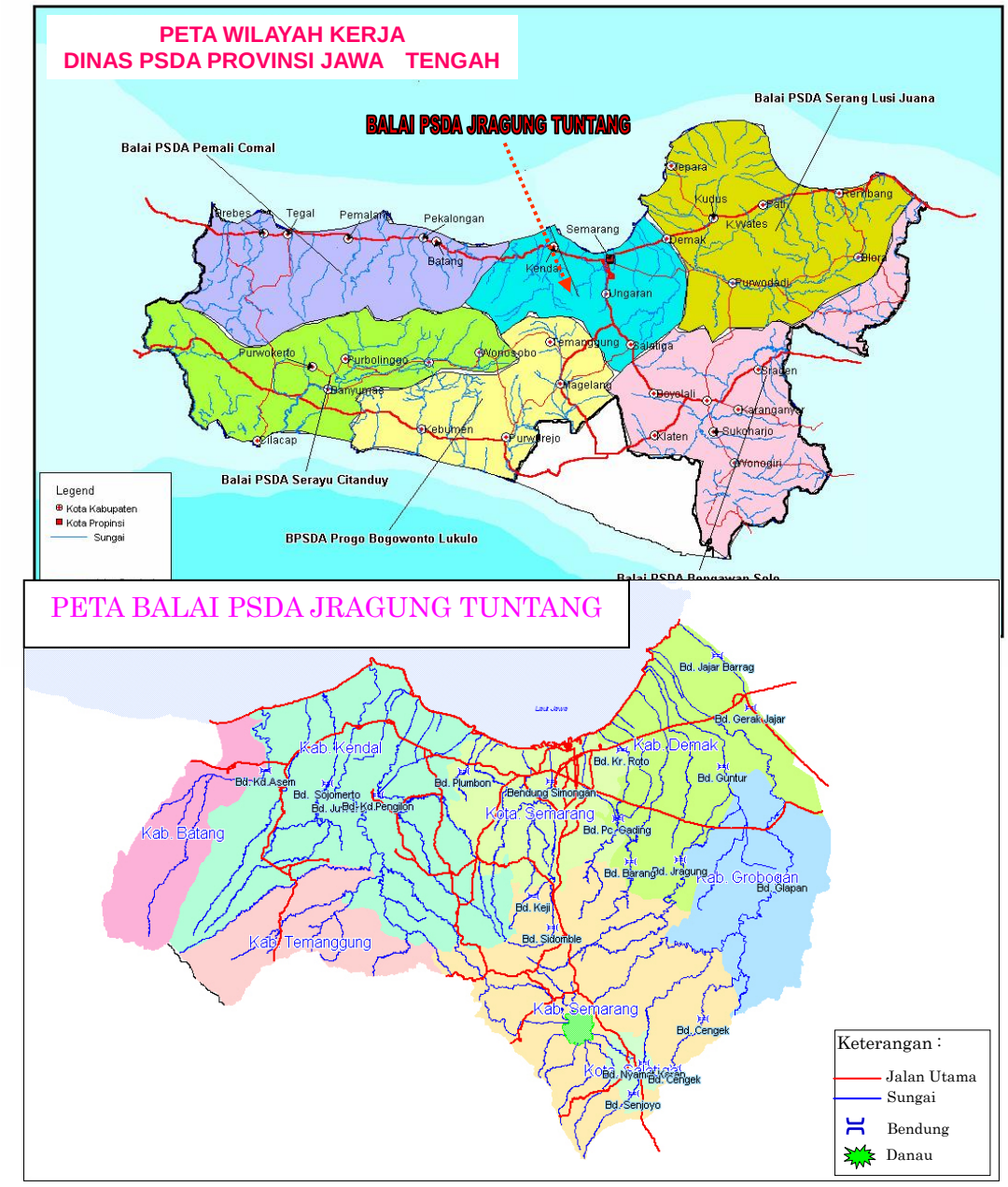
a. Number of staff

"Jragung Tuntang Basin water Resources Management Unit" in doing its function supported by staff totally 149 persons (condition per may 31 st 2010)

b. Amount of the annual budget in 2009

Province Goverment	: Rp.	5.447.989.000,-
Central Goverment	: Rp.	7.974.655.000,-
TOTAL	: Rp.	**11.422.644.000,-**

c. Oganizational chart



d. Ongoing Projects

- *Development Program & Management Irrigation network, Swamp and other water network.*
  - ✓ *Identification Irrigation and Infrastructure.*
  - ✓ *Infrastructure Water resources Operasionalisation .*
  - ✓ *Care and maintenance infrastuture irrigation.*
  - ✓ *Increase participation of sociaty in irrigation developing and Management.*
- *Supplay and Raw Water Management Program.*
  - ✓ *Identification of Raw water infrastructure .*
  - ✓ *Care and Maintenance raw water infrastructure .*
  - ✓ *Society participation increasing in developing and management water raw.*
- *Conservation and Management program of River, Swamp, and other water resources .*
  - ✓ *Identification conservation infrastructure.*
  - ✓ Monitoring pollution and water quality laboratory analysis.
  - ✓ *Socialisation asset protection of province region recommendation technic preparation water surface, group minerals c and irrigated land.*
  - ✓ *Care and Maintenance conservation infrastructure of water resources .*

- ✓ *Increased community participation in development and conservation management.*
- ✓ *Management of hydrological data, databases and Water resources information system .*

- *Flood Control Program* & Coastal protection .
  - ✓ *Identification of flood control infrastructure.*
  - ✓ Care and maintenance of the flood control infrastructure and coastal protection .

e. Main Events in 2009

1. *Flooding on January 12th, 2009 at Jragung River :*
   - left canal Cabean river in DukuhWangun, Rejosari Village, Karangawen district , Demak Regency there are 2 (two) locations of the long break ± 40 m with a depth of 8 m.
   -Left canal Cabean river in the middle Dukuh Cabean, Sidorejo Village, Karangawen district, Demak Regency have one location of ± 6 m long break.
   - left canal Cabean river in Dukuh Singopadu, Sidorejo Village, Karangawen district, Demak Regency, there is 1 (one) location of the long break ± 8 m which resulted in pairs along the ± 10 m Parapat collapsed elsewhere decline left the inside of the dike along ± 100 m, depth 1 -1.5 m with a width of 2 m.

2. *Flood on February 8, 2009:*
   There has been a high-intensity heavy rains on 7-8 February 2009 near the city of Semarang and Kendal regency caused flooding in the area of Balai PSDA Jragung Tuntang, quantity of rainfall was recorded in several rainfall stations as follows:

   Semarang City:
   - Station Pucang Gading = 150 mm
   - Station Genuk = 88.5 mm
   - Station Banyumeneng = 60 mm
   - Station BMG Siliwangi = 251mm

   Kendal Regency:
   - Station Surokonto (6.a) = 342 mm
   - Station Pageruyung (6) = 347 mm
   - Station Sukorejo = 96 mm
   - Station Kebumen Sukorejo = 120 mm
   - Station Bd.Kedung Pengilon = 280 mm
   - Station Brangsong = 207 mm

   Due to flooding, inundation and runoff occur in some rivers in the region Balai PSDA Jragung Tuntang :
   - Inundation at Ahmad Yani airport runways along the 500 m with a height of 0.15 m pool, so that the suspension of flight activity.
   - Flood inundation also occurred around the West Canal that caused the housing_stagnance Castle Pearl, Horizon area and office complex on the road Madukoro.
   - Run off in some point of the dike right / left of the east flood canal resulting in a puddle on the 5th District in the city of Semarang.
   - overflow some river dikes in the region Kendal regency (Blorong river, Kendal river, Waridin river). Bringin and Plumbon river residing in the city of Semarang resulted in a puddle on settlements, roads across the Province, the railroad and the area of paddy fields.

3. Flood events on June 10th, 2009 :

At 09.00 pm the water runoff occured on the right and left embankments of East Flood Canal, with the following details:

> Canal left:

Runoff occured in several points along the 500 m, which resulted in puddles along the road starting from the downstream bridge Barito arterial road to Soekarno Hatta highway Kaligawe covering Bugangan Village to Village Mlatiharjo.

Officers and their communities could not perform emergency treatment because of the dike is very solid left-BKT illegal settlements. High street puddles around the Barito is as deep as 70 cm for 8 hours.

> canal right:

Runoff occured in several points ranging from village to village Sambirejo Kaligawe. Substantial runoff occured in Sub Sambirejo, resulted in the dike right eroded East Flood Canal 4 m long with a depth of 1.5 m.

The runoff was also founded at the right times Babon river downstream of the highway located in Semarang - Demak Village Trimulyo, runoff was flowing in the area of aquaculture.

For emergency treatment *Jragung Tuntang Basin water Resources Management Unit* been sent sacks of flood as many as 1000 sheets to cope with runoff that occurred in the Village and Village Kaligawe Sawah Besar.

In these flood events, water surface elevation of the Pucang Gading Dam 1.8 m (90 m / sec) and the East Canal Flood gate open at 6 x 1.5 m (Q = 145 m3/sec).

The flood predicted occured caused by the high flood discharge in three tributaries namely East Flood Canal . Bajak River. Candi River and Kedung Mundu river, remind East Flood Canal maximum capacity (Q max = 210 m^3 / sec)

(5) Japan Water Agency

Date of preparation:26/07/2010
Name of the editor: Minoru ARAI

1. About the organization

(1) Name of the organization and postal address of the office

Japan Water Agency
Land Axis Tower, 11-2 Shintoshin, Chuo-ku, Saitama City 330-6008, JAPAN

(2) The representative of the organization

Mr. Toshiki AOYAMA, President

(3) Purposes and roles of your organization

a) Historical background of the organization

Water Resources Development Public Corporation (WARDEC) was established to meet rapid increase of water demand due to high level economic growth in 1962 and transformed into JWA in October 2003 by administrative reform.

b) Purposes and roles of the organization

JWA, based on the Basic Plan for Water Resources Development (Full Plan) for each of the seven river systems (Tone, Ara, Toyo, Kiso, Yodo, Yoshino and Chikugo River Systems) designated for water resources development, is constructing dams, estuary barrages, facilities for lake and marsh development, and canals. (Projects for increasing water supply are limited to those ongoing at the time of transition from WARDEC to JWA.) In addition, JWA is operating, managing and reconstructing completed facilities.

JWA activities range widely from securing water for domestic, industrial and agricultural use to controlling floods, and maintaining and improving normal functions of the river water (e.g.securing vested water and conserving the river environment). The matters related to personnel and financial accounting of JWA are placed under the supervision of the Minister of Land, Infrastructure and Transport. The Minister of Health, Labor and Welfare, Minister of Agriculture, Forestry and Fisheries, Minister of Economy, Trade and Industry of Minister of Land, Infrastructure and Transport are held responsible for project implementation according to the objective of the projects.

(4) Outline of the organization

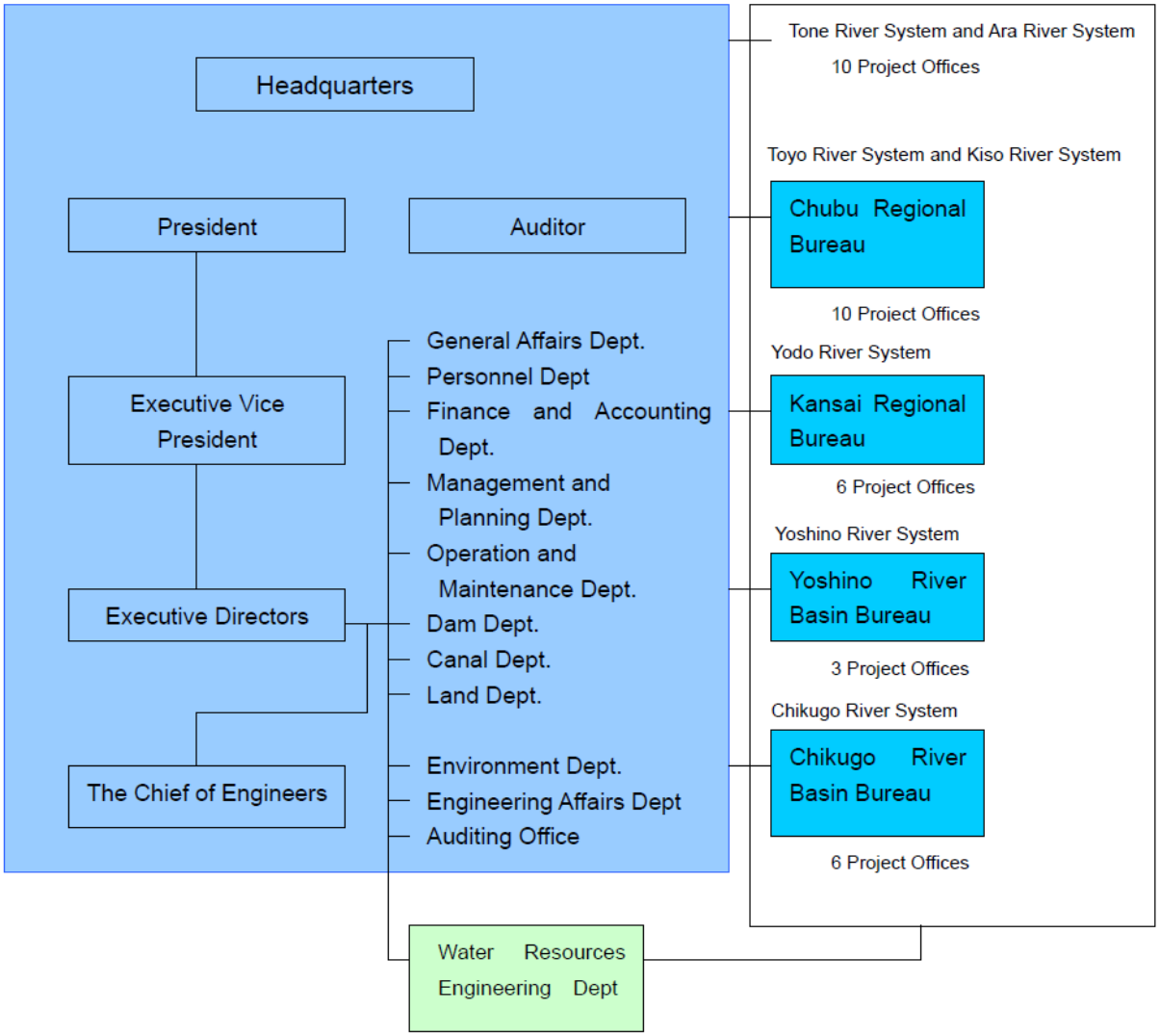
1) Number of staff

1,562 (As of 01/07/2009)

2) Amount of the annual budget in 2009

266 bil. JPY (3.1 bil. USD)

3) Organizational chart (As of 01/07/2009)



4) Ongoing projects (As of 01/07/2009)

JWA has completed 57 projects and still implement 13 projects in 7 major river systems

(5) Main events in 2009

- **Jan** ADB and JWA agreed to strengthen alliance for water security in river basin.
- **Aug** Musashi Canal Reconstruction Project started by approval of the project implementation plan.
- **Sep** Emergency reconstruction of the facilitiy ot Kisogawa Canal right bank was approved.

About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person

- Mr. Minoru ARAI, senior staff member of international affairs division
- +81-48-600-6553 (Phone)
- +81-48-600-6509 (Fax)
- minoru_arai@water.go.jp

2) The organization's website URL (English and local language respectively)

- English: http://www.water.go.jp/honsya/honsya/english/top.html
- Japanese: http://www.water.go.jp/

(2) Activities your organization implemented in 2009 as the member

Japan Water Agency has played a key roll in NARBO activities as the main secretariat together with ADB and ADBI and as the member organization.

- As the main secretariat
  - Administration of the website with frequent update and improvement of contents.
  - Issue of newsletter (No.16, No.17 and No.19 in March, April and August respectively)
  - Issue of NARBO annual report 2008 in August.
  - Attending the 5th World Water Forum in Istanbul, Turkey and having the launching ceremony "IWRM Guidelines at River Basin Level".
  - The IWRM Training
    (The 5th in Hoi An, Viet Nam on 17 – 21 February and the 6th IWRM Training in Da Nang, Viet Nam on 30 November – 7 December)
- As the member organization
  - Submitting Member's annual report 2008 in March
  - Implementing staff exchange through Twinning Program between JWA and Viet Nam NARBO
    (JWA dispatched 2 personnel on Nov 2-6 and accepted 3 personnel on Nov 10-26.)
  - Implementing staff exchange through Twinning Program between JWA and Sri Lanka NARBO
    (JWA accepted 4 personnel on May 11-30.)

(6) Selangor Water Management Authority

Date of preparation: 23 / 6 /2010
Name of the editor: Nor Zamri bin Sondor

1. About the organization

(1) Name of the organization and postal address of the office

Selangor Water Management Authority (SWMA),
13th Floor, Bangunan Darul Ehsan,
No. 3 Jalan Indah, Section 14,
40000 Shah Alam, Selangor,
Malaysia.

(2) The representative of the organization

Please write the name and position of the representative

Mr. Nor Zamri bin Sondor
Principal Assistant Director

(3) Purposes and roles of your organization

a) Historical background of the organization

Selangor Waters Management Authority or its acronym, SWMA is a one-stop agency for the management of water resources, river basin, water bodies, ground water and coastal waters in the State of Selangor. SWMA is the first water resources management agency in Malaysia.

It was established under the Selangor Waters Management Authority Enactment 1999 pursuant to the approval of the Selangor State Legislative Assembly on 9 April 1999.

b) Purposes and roles of the organization

The SWMA's objectives/purposes are:

1. To ensure the water resources and environmental surrounding is in a manageable and sustainable condition

2. To undertake the function of planning, research, facilitator, coordinator, operation, enforcement, supervision in the development of an the integrated management of water resources and environment

3. To provide an environment that is conducive for public and private sector participation in the development, utilization and management of water resources

4. To create the public awareness and the participation of the public on the importance of water resources

The **functions/roles of the SWMA** shall be to nurture, maintain and facilitate the sustainable development, efficient use and conservation of water sources for public purposes in respect of which it is established, and in particular to -

(a) provide advice to the State Authority as to the policies, methods and measures to be adopted to promote, nurture and facilitate the sustainable development, efficient use and conservation of water sources for public purpose;

(b) develop, implement and promote infrastructure projects for multi functional purposes;

(c) regulate and control inter basin transfer of water within the State;

(d) develop and implement guidelines, performance standards, methods and procedures pertaining to the management, utilisation and conservation, of water sources;

(e) coordinate multi agency relationships in the State and promote cooperation and coordination for multi functional uses of water sources;

(f) adopt and implement policies, plans or projects by the Federal Government as directed by the State Authority;

(g) undertake research pertaining to the management, efficient use, development and conservation of water sources and the resources therein;

(h) provide training and maintain facilities for training relating to the functions of the Authority;

(i) advise the State Authority on the declaration of designated and protected areas and formulate and implement development and management plans for such areas;

(j) protect the interest of the State in respect of the development, management, use and conservation of water sources;

(k) manage and control the installation, operations and maintenance of places and equipment belonging to the Authority;

(l) protect the interest of consumers of water in relation to quantity, quality, and the prices to be charged for water supply;

(m) encourage the formation of stakeholder organizations to assist the Authority in the sustainable development and conservation of water sources;

(n) grant license on such conditions as the Authority may think fit to any public authority or person to undertake any activity related to water sources and to regulate the licensees and their activities;

(o) privatize, with the approval of the State Authority, any of its undertakings pursuant to the provisions of this Enactment;

(p) investigate any incident, infringement or accident occurring on or in relation to a water source; and

(q) to do such other things as it deems fit to enable it to perform its functions effectively or which are incidental to the performance of its functions.

(4) Outline of the organization

1) Number of staff

59 staff

2) Amount of the annual budget in 2009

RM 4 million (USD$ 1.05 million) (RM3.8 = USD$ 1)

3) Organizational chart

<Please attach the organization chart here>

Please refer to the attachment.

4) Ongoing projects

<Please write about the ongoing projects>

Among the ongoing projects are:

1) Implementation of Integrated River Basin Management (IRBM) Study for Selangor River Basin - a joint venture between the Malaysian and Denmark Government. The study was carried out from 2001 until 2007. The output from the study is the IRBM Plan that is to be implemented from 2007 - 2012. The plan has 4 policies:

    a. ensure sufficient water;

    b. ensure clean water;

    c. protect against flood; and

    d. conserve the fireflies.

2) Implementation of Integrated Coastal Management (ICM) Study - a joint venture between the Malaysian Government, United Nations Development Program (UNDP) and International Maritime Organization (IMO). The study was carried out from 2001 until 2007.

3) Sustainable management of water resources abstraction (groundwater and surface water) through water resources abstraction license and Groundwater Management Committee.

4) Integrated enforcement and monitoring on water pollution issues through River Basin Pollution Control Task Force and River Basin Management Committee.

5) Gazette the dam water catchments and fireflies habitats as the Protected Zone.

6) Among the education and awareness program organized or joined by SWMA are:
    a. Qua-Qua Program - Water Quality Monitoring Program with students and communities.

    b. Community Project - River and Coastal Cleaning Program.

c. Exhibition and Talk on Conservation of Water Resources.

d. Mangroves replanting program.

e. Newsletter, Buletin and Brochure about conservation of water resources ie State Of River Report (the report describe the current status, trends and effort made to improve the state of the river and as an opportunity for government agencies and related organizations to highlight their achievements and improve accountability).

(5) Main events in 2009

<Please write about the main events which were held in 2009 which your organization involved in>

Main events in 2009 which SWMA is the main organizer:

1. Qua-Qua Program - Water Quality Monitoring Program with students and communities. The program involved physical, chemical and biological monitoring using a simple water quality monitoring kit.

2. Water Resources Rehabilitation Program through The Residual Cooking Oil Recycle Program.

3. Workshop on "Implementation of Lembaga Urus Air Selangor (LUAS)'s 1999 Enactment for Institutional Development and Integrated Catchment Management for Putrajaya Lake".

4. Implementation of Integrated River Basin Management (IRBM) Study for Selangor River Basin - construction of demonstration site project.

5. Consultation with the communities and stakeholders regarding the gazzettement of fireflies' habitats as the Protected Zone.

6. Briefing on Groundwater Management in Selangor to Perak Water Board.

Main events in 2009 which SWMA joint as co-organizer, participant and exhibitor:

1. Integrated Water Resources Management Workshop in Bangkok, Thailand.

2. International Seminar on Wetlands and Sustainability 2009.

3. The 14th International Rainwater Catchments Systems Conference.

4. Eleventh Annual Water Resources Colloquium.

5. International Symposium Forensic Science and Environmental Health 2009.

6. Colloquium on Groundwater Management in Malaysia.

7. Klang River Cleaning, Rehabilitation and Beautification Project.

8. National Coastal Zone Physical Planning.

9. World Wetland Days 2009 at Kuala Selangor Nature Park

10. Workshop on Water Demand Planning for Selangor, Kuala Lumpur and Putrajaya.

11. Workshop on Water Sector Roadmap.

12. River Modeling Expertise Development Program.

13. Workshop on the Blue Print Ecosystem Development of Sungai Way Similar to Natural River.

14. Environmental Seminar 2009 - Towards Upgrading Environmental Management System in Putrajaya.

15. Beach Cleaning and Tree Replanting Program at Batu Laut Beach.

16. Salt Water Intrusion Research Seminar.

17. Non-Point Sources Pollution Seminar.

About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person

Mr. Nor Zamri bin Sondor
Principal Assistant Director

Phone: 603-55111800 (ext 1201)
Fax: 603-55101800

Email add: norzamri@luas.gov.my

2) The organization's website URL (English and local language respectively)

www.luas.gov.my

(2) Activities your organization implemented in 2009 as the member:

1. Joint the Regional Launch Workshop of the Centre for River Basin Organizations and Management (CRBOM), Solo, Indonesia (27 April - 1 May 2009).

2. Joint the 6th Integrated Water Resources Training (IWRM) Training, Da Nang, Vietnam (30 Nov - 7 Dec 2009).

(7) Mahaweli Authority of Sri Lanka

Date of preparation: 12 / 03 /2010
Name of the editor**: Sudharma Elakanda**
Project Director, DSWRPP /MASL

1. About the organization

(1) Name of the organization and postal address of the office
Mahaweli Authority of Sri Lanka
No. 500, T.B.Jayah Mawatha, Colombo 10, Sri Lanka

(2) The representative of the organization
<Please write the name and position of the representative>
Director General of MASL: Eng Ivan de Silva upto May 2009 and Eng . H D S De Alwis upto 30th January 2010.

(3) Purposes and roles of your organization

a) Historical background of the organization

The Mahaweli Ganga Development Progrmme, the largest integrated rural development multi-purpose programme ever undertaken in Sri Lanka, was based on water resources of Mahaweli and allied six river basins. Main objectives were to increase agricultural production, hydro-power generation, employment opportunities, and settlement of landless poor and flood control. The programme originally planed for the implementation over a 30-year period was brought to acceleration in 1979, with the establishment of Mahaweli Authority of Sri lanka.

The total Mahaweli Project Area covers 39 percent of the whole island, 55 percent of the Dry Zone, and encompasses 60 percent of the irrigable land area of Sri Lanka.

The Project is to provide Irrigation water for agriculture and water for domestic use, generate hydro-power for the whole range of agro-based industry in the Mahaweli areas and elsewhere, provide effective flood control and most importantly open up new land for agriculture development.

The project comprises five Major Dams; Kotmale, Victoria, Randenigala–Rantambe, Maduru Oya and Moragahakanda which is being constructed now.

b) Purposes and roles of the organization

The primary task of MASL has been and remains "the improvement of human life in the Mahaweli impacted areas".

(4) Outline of the organization

1) Number of staff - ***4796 Nos.***

2) Amount of the annual budget in 2009 - US $ 63 million

3) Organizational chart- Attached (Attachment 1)

4) Ongoing projects
<Please write about the ongoing projects>
As follows:

- ***Moragahakanda & Kaluganga Development Project***

Moragahakanda & Kaluganga Development Project is the largest reservoir project to be taken up for development under the Mahaweli River Development Programme. A full feasibility study of the

Moragahakanda Project combined with the Kaluganga Development Project was completed in 2004 by the Lahmeyer International, in association with the Central Engineering Consultancy Bureau (CECB) of Sri Lanka, United Consulting Group (KUWAIT) and Chuo Kaihatsu Corporation, Japan. The project area is located in the Central and North Central Provinces in Sri Lanka. The investment cost of the project is US $ 425 million. The Economic Internal Rate of Return (EIRR) is 22%.Kuwait has already provided US$ 37 million for the detailed designs of the project and JICA, SFD and OPEC are now committed to co-finance the project.

- ***Dam Safety & Water Resources Planning Project (DSWRPP)***

  The Dam Safety & Water Resources Planning Project (DSWRPP) is to be implemented by the Ministry of Agricultural Development and Agrarian Services (MADAS) of the Government of Sri Lanka with the financial assistance from the International Development Association (IDA) of World Bank. The project cost is US$71.66 million will be implemnted within 4 years period from mid 2008. Seven stake holder agencies namely MASL, ID, CEB, NASDB, MD, WRB & DMC are involved with the implementation of the project. Three consultancy teams from Switzerland , Canda and Australia to assist Project to implement 3 project components more effectively jointly with the Local staff.

- ***System B Consolidation Project***

  The objectives of the project are to increase income levels of rural community in Maduru Oya Left Bank through agriculture by (i) rehabilitating deteriorated irrigation network and support to improve water management (II) improvement of selected potable water supply schemes through Village-Self-Help, (III) support for agricultural development and farmer organization; and (Iv) implementing environmental enrichment programmes. Irrigation rehabilitation work included 52 km main canals, 65 km of branch canals, 459 km of Distributory canals, 1,138 km of field canals, 54 km of drainage canals, 80 km of O&M roads and minor reservoirs.

Total estimated project cost was Rs. 2,800 million. Project period was 6 years commencing from 2007.

(5) Main events in 2009

Program	Place	Dates	Participants from MASL
5th NARBO IWRM Training	Hoi An, Vietnam	18th -25th February, 2009	Eng.H.H.P.Premakumara
			Eng.A.Sellahewa
			Eng.R.Thennakoon
Study Meeting on IWRM Including Water Related Disasters & its Management	Hoi An, Vietnam	17th -21st February, 2009	Eng.D.C.S.Elakanda
Twining Program Between JWA & MASL	Japan	11th -30th May, 2009	Eng.D.B.Wijerathna
			Eng.W.A.Chandrapala
			Eng.K.D.J.Premalal
			Eng.W.A.Chandrathilaka
6th NARBO IWRM Training	DaNang, Vietnam	30th November to 7th December,2009	Mr.C.Wellapili
			Eng.H.M.Ranasinghe
			Eng.S.Siriwimalarathna
			Eng.K.Wijerathna
			Eng.S.S.Ariyarathna

2. About NARBO activity

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

3) The name, position, phone & fax number, e-mail address of the contact person

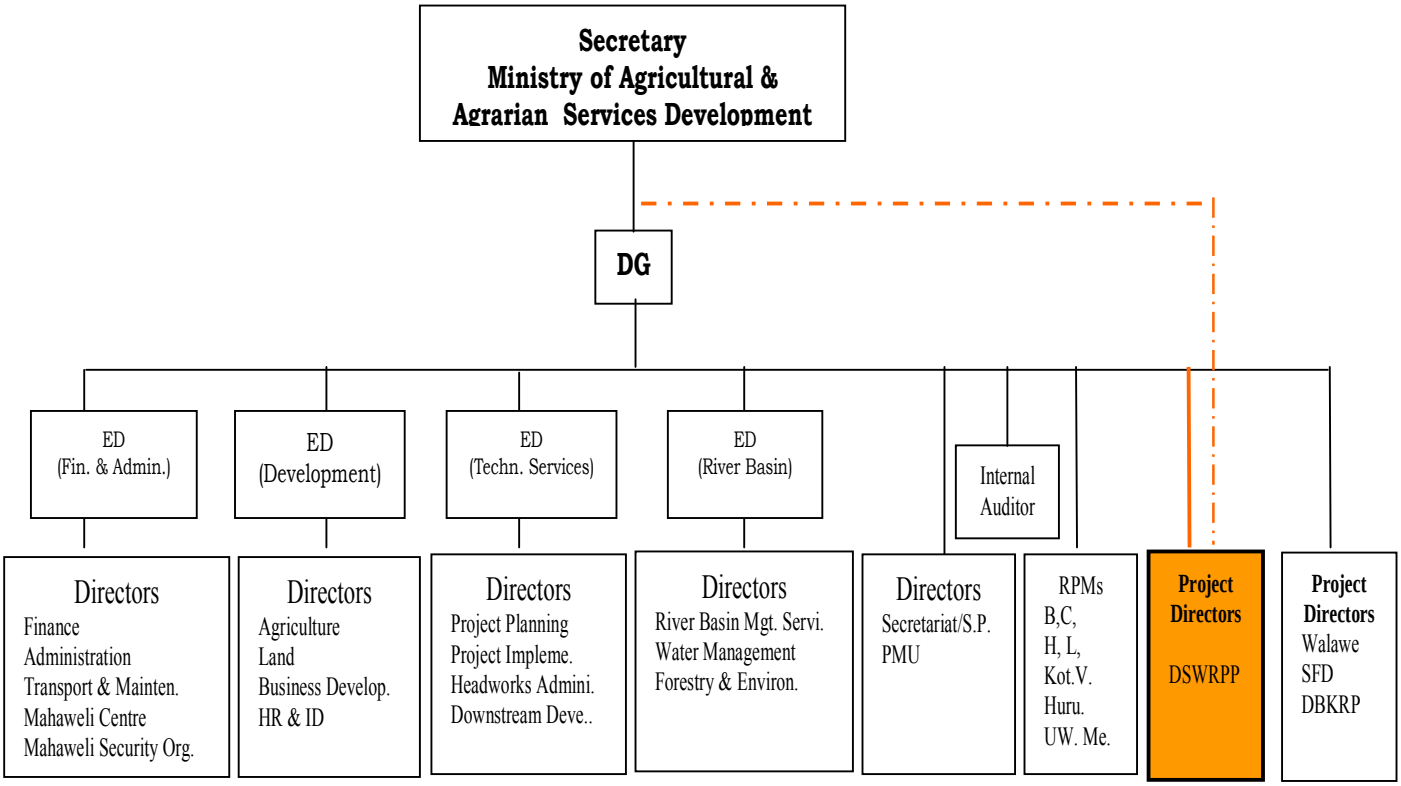
Sudharma Elakanda, Project Director (DSWRP Project), Program Coodinator/NARBO
phone: 0094-11-2675315,
fax: 0094-112691163, e-mail: elamrrp@sltnet.lk
Dam Safety & Water Resources Planning Project. (DSWRPP)

4) The organization's website URL (English and local language respectively)

http://www.mahaweli.gov.lk
http://www.damsafety.lk

(4) Activities your organization implemented in 2009 as the member

Attachment 1



(8) Red – Thai Binh River Basin Organization

Date of preparation: 4 March 2010
Name of the editor: Nguyen Thuy Hang

1. About the organization

(1) Name of the organization and postal address of the office

Red – Thai Binh River Basin Organization (RRBO)

162A Tran Quang Khai street – Hoan Kiem – Hanoi

Vietnam

(2) The representative of the organization
<Please write the name and position of the representative>

Dr. To Trung Nghia – Director of Institute of Water Resources Planning

Head of the RRBO Office

(Note: Dr. To Trung Nghia, Director of the Institute, Head of the RRBO Office is retired from March 1, 2010, M.E Bui Nam Sach replaces him to be Director of the Institute cum Head of the RRBO Office)

(3) Purposes and roles of your organization

b) Historical background of the organization

Red-Thai Binh River system is the second biggest river system of Vietnam. The river originates in China and runs through Laos and Vietnam before merging into the East sea. Total river basin area is 169,020 km^2 including 81,240 (48%) km^2 in China territory, 1,100 km^2 (0.65%) in Laos territory, and 86,660 km^2 (51.35%) in Vietnam territory. In terms of hydrology, the basin consists of 5 sub-basins of Lo - Gam, Thao, Da, Thai Binh and Red rivers. Administratively, the Red River basin covers 25 provinces with a population of 25 million people (in 2008).

The Red River Basin Organization (RRBO) is a non-profit body under the Ministry of Agriculture and Rural Development of Viet Nam. The RRBO was established on April 9, 2001 according to the Decision No. 39/2001 by the Minister of Agriculture and Rural Development of Vietnam to implement river basin planning management in the river basin pursuant to Article 64 of the Law on Water Resources.

The RRBO officially put into operation since April 2004 when the Regulations on Organization and Operation was issued. Dr. Pham Hong Giang, former Vice Minister of Agriculture and Rural Development was the first Chairman of the RRBO and the current Chairman is Prof. Dr. Dao Xuan Hoc, Vice Minister of Agriculture and Rural Development.

Office of the RRBO is based at the Institute of Water Resources Planning (IWARP) at 162A Tran Quang Khai Street, Hanoi. Dr. To Trung Nghia - Director of IWARP is also Head of the Office.

There are 2 sub-RBOs under the RRBO: Day Sub-RBO and Cau Sub-RBO. Day Sub-RBO (with 6 member provinces) was formed on December 1, 2005, in accordance with Decision 3365/QD-BNN/TCCB signed by Minister of Agriculture and Rural Development. Cau Sub-RBO (with 7 member provinces) was formed on May 11, 2006, in accordance with Decision 1363/QD-BNN/TCCB signed by Vice Minister of Agriculture and Rural Development.

b) Purposes and roles of the organization

RRBO was set up to implement water resources planning management in Red-Thai Binh river basin in conformity with Article 64 of the Law on Water Resources. Its tasks are to:

- Prepare and submit for approval the Red – Thai Binh River Basin Plan and monitor its implementation to ensure consistent management of the river basin plan with the administrative boundary;
- Coordinate with relevant Ministerial, sectoral and local agencies in baseline water resources investigation, inventory preparation and assessment of the Red – Thai Binh and in preparing, submitting for approval, and monitoring the implementation of river basin plans for tributaries of the Red – Thai Binh system;
- Propose resolution for water resources disputes in the Red–Thai Binh River Basin.

(4) Outline of the organization

1) Number of staff

RRBO comprises 50 members, including:

- Chairman: Prof. Dr. Dao Xuan Hoc, Vice Minister of Agriculture and Rural Development
- Vice Chairman: Mr. Vu Van Thang, Director of Water Resources Department (MARD) and a Director of the Department of Water Resources Management of Ministry of Natural Resources and Environment (MONRE)
- and 46 regular members.

Members are directors of relevant Departments under MARD, directors of provincial Departments of Agriculture and Rural Development (DARDs) in the Red-Thai Binh river basin, and directors of relevant departments of ministries of Natural Resources and Environment, Industries, Fishery, Construction, Transport, Health, National Defense, and General Services of Hydro-meteorology.

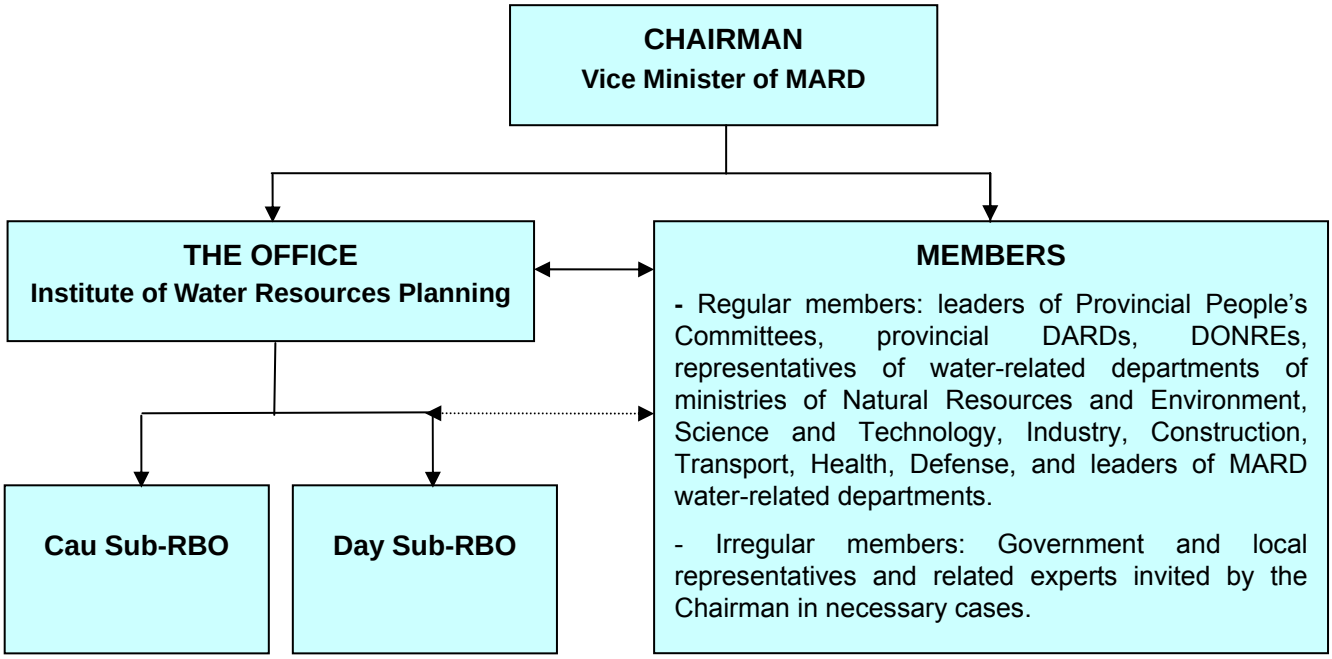
At the RRBO Office, there are 10 officers of IWARP working part-time to run daily operation

2) Amount of the annual budget in 2009

Funds for operation of RRBO Office are provided from the State budget upon approval by the Ministry of Agriculture and Rural Development (MARD). In 2009, total operation funds provided to the RRBO were VND 700,000 million, equivalent to approximately US$ 40,000 (including VND 524,650 or US$ 30,000 for the RRBO Office, VND 88,390 million or US$5,050 for Day Sub-RBO; VND 86,96 million or US$4,950 for Cau Sub-RBO). The funds were just for regular operation of the Office. Funds to implement planning projects are from various sources including central budget, provincial budget, and others.

3) Organizational chart

<Please attach the organization chart here>



4) Ongoing projects

<Please write about the ongoing projects>

- Continue the finalization of the project on Integrated Water Resources Planning for Red – Thai Binh river basin to submit to the Primie Minister for approval
- Implement projects on Water Resources Plan for Day – Nhue rivers, water resources planning for Bac Duong irrigation and drainage scheme, flood control planning for Day river basin, etc.

(5) Main events in 2009

<Please write about the main events which were held in 2009 which your organization involved in>

- Field visits to 6 provinces in the basin, namely Phu Tho, Tuyen Quang, Ha Giang (in June), Lai Chau, Dien Bien and Son La (in November) as a regular activity to member provinces to grasp information on water resources management serving economic development, constraints in water resources river management, water-related disasters, investment portfolio in hydraulic works in 2009 and further of the provinces.
- Coordination with Water Resources Department and Department for Dike Management and Flood Control (MARD) in flood control activities (regular duty during June 15 - September 15 for flood forecast) and regulation of multipurpose reservoirs such as Hoa Binh, Thac Ba and Tuyen Quang. RRBO Office sent missions to Ha Nam, Nam Dinh, Ninh Binh, Bac Kan, Ha Giang, Cao Bang, and Lang Son provinces for inspection of rehabilitation and improvement of dike systems.
- Leading and coordination with the two sub-RBOs in making water resources management plans at sub-basin level.
- Study visit to Department of Water Resources and Bang Pakong river basin (Thailand) to learn experiences in river basin management.
- Gathering comments of members on functions and responsibilities of the RRBO.
- Issuing quarterly newsletters (issues Nos. 21, 22, 23, 24) to inform activities of the RRBO as well as new relevant water-related regulations and provisions, and NARBO activities;

- Keeping the RRBO website updated to provide relevant information and facilitate information exchange among members and provinces;

2. About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person

Ms. Pham Thanh Tu or Ms. Nguyen Thuy Hang
Division for Science and Technology
Institute of Water Resources Planning - RRBO Office
Tel: 84-4-38261767
Fax: 84-4-38252807
E-mail: tu_iwrp@yahoo.com or lunevn@hn.vnn.vn

2) The organization's website URL (English and local language respectively)

www.rrbo.org.vn (for both English and Vietnamese)

(2) Activities your organization implemented in 2009 as the member

- Nominate two participants (Ms. Nguyen Thuy Hang and Ms. Vo Thi Thu Thuong) to attend the 5th NARBO IWRM training in Vietnam (February 2009),
- Submit the RRBO annual report 2008 (March 2009)
- Nominate a participant (Mr. Le Hong Tuan) to attend the CRBOM launching workshop in Indonesia (April 2009)
- Nominate a speaker (Ms. Nguyen Thuy Hang) for the 6th NARBO IWRM training in Vietnam (December 2009).

(9) Cau River sub-basin organization

Date of writing: March 10th 2010

Prepared by **Dinh Khac Tinh**, Vice Director of Thai Nguyen Department of Agriculture and Rural Development, Vice Chairman of Standing Committee of Cau River sub-basin organization (CSBO).

1. An overview of the organization

(1) Title and headquarter

- Cau River sub-basin organization (CSBO)
- Address: No 11A, 566, Luong Ngoc Quyen street, Thai Nguyen city, Thai Nguyen Province, Vietnam

(2) Representatives <Name, job title of the rep.>:

- **Dinh Khac Tinh**, Vice Director of Thai Nguyen Department of Agriculture and Rural Development, Vice Chairman of CSBO Standing.

(3) Targets and functions:

a) CSBO was founded according to the Decision No 1361/ QĐ-BNN/TCCB dated on May 11th 2006 by the Minister of Agriculture and Rural Development.

b) Targets and functions:

(4) Structure:

1) Number of members:

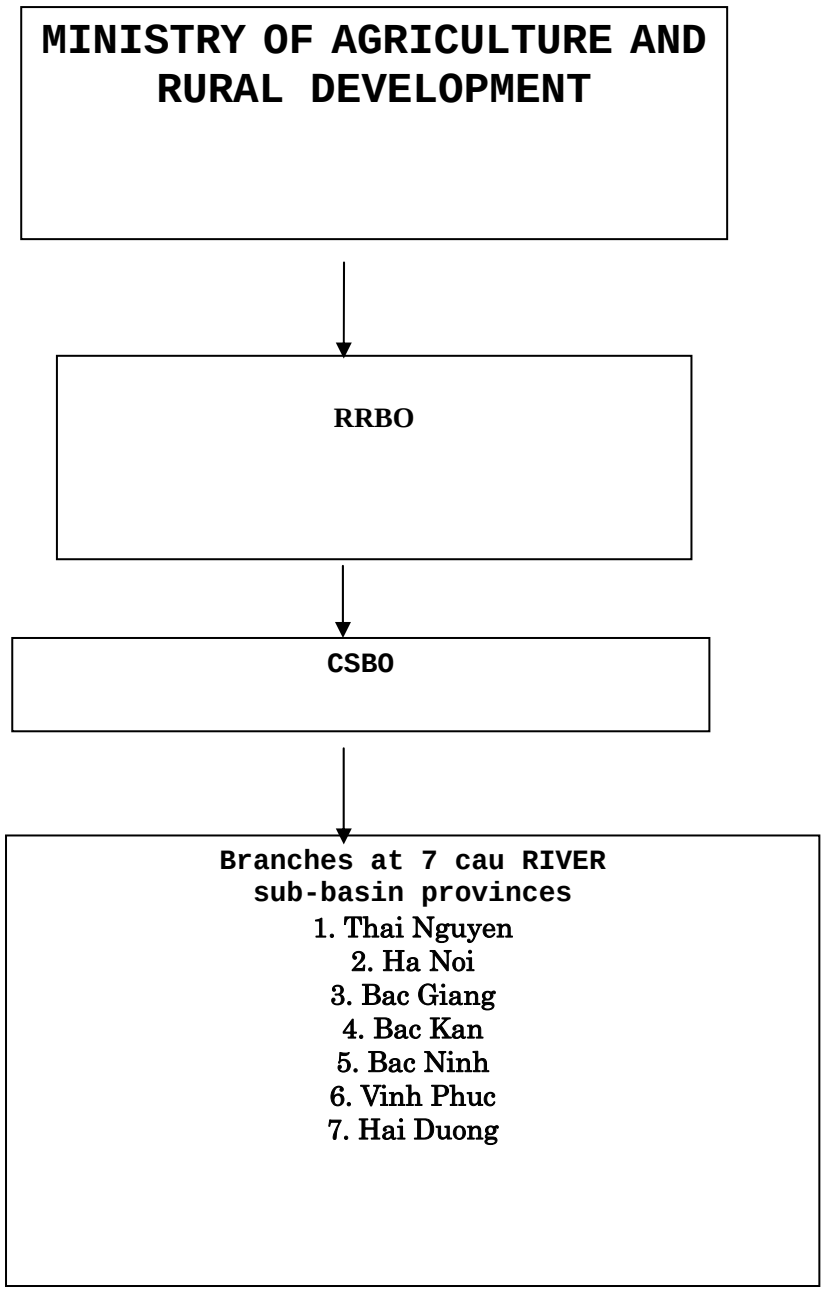
According to the Decision No 1951/QĐ-BNN-TCCB dated on July 14th 2006 by the Minister of Agriculture and Rural Development on the Approval of appointment of members to CSBO, CSBO members include:

- 01 Chairman selected from the Vice Chairmen of the Cau sub-basin Provincial People's Committees.
- 01 Vice Chairman of Standing Committee
- 06 Vice Chairmen
- 01 Head of the CSBO Office
- 06 Vice Head
- 48 Member of Standing Committee at 7 Cau River sub-basin provinces

2) CSBO budget in 2009

- CSBO annual budget includes:
    + Financial support from the Cau River sub-basin provinces
    + Financial support from the Directory Board of Red River Basin Organization (RRBO)
    - CSBO budget in 2009: VND 150.000.000

3) CSBO structure



4) On-going activities:

- Evaluate planning projects, baseline survey projects, and inventory results, assess water resources in the Cau River sub-basin; propose those projects to the RRBO Directory Board and other competence authorities

- Assess the outcomes of water resources exploitation and usage, flood prevention and water resources protection in the sub-basin

- Work together with other related units during the process of implementation and supervision the realization of planning projects approved by competence authorities.

- Offer priorities in irrigation development investment and require issues related to sub-basin water resources distribution to be solved

- Manage and update information and data for the management of exploitation, usage and protection of water resources in the sub-basin.

- Propose and lead the implementation of programs that improve the ability of the organization, individuals and residents in the sub-basin.

- Report to the RRBO Directory Board and the sub-basin Provincial People's Committees about the situation of exploitation, usage and protection of water resources in the sub-basin.

5) Major activities and events in 2009

- Severe flash flooding and landslide in mountainous province, especially in Bac Kan province; severe drought in flat provinces

- Management and exploitation of water resources from irrigation works as the results of the governmental decision on reduction of and exempt from irrigation fees.

- The establishment of industrial parks and export processing zones turned acres and fields into firms and companies; the blossom of populous areas and new metropolitan area damaged the irrigation planning

- Re-organization in agricultural production: Transformation of domestic animals and crop plans model, turn acres and fields into gardens, and gardens into ponds; turn scattered and small-sized production into concentrated production, etc. These activities have great influence on the exploitation of water resources in the sub-basin.

- Nam Cat water reservoir and Van Lang Lake on the Cau River have been studied and invested.

Appendix 1: Planned activities in 2010

Working plan of the year 2010

- Exploit the water resources of irrigation works to serve the 2009-2010 Spring-Winter crops and 2010 crops. Bac Ninh, Hai Duong and Ha Noi should have their water exploitation plans based on the integrated management plan including lakes from Hoa Binh-Thac Ba and Tuyen Quang in order to best serve the 2009-2010 Spring-Winter crops; Exploit water resources within and outside the sub-basin scientifically, economically and sufficiently.

- Cooperate with other bodies to implement the safeguarding of the water reservoirs, irrigation works and dikes in the rainy season of 2010. Mountainous provinces should pay much attention to landslide and flash flooding.

- Work together with other related units including unit responsible for natural resources and environment in order to prevent the contamination, damage and destruction of the water resources in the sub-basin and to preserve the Cau River's environmental landscape.

- The CSBO branches in the sub-basin provinces should improve its cooperation in solving concerning issues, especially the water discharging from one basin to another.

- Work together with the Directory Board of RRBO in all of the related aspects, especially in the management of basin planning and other issues.

- Coordinate with bodies responsible for Environment-Natural Resources, Planning-Investment, Science-Technology, Industry, Finance to supervise the sewage disposal and treatment system included in the planning projects of Industrial Zones, districts, handicraft villages and in order not to give permission of operations to companies, villages and industrial zones that do not meet the requirements of sewage treatment and disposal.

- Improve the preservation of river bed and wharves, as well as prevent the illegal exploitation of sand and gravel at Cau River and its effluents.

- Closely work with NARBO and the world network of river basin organizations.

(10) Local Government Engineering Department

Date of preparation: 28/06/2010
Name of the editor: Md. Moshiur Rahman

1. About the organization

(1) Name of the organization and postal address of the office
Local Government Engineering Department (LGED)
LGED Headquarters, Sher-e-Banglanagar, Agargaon, Dhaka-1207, Bangladesh.

(2) The representative of the organization
<Please write the name and position of the representative>
Md. Wahidur Rahman,
Chief Engineer, LGED, Dhaka, Bangladesh.

(3) Purposes and roles of your organization
c) Historical background of the organization

The rural development paradigm was first conceptualized at Bangladesh Academy of Rural Development (BARD), Comilla (www.bard.gov.bd) in early sixties which is popularly known as 'Comilla Model'. The components of Comilla Model are as follows:

1. Two tier Cooperatives - Krishak Samabaya Samity (KSS, i.e. farmers cooperative association) and Thana (Upazila) Central Cooperatives Association (TCCA)
2. Rural Works Programme (RWP)
3. Thana (Upazila) Irrigation Programme (TIP)
4. Thana (Upazila) Training and Development Centre (TTDC)

Three components out of four (except no.1) are now being implemented by LGED. An Engineering Cell was established in the Local Government Division (LGD) under the Ministry of Local Government, Rural Development and Cooperative (MLGRD&C) in 1970s to oversee the rural works program. To administer rural works program nation wide in an organized approach, the Works Program Wing (WPW) was created in 1982 under the Development Budget. It was transformed into the Local Government Engineering Bureau (LGEB) under Revenue Budget of the Government in October, 1984. LGEB was upgraded as the Local Government Engineering Department (LGED) in August, 1992.

b) Purposes and roles of the organization
Local Government Engineering Department (LGED) is one of the largest public sector organizations in Bangladesh entrusted for planning and implementation of local level rural urban and small scale water resources infrastructure development programs. LGED works closely with the local stakeholders to ensure people's participation and bottom–up planning in all stages of project implementation cycle. The broad objectives of LGED's development activities are to improve the socio-economic condition of the country through supply of infrastructures at local level and capacity building of the stakeholders. LGED works in a wide range of diversified programs like construction of roads, bridges/ culverts and markets to social mobilization, empowerment and environmental protection.

The major functions of LGED can be broadly categorized as follows:

- **Rural infrastructure development**

- **Urban infrastructure development**
- **Small scale water resources development**

Rural infrastructure development

The main intervention of LGED for rural infrastructure development programs is to develop rural road transport network to improve accessibility to Growth Centers (GC), important social & administrative points and also development of GCs to expand marketing facilities of farm and non-farm products of the rural areas. GCs are economically important markets which play role as economic nucleus of a particular rural area. There are 2100 GCs and 18000 small markets across the country.

Urban infrastructure development program:

LGED provides technical and management support to Urban Local Government Institutions (City Corporations, City Councils) to implement urban infrastructure development programs.

Small scale water resources development

The intervention of LGED for small scale water resources development program is limited up the command area 1000 hectors. LGED implements the program involving the stakeholders during preparation and implementation stages and the operation & maintenance (O&M) of the project is taken-up by stakeholders through WMCA (Water Management Cooperative Association- which is an elected committee. Small Scale Water Resource Development activities include:

i) construction of flood protection embankment, ii) conservation of water for irrigation and improvement irrigation systems, iii) construction of water control structures and Rubber Dams, iv) excavation and re-excavation of Canals, v) training to stakeholders and WMCA members.

(4) Outline of the organization

1) Number of staff

The total manpower under permanent payroll is 10129 both at head quarters and field levels.

2) Amount of the annual budget in 2009

30482 million (UD$ 448)

3) Organizational chart

<Please attach the organization chart here>

Organization of LGED

LGED HQ Level: (Manpower: 146)

Chief Engineer

Additional Chief Engineer (Maintenance)	Additional Chief Engineer (Implementation)	Additional Chief Engineer (Urban Management)	Additional Chief Engineer (Planning)

LGED Regions: (Manpower: 70)

Superintending Engineer (Rangpur Circle)	Superintending Engineer (Rajshahi Circle)	Superintending Engineer (Khulna Circle)	Superintending Engineer (Faridpur Circle)	Superintending Engineer (Barisal Circle)
Superintending Engineer (Dhaka Circle)	Superintending Engineer (Mymensingh Circle)	Superintending Engineer (Sylhet Circle)	Superintending Engineer (Comilla Circle)	Superintending Engineer (Chittagong Circle)

LGED District Level: (Manpower:854)

64 Executive Engineer (64 District)

LGED Upazilla Level: (Manpower: 9059)

481 Upazila Engineer (481 Upazila)

4) Ongoing projects

<Please write about the ongoing projects>

There are about 80 Projects currently under implementation under the three sectors. Of the 80 Projects, 53 are Rural Development, 11 are Urban Development and 3 are Water Sector Development Projects. LGED, besides its own activities, has been implementing 13 Projects of other Ministries.

(5) Main events in 2009

<Please write about the main events which were held in 2009 which your organization involved in>

2. About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person

Md. Moshiur Rahman, Superintending Engineer, IWRM Unit, LGED.

Phone # 88-02-9127411, Fax # 88-02-9123913, e-mail: se_iwrm@lged.gov.bd

2) The organization's website URL (English and local language respectively)

lged.gov.bd

(2) Activities your organization implemented in 2009 as the member

(11) Dinas Pekerjaan Umum Provinsi NTB

1. About the organization

(1) Name of the organization and postal address of the office
Dinas Pekerjaan Umum Provinsi NTB
Jl. Majapahit No. 8 Mataram NTN Indonesia 83126

(2) The representative of the organization
<Please write the name and position of the representative>
Name: Ir. H. Djalal, Head of Provincial Public Works Department
Contact Person is: Ir. Surana, MSc, PU-SDA (Water Resources Dev)

(3) Purposes and roles of your organization
d) Historical background of the organization
Public Works Department is responsible for the public infrastructures development, especially dealing with road, water resources infrastructures and public buildings. The Water Resources Infrastructures included: RBOs management / and supervision,

b) Purposes and roles of the organization
The purposes and Roles of the organisation are to provides main public infrastructures (including build a new structures, operation, maintenance, and Rehabilitation). The roles are also to coordinates among the orgasition which responsible to build the other public infrastructures.

(4) Outline of the organization
1) Number of staff
All together more than 1.000 person, in Water Resourses Sector (including BO) is about 750 person.

2) Amount of the annual budget in 2009
The budget for 2009 in water resources sector is about Rp. 200 x 10^9 (200 bill)

3) Organizational chart
<Please attach the organization chart here>
Will be send in other attachment.

4) Ongoing projects
<Please write about the ongoing projects>
To Prepare Dam/Reservoir Construction (named: Pandanduri-Swangi Dam, Volume about 20 mill m3), And some Embung (small dam/reservoir) contruction and maintenances.

(5) Main events in 2009
<Please write about the main events which were held in 2009 which your organization involved in>
- Conduct the seminar and workshop of IWRM (2009 Word Water Day)
- Conduct Trainning and Desimination of IWRM and Indonesian' new WRD' Regulations

2. About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person

Name : Ir. Surana, MSc, PU-SDA
Position : Senior Irrigation (O&M) Engineer, WRD Lecturer/Trainner
Phone : +628123752683 and +62370627460
Email Addr : suranamsc@gmail.com

2) The organization's website URL (English and local language respectively)
(under preparation)

(2) Activities your organization implemented in 2009 as the member

- To Deseminate and socialisation of the NARBO activities
- To Followup and learning the lesson from Narbo Activities, such as from IWRM news and publications.
- Will prepare for the next IWRM Trainning (2010)

(12) National Water Resources Board

Date of preparation : 18/06/2010
Name of the Editor : Atty. Elenito M. Bagalihog

1. About the Organization

(1) Name of the organization and postal address of the office

National Water Resources Board (NWRB)

8th Floor, NIA Building , EDSA, Quezon City

(2) The representative of the organization

Mr. Vicente S. Paragas - Executive Director

Atty. Elenito M. Bagalihog – Chief, Water Rights Division

(3) Purposes and roles of your organization

a) Historical background of the organization :

March 28, 1974 - The NATIONAL WATER RESOURCES COUNCIL (now BOARD) is created by virtue of Presidential Decree (PD) 424 to be a permanent high level ex-officio body attached to DPWTC tasked to coordinate and integrate all activities related to water resources development and management with the head of the following agencies as members of the Council: MPWH (as Chair), DENR, NEDA, NPC, NIA and BOPW.

September 1974 - The NWRB starts operating with a working staff of 31 housed in the College Engineering building of the University of the Philippines (UP) in Diliman, Quezon City under the leadership of Executive Director Angel A. Alejandrino.

December 31, 1976 - The Water Code of the Philippines was promulgated into law by Presidential Decree 1067. The Code updates and consolidates into one piece of legislation basic laws and administrative systems governing ownership, appropriation, utilization, exploitation, development, conservation and protection of the country's water resources.

October 6, 1977 – Presidential Decree 1206 directs the transfer of the jurisdiction, supervision and regulation of private water supply systems from the defunct Board of Power and Waterworks of the Department of Energy to NWRB.

1979 - The Philippine Water Code with Implementing Rules and Regulations was published.

July 22, 1987- NWRC was renamed and reorganized as the National Water Resources Board (NWRB) pursuant to Executive Order No. 124-A.

September 12, 2002, Executive Order 123, was signed by President Gloria Macapagal Arroyo reconstituting the National Water Resources Board to effectively accomplish its mandate, which has the following activities to be immediately initiated:

- Review of the existing Implementing Rules and Regulations of the Water Code of the Philippines ; and
- Review of the proposed NWRB organizational structure

February 8, 2010-, Executive Order 860, transferred the NWRB to the Department of Environment and Natural Resources and reconstituted the members of the Board. The new Board members are: Department of Environment and Natural Resources (DENR),as chair; National Economic Development Authority (NEDA) as vice-chair and the members are: Department of Justice (DOJ); Department of Science and Technology (DOST) and the National Hydraulics Research Center (NHRC). In addition, the NWRB will desist regulating the water

tariffs of Water Districts.

b)Purposes and roles of the organization :

The NWRB is the government agency that is responsible for all the water resources in the Philippines . It coordinates and regulates all water related activities in the country that impact on the physical environment and the economy.

The NWRB is the lead government agency in the Philippine Water Sector, conferred with policy making , regulatory and quasi-judicial functions. It is responsible for ensuring the optimum exploitation, utilization, development, conservation and protection of the country 0 s water resources, consistent with the principles of Integrated Water Resources Management.

Vision Statement : 3 Water for All 4

Mission Statement:

a. To ensure access to safe, adequate water supply and sanitation at acceptable rates and levels of service.

b. To allocate sufficient water that will ensure food security and spur economic development of the country.

c. To protect water environment to preserve flow regimes, biodiversity and cultural heritage as well as the mitigation of water-related hazards.

The NWRB has three major functions such as:

I. Policy Formulation & Coordination

- Formulates policies and plans for the Philippine water sector within the framework of Integrated Water Resources Management (IWRM)
- Coordinates and integrates development programs, projects and activities

II. Resource Regulation

- Conserves and protects all water resources
- Regulates water utilization and allocation based on policies consistent with beneficial use and sustainable development.

Appropriation of waters, as defined in the Water Code is the acquisition of rights over the use of waters or the taking or diverting of waters from a natural source in the manner and for any purpose allowed by law through a system of water rights.

III. Economic Regulation

The NWRB is the economic regulator of private water utilities protecting customers 0 interest by setting standards and targets.

The authority on the operation of private water supply systems is through the granting of a Certificate of Public Convenience (CPC) and/or Certificate of Public Convenience and Necessity (CPCN).

It also ensures that consumers are protected against unreasonable water rates.

(4) Outline of the organization

1) Number of staff : 95

2) Amount of annual budget in 2009

Personal Services----------P 31,719,128.00

Maintenance & Other Operating Expenses--- P 9,143,922.00

Other Appropriations---------- P 4,507,342.00

Total -------- P 45,370,392.00

3) Organizational chart

In accordance with Executive Order 860 signed in 2010, the composition of the NWRB Board are as follows:

Chairman :Secretary, Department of Environment and Natural Resources (DENR)

Vice-Chairman:Director-General, National Economic and Development Authority (NEDA)

Members: Secretary, Department of Justice (DOJ)

Secretary, Department of Science and Technology (DOST)

Director, National Hydraulics Research Center (NHRC)

NWRB Key Officials and respective Positions/Divisions:

Vicente S. Paragas - Executive Director

Atty. Nathaniel C. Santos - Deputy Executive Director

Atty. Elenito M. Bagalihog - Chief, Water Rights Division

Atty. Juan Y. Corpuz - Officer-in-Charge, Water Utilities Division

Engr. Isidra D. Penaranda - Officer-in-Charge, Policy and Program Division

Engr. Jorge M. Estioko - Chief, Monitoring & Enforcement Division Belen T. Tormon - Chief, Administrative & Finance Division

4) On-going Projects and Programs

a. Study on IWRM for Poverty Alleviation and Economic Development for the Pampanga River Basin (2009-2011).

This is under the JICA- Development Study Program of JICA to be implemented for a period of two years with two components: (a) Basic survey and (b) Formulation of the Pampanga River Basin IWRM Plan.

The objective of the Study is to capacitate concerned staff as well as formulate IWRM Plan in the river basin.

b. Philippine Water Supply and Sanitation Portal

This is an internet-based platform/venue to facilitate the exchange and access of information on water supply and sanitation sector being hosted by NWRB.

The Portal has been developed in collaboration with different participating agencies. Memorandum of Agreement among agencies was signed in December 2006. Users Training Workshops/seminars and series of meetings were currently conducted to facilitate the web page development with the consultant.

The Web address for the Portal has been registered (www.philwatsan.org.ph).

Continuing Implementation.

c. Implementation of Water Supply Sector Roadmap

The Roadmap was formulated in 2009. To date projects are implemented by different concerned agencies. The NWRB are implementing the following activities:

- MDGF-1919: Enhancing Access to and Provision of Water Services with the Active Participation of the Poor (2009-2012)

  This is a Joint Programme under the Democratic Economic Governance window of the MDG-F with NWRB as the major partner of NEDA relative to the NWRB Economic Regulatory function.

  Specifically the outputs on Tariff setting methodology adjusted for small scale water service providers; and DILG outputs on capacities at the local level strengthened, localized customer service code.

- Institutionalization of the Process of Utility Performance Improvement This is a Technical Assistance (Water Supply and Sanitation Program/World Bank) (Oct. 2009-June 2011) in order to improve regulatory effectiveness as well as sector performance

- Registration and Regulation of Water Providers (October 2009 up to June 2011) WB funding

  The objective is to map out Water Utilities through registration and regulation in areas to be identified. It includes generating data based on Water Service Providers (WSPs) operating in a specific area; understanding how they operate; and identifying the practical and/or applicable type of regulation for their use. Information to be derived from this project will be used in the formulation of regulatory framework.

d.Training Interventions:

- AusAID-assisted Human Resource Activity under the Philippine Australian Human Resources Development Facility (2004-present).

  This is a series of capacity building interventions that aims to strengthen the capability of NWRB staff.

  Currently, the reentry plans of the different trainings are being pursued. As a result of these AUS-Aid Trainings, NWRB staff are capacitated and recognized as the lead coordinating agency in the Philippines .

(5) Main Events in 2009

1) Conduct of Water is Life Photo Contest 2009 (Theme: Climate Change)

2) Conduct of the World Water Day celebration Symposium.

3) Conduct of the National Consultative Meeting on the Review of the Water Code of the Philippines for possible amendment

4) Earth Day 2009

2. About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person

ATTY. ELENITO M. BAGALIHOG
Chief, Water Rights Division
9202603
elenitob@yahoo.com

MR. VICENTE S. PARAGAS
Executive Director
9282365/9202641
redenteng@yahoo.com

2) The organization's web-site URL (English and local language respectively)
www.nwrb.gov.ph

(2) Activities your organization implemented in 2009 as member

- Served as resource persons on the role of NWRB and IWRMin different fora.
- Conduct series of Technical Working Groups Meeting stakeholders consultations as part of the activities under the study on IWRM in the Pampanga River Basin .
- Strict Implementation of Laws, Rules and Regulations regarding water rights system
- Conduct series of IEC Campaign to inform water users about water rights system
- Continuing partnership with LGUs and other water related agencies like LLDA, Water Districts, thru deputation and MOA execution.
- Act as chair in the formulation of the Water Sector Climate Change Adaptation Strategy.
- Approved Policy on Rationalization of Pricing Of Water resources
- Conducted water data collection, geo-resistivity survey.
- Coordinated with various water-related agencies for the water resources assessment in Iloilo , Kalibo, Aklan and Cagayan de Oro City.

(13) Department of Water Resources, Ministry of Natural Resources and Environment

Date of preparation: 03 /05 /2010

Name of the editor: Ms. Siriwan Preeyachit

1. About the organization

(1) Name of the organization and postal address of the office

Department of Water Resources, Ministry of Natural Resources and Environment
180/3 Rama VI Rd, Soi 34, Phayathai, Bangkok 10400, THAILAND

(2) The representative of the organization

Representative: Mr.Kasemsun Chinnavaso
Director General, Department of Water Resources

(3) Purposes and roles of your organization

a) Historical background of the organization

Department of Water Resources as the core organization in water resources management in Thailand was established on 3 December 2002 under the Ministry of Natural Resources and Environment, conforming to the Bureaucratic Reform Act 2002.

b) Purposes and roles of the organization

Department of Water Resources is aimed at managing integrated water resources in the river basin system by encouraging participation from all sectors with effectiveness, equity and sustainability. Its responsibilities are as follows:

1. To be the core agency in proposing policy, master plan, and measures for water resources management, development, rehabilitation, utilization and problem solving as well as directing and coordinating the implementation;
2. To set guidelines on preparation of action plans for water resources management, development, conservation and rehabilitation, with emphasis on public participation;
3. To study, conduct research, survey, develop, conserve and rehabilitate water resources;
4. To monitor and evaluate water resources management in accordance with the policy, master plans, action plans and measures specified for national and basin levels;
5. To develop database and information network systems pertaining to water resources;
6. To specify or recommend amendments or additions to laws, rules and regulations relating to the management of the country's water resources;
7. To promote, disseminate, publicize, and transfer water-related technology including campaigns to build awareness and understanding among various organizations and stakeholders to fully realize the importance of water resources;
8. To coordinate with other countries and international organizations in relation to water resources;
9. To promote and provide technical support and advice on standards and legislation in relation to water resources management to government agencies and local authorities; and
10. To carry out other duties as stipulated by law or assigned by the Ministry or the Cabinet.

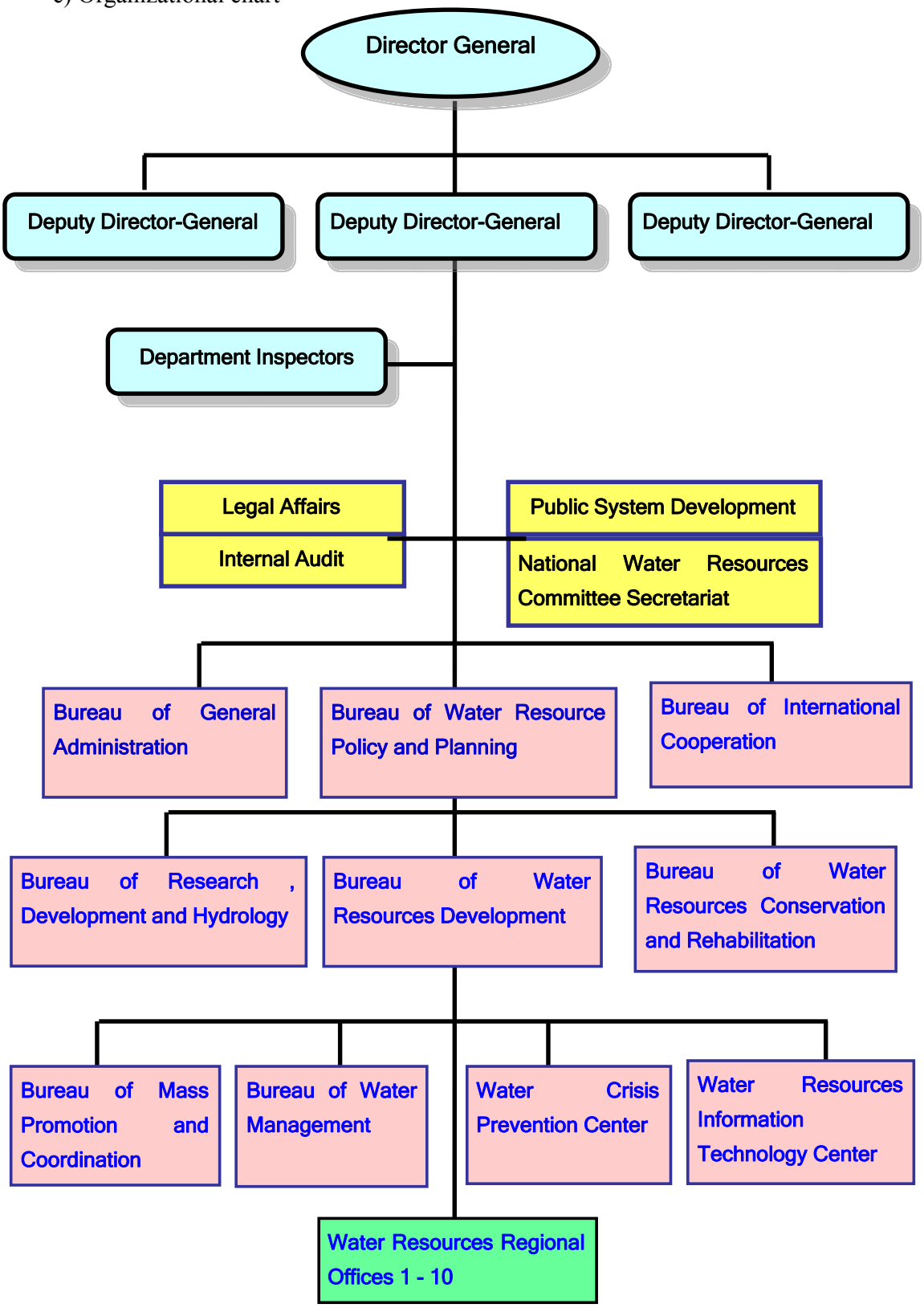
(4) Outline of the organization

a) Number of staff

2,543 persons (30 December 2008)

b) Amount of the annual budget in 2008
Approximately 2,584 Million Bath

c) Organizational chart



d) Ongoing projects

- Installation of Early Warning System in flood-landslide prone areas in steep mountainous and slope areas
- Improvement and rehabilitation of water sources by dredging existing shallow water sources
- Improvement of water infrastructures (reservoirs, overflow weir, and distribution system)
- Operation of water supply concession
- Capacity building and participation promotion in water resources management

e) Main events in 2008

- Arranging the exhibition and activities of Thailand in Expo Zaragoza 2008 organized by the Government of Spain at Zaragoza, Spain
- Holding seminar to celebration the World Water Day in cooperation with the United Nations
- National Day of River and Canal Conservation and Development 2008
- Assistance to the flood victims in Lop Buri, Nan and Prachin Buri provinces

2. About NARBO activity

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

a) The name, position, phone & fax number, e-mail address of the contact person

Contract person: Ms. Sukontha Aekaraj
Director, Foreign Relations Division,
Bureau of International Cooperation,
Department of Water Resources,
Ministry of Natural Resources and Environment
e – mail: sukontha.a@dwr.mail.go.th, s.aekaraj@gmail.com
Telephone: +66 22716030, +66 92058061 (Mobile)
Fax: +66 22986604

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

www.dwr.go.th

(2) Activities your organization implemented in 2008 as the member

- Hosting the 4th Thematic Workshop on Sustainable Management for Water Resources Infrastructures in Bangkok, Thailand

(3) Resolutions and expectations for NARBO activities in 2009

a) Your organization's resolutions

- To support and participate in NARBO's workshops, meetings and other activities.

b) Expectations of NARBO activities

- Providing of knowledge and best practices in water resources management.
- Supporting of new technologies in water resources management.
- Development of NARBO members' staff involved in water resources management and related fields.

3. Questions to RBO members

(1) Areas which your organization has improved the performance in 2008

- Participatory Water Resources Management

(2) The way in which your organization was able to do so

- Establishment of River Basin Committees (RBCs), water user groups and related water networks
- Provision of knowledge, technologies, budget, staff, and experiences to RBC and other related stakeholders in the river basins
- Formulation of river basin plans, monitoring water situations, collecting water data, and implementation of other water related tasks in the river basins by people's participation
- Organizing workshops, meetings, dialogues, and public hearings for participatory decision on projects undertaken in the river basin by the Department of Water Resources

(3) In what way NARBO has helped your organization

- Support for training of water resources management or scholarship programs as well as transferring of technology, information, experience and knowledge related to water resources management

(14) International Centre for Integrated Mountain Development

Date of preparation: 18 / 06 /2010
Name of the editor: Rajesh Thapa

1. About the organization

(1) Name of the organization and postal address of the office

International Centre for Integrated Mountain Development
GPO Box 3226, Khumaltar, Lalitpur, Kathmandu, Nepal.
Tel +977-1-5003222 Fax +977-1-5003277
Web www.icimod.org

(2) The representative of the organization

Dr. Andreas Schild, Director General

(3) Purposes and roles of your organization

e) Historical background of the organization

ICIMOD was established in 1983 through an agreement between the Government of Nepal and United Nations Educational, Scientific and Cultural Organization(UNESCO), and signatures of eight Regional Member Countries - Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, Pakistan. It promotes economically and environmentally sound mountain ecosystems, and to improve the living standards of mountain people

b) Purposes and roles of the organization

The International Centre for Integrated Mountain Development, ICIMOD, is a regional knowledge development and learning centre serving the eight regional member countries of the Hindu Kush-Himalayas – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and based in Kathmandu, Nepal. Globalisation and climate change have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people. ICIMOD aims to assist mountain people to understand these changes, adapt to them, and make the most of new opportunities, while addressing upstream-downstream issues. We support regional transboundary programmes through partnership with regional partner institutions, facilitate the exchange of experience, and serve as a regional knowledge hub. We strengthen networking among regional and global centres of excellence. Overall, we are working to develop an economically and environmentally sound mountain ecosystem to improve the living standards of mountain populations and to sustain vital ecosystem services for the billions of people living downstream – now, and for the future.

Vision

The mountain population of the greater Himalayas enjoys improved well-being in a sustainable global environment.

Mission

To enable and facilitate the equitable and sustainable well-being of the people of the Hindu Kush-Himalayas by supporting sustainable mountain development through active regional cooperation.

(4) Outline of the organization

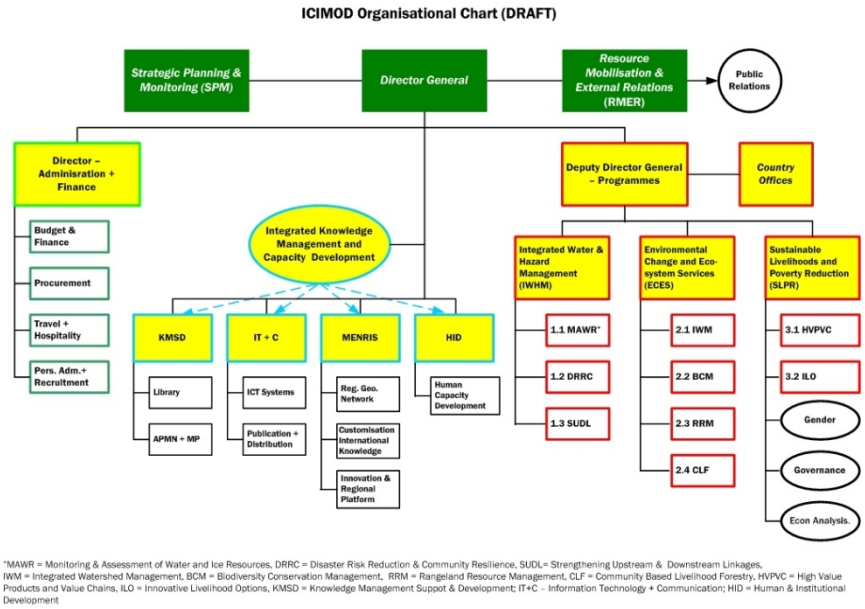
1) Number of staff

170 including consultants and Interns

2) Amount of the annual budget in 2009

US$ 12 million

3) Organizational chart



*MAWR = Monitoring & Assessment of Water and Ice Resources, DRRC = Disaster Risk Reduction & Community Resilience, SUDL= Strengthening Upstream & Downstream Linkages, IWM = Integrated Watershed Management, BCM = Biodiversity Conservation Management, RRM = Rangeland Resource Management, CLF = Community Based Livelihood Forestry, HVPVC = High Value Products and Value Chains, ILO = Innovative Livelihood Options, KMSD = Knowledge Management Suppot & Development; IT+C – Information Technology + Communication; HID = Human & Institutional Development

4) Ongoing projects

Promotion of Sustainable Policy CM, GTZ
Mountain Partnership Secretariat SDC
Asia Pacific Mountain Network
Space Application for Mountain Region
UNEP-ABC Transboundary air Pollution
Characterization of Light Absrobing UNEP

Application of Geo Information GERMANY
HKKH-DSS (IUCN
Spatual Visiulization NTNC
Workshop on Himalayan Glacial UNEP
Land cover information FAO
Building Afghan Research IDRC
W/Shop on Capitalisation & Sharing SDC
Too Much Water Too Little Water SIDA
Himalayan Initiative-Wetland EC
Asian Water Development Outlook 2010 - ADB
Land use change and Human Health IDRC

Himalayan Climate Change Impact CICERO
Glof: Hazard Assessment WORLD BANK
UNISDR : Int'l Strategy for Disaster-Hyogo Frame
Satellite Rainfall EstimationUCAR
Follow up to Satellite Precip W/Shop USA
Regional Flood Information System-FINLAND
Management of Flash Floods USAID
BRAHMATWINN CEC BELGIUM
INDUS-Capacity Building-GTZ
Afghanistan Biodiversity & Comm. USAID
ARID Watershed CC Adoptation - ADB
PES Watershed Project - ICRAF
Transboundary Landscape Conservation MAC
Climate Change Vulnerabilty MacArthur
Promoting Research & Technical UNESCO
Mountain Transboundary Protected Areas WWF
Implementation of Biodiversity GTZ - ABS
Estern Himalayan Biodiversity & CC-MacArthur
Kailash Landscape Conservation-UNEP
Kailash Landscape RCF UNEP
Regional Rangeland Programme ADA
Range Enclosure on the Tibetan Plateau EU
Shifting Cultivation-IDRC
REDD-Design & Setting up-NORAD
Think Global Act Local Kyoto Protocol UNIV
MAPPA Devolution Project IDRC
Enhancing Livelihoods FORD FOUND.
Securing Livelihoods in Uplands- IFAD
Enhancing Adoptation Capacity - IFAD
Development of Disaster Preparedness GTZ
HKH University of Consortia IDRC
Pakistan/Promoting Climate Change Impact (ADB)

(5) Main events in 2009

- The 5th International Symposium on Tibetan Plateau/24th Himalaya-Karakorum-Tibet Workshop (11-14 August 2009)
- Third Pole' Environment Workshop (15-16 August 2009)

- 7–18 December: ICIMOD at UNFCCC COP 15, Copenhagen, Denmark

- 25–31 October 2009: The Himalaya – Changing Landscapes photo exhibition in Berne, Switzerland

- 1-12 June 2009: Himalaya – Changing Landscapes Photo Exhibition Draws Attention to Global Climate Change

- 16-22 March 2009: 5th World Water Forum Istanbul, Turkey

2. About NARBO activity

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

Prof. Hua Ouyang
Integrated Water and Hazard Management (IWHM)
International Centre for Integrated Mountain Development
GPO Box 3226, Kathmandu, Khumaltar, Lalitpur, Nepal.
Web www.icimod.org

1) The name, position, phone & fax number, e-mail address of the contact person

Prof. Hua Ouyang
Programme Manager
Tel +977-1-5003222 Direct Line 5003310 Ext 260
Fax +977-1-5003277
Email: houyang@icimod.org

2) The organization's website URL (English and local language respectively)

www.icimod.org

(2) Activities your organization implemented in 2009 as the member

(15) Global Water Partnership Southeast Asia

Date of preparation: 08 / 03 /2010
Name of the editor:

1. About the organization

(1) Name of the organization and postal address of the office
Global Water Partnership Southeast Asia (GWP-SEA)
Gedung Baru SDA 8th Floor Room: 808 – Ditjen SDA, Dep.PU
Jalan Pattimura No. 20 , Kebayoran Baru Jakarta 11210

(2) The representative of the organization
<Please write the name and position of the representative>
Dr. Le Van Minh
Chair of GWP-SEA

(3) Purposes and roles of your organization
a) Historical background of the organization

The formation of a Southeast Asia Technical Advisory Committee (SEATAC) comprising initially of 8 selected experts from Indonesia, Malaysia, Philippines, Thailand, and Vietnam was seen as a first step towards the process of formation of a regional water partnership. Cambodia and the Lao People's Democratic Republic joined in 2000 and Myanmar joined in 2003.

The GWP-SEA regional water partnership was established in the year 2004 to take over SEATAC's role in the region.

b) Purposes and roles of the organization

The mission of GWP- SEA is to encourage, support, facilitate member countries in achieving sustainable water for all through the Integrated Water Resources Management (IWRM) approach.

The objective of GWP-SEA is to promote the principles of integrated water resources management and to that end:

a) Identify critical needs of the region and riparian countries and stimulate Partners to meet the needs within their available human and financial resources;

b) Support action at regional, national, local or river-basin level that will lead to the adoption and implementation of the principles of integrated water resources management;

c) Help match needs to available resources;

d) Strengthen mechanisms for sharing information and experience.

(4) Outline of the organization
1) Number of staff

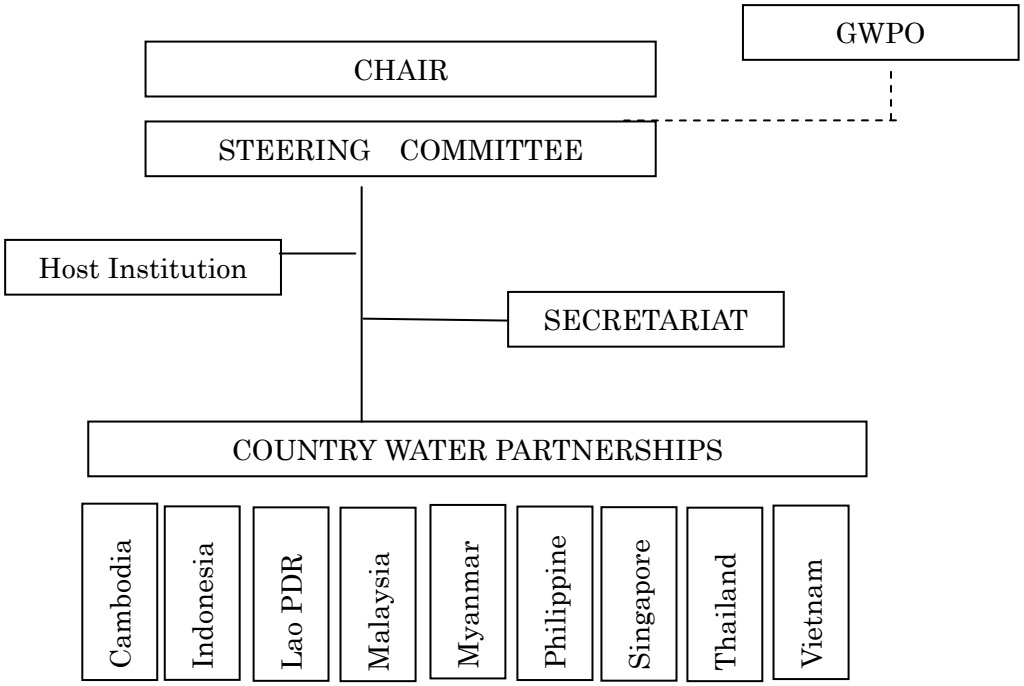
The organization is basically a loose network :

- Part-time actvists at SEA and Country Steering Committee and Executive boards
- No permanent staff at all levels
- Two full time staff at SEA Regional Water Partnership
- Almost no full time staff at Country Water Partnership, but in a few countries only.

2) Amount of the annual budget in 2009

EURO 203,000

3) Organizational chart



4) Ongoing projects

2010 activities based on annual Work Plan mostly comprising of workshops, meetings and trainings at regional and country levels

(5) Main events in 2009

2009 activities based on annual Work Plan mostly comprising of workshops, meetings and trainings at regional and country levels. There is a plan to hold the 4th Southeast Asia Water Forum (SEA-WF) in October 2010 in Manila.

2. About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person

Djoko Sasongko
GWP-SEA Program Coordinator
Phone and Fax . +62 21 739 6792 , E-mail : djoko@gwpsea.org, dsas@cbn.net.id

2) The organization's website URL (English and local language respectively)

www.gwpsea.org

(2) Activities your organization implemented in 2009 as the member

- Implemented workshops, seminars and trainings on IWRM at national level.
- Supported RBO formation and development
- Organized a Workshop on River Basin Organization and Management in Jogyakarta, Indonesia in June 2009
- Developed IWRM ToolBox.
- Participated in SIWW and some other international events

(16) Institute of Water Modeling

Date of preparation: 20/ 06/ 2010
Name of the editor: Saad Siddiqui

1. About the organization

(1) Name of the organization and postal address of the office

Institute of Water Modelling (IWM)
House # 496, Road # 32,
New DOHS, Mohakhali,
Dhaka-1206,
Bangladesh.

(2) The representative of the organization

Emaduddin Ahmad, PEng.
Executive Director

(3) Purposes and roles of your organization

a) Historical background of the organization

The hydrologic and hydraulic regime of Bangladesh consists of numerous looped and cross-connected channels with extensive flood plains and depression storage areas. In the first version of the National Water Plan published in 1985 under the then Master Plan Organization (MPO), Government and its Development Partners recognized that under the complex hydrological and hydraulic regime and socio-economical dynamics, National Water Planning process requires refined analysis in the face of increased capital scarcity; it was also realized that, as development would progress and more projects are completed, the problem of interdependence and impact assessment would grow more severe and costs of remedying adverse impacts will increase.

To overcome the serious shortcomings of the tools available for planning and design analysis based on so called simplistic approach in accurately predicting and analyzing the consequences of impacts of single or multiple projects, it was recognized that powerful analytical tools like Mathematical Modelling would be essential. “The Surface Water Modelling Programme” (SWSMP) was launched by MPO in 1986 to develop analytical predictive tools like mathematical modelling for planning and design analysis and institutionalize the capability as an essential and integral part of National Water Planning Process.

The need for sophisticated analysis of water system was given added impetus following two consecutive disastrous floods in 1987 and 1988.

The Master Planning Organization (MPO), presently Water Resources Planning Organization (WARPO) under the Ministry of Water Resources launched the Surface Water Simulation Modelling Programme (SWSMP) in 1986. SWSMP was aided by UNDP and the World Bank and was to develop and institutionalize sustained high level of analytical capabilities as an essential and integral part of National Water Planning process (Pro Doc BGD/85/045/c/01/42). The capability was institutionalized by establishing the Surface Water Modelling Centre (SWMC) under DANIDA aided SWSMP-II (1989-1993) which continued its further improvement and consolidation of technology under SWSMP III (1994-1996); management of SWMC was transferred to the SWMC Trust in December 1996. It was renamed as Institute of Water Modelling (IWM) in August, 2002 in line with its function of generating learning through its studies and research. Danish Hydraulic Institute, 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 very much actively contributed towards adoption of appropriately technology in IWM.

All along, the main objective remained enhancement of hydraulic and hydrologic knowledge base of the country to enable better planning and design studies of the country’s water management investments.

As a natural development over time, IWM developed expertise in state-of-the-art Hydrometric measurements, hydrographic and topographic surveys and monitoring programme, urban drainage, ground water hydraulics, eco-hydraulics and morphological modelling for river and coastal engineering.

As the computational methods improved with the improvement of computer capacity, demand of analysis expanded to cover the entire gamut of computational hydraulics and water modelling. At the end of SWSMP-III, SWMC developed capabilities in areas of hydrodynamic modelling of rivers, estuaries and Bay, hydrological modelling including surface water-ground water interaction modelling based on three-dimensional GW modelling, fully dynamic morphological modelling based on quasi-three Dimensional flow and sediment transport modelling, complete set of water quality modelling (salinity, BOD, COD, temperature, arsenic etc) of surface water and ground water flows. It also grew as the leading hydrographic and topographic survey institute based on the state-of-the-art technology in order to support its analytical work by strong database through real time measurement campaigns.

After a thorough Institutional Study by experts from home and abroad for the best sustainability of the local capabilities so hard earned through the ten years of TA project, by a Cabinet decision, GoB founded the SWMC Trust under the Trusts Act 1882 on the 24th December 1996 to institutionalize SWMC. It was renamed as Institute of Water Modelling (IWM) on the 1st of August, 2002 in line with its function of generating learning through its studies and research.

b) Purposes and roles of the organization

Government of Bangladesh established the IWM Trust to function with the following specific set of objectives:

i) to form and maintain the IWM, with all its movable and immovable assets and liabilities and facilities acquired during the three phases of the Surface Water Simulation Modelling Programme, into an institution of excellence in research and learning in the field of water modelling, computational hydraulics and allied sciences and to expand the existing programme and projects and when feasible and possible, to undertake new projects at the discretion and option of the Trustees;

ii) To run all the existing programmes and projects of the IWM;

iii) through the IWM, to promote, establish, set up, run, maintain, assist finance, support and aid water modelling programme and projects, for remuneration or otherwise and for the said purpose do all and everything that is expedient and necessary;

iv) To offer training to persons engaged in all kinds of computational hydraulics and water modelling activities;

v) To undertake and assist in water modelling research and development activities;

vi) To conduct research for the furtherance of the objectives of the Trust;

vii) To expand the area of activity of the Trust beyond Bangladesh as may be expedient and feasible;

viii) To undertake any other work or project in any other field or area, which may be conveniently and beneficially done through the facilities of the IWM, as the Trustees may deem fit.

(4) Outline of the organization

1) Number of staff

The number of staff in IWM is about 170, of whom more than 60% are professionals of high standard in their respective fields. Regular training programme both at home and abroad are conducted to develop their expertise in relevant fields. Some staffs are currently pursuing higher studies abroad (MS and PhD) and the Institute encourages such programme for upgrading expertise. The present staffing is as present:

Engineers/Specialists	: 98
Technical/Support staff	: 32
Admin/Accounts/General staff	: 40

The following table shows the Level of expertise of the staff resources as in 2009. The total number represents the experts having multi-disciplinary expertise; it is not the actual number of staff.

PROFESSIONAL EXPERTISE AT IWM

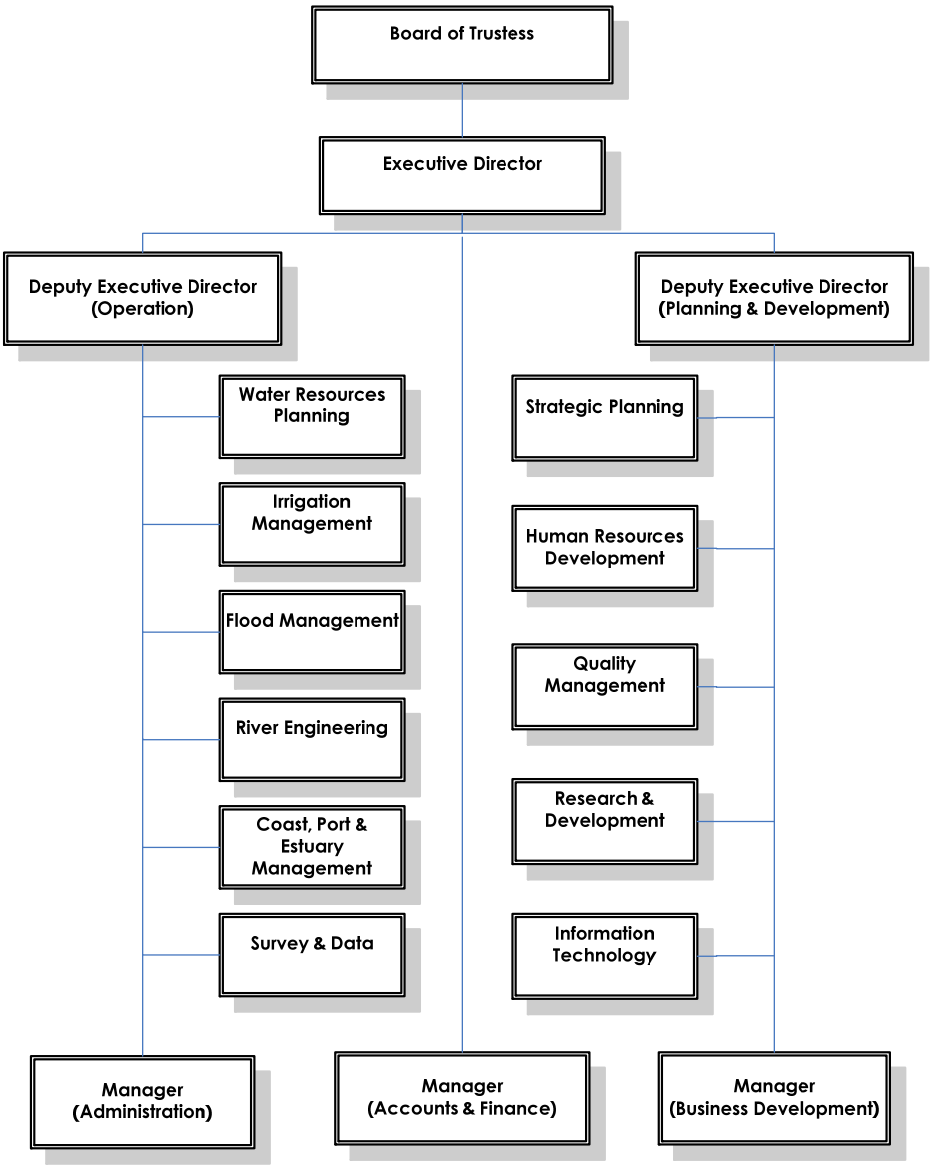
Discipline		Discipline	
Business Development	2	Surface Water Modelling	18
Coastal Hydraulics and Morphology	4	Bridge Hydraulics	5
Estuary and Marine System Management	4	Fluvial Hydraulics and River Morphology	10
Integrated Coastal Zone Management	4	River Engineering	9
Offshore Structure and Pipelines	2	Road Infrastructure	8
Port and Coastal Structure Management	3	Engineering Survey & Investigation	3
Climate Change	9	Hydrographic Survey	7
Disaster Management	4	Hydro-meteorological Measurements	9
Flood Management	11	Laboratory Analysis Of Sediment Samples	1
Flood Management Information System	2	Topographic Survey and Mapping	8
Human Resource Development	1	Water Quality Investigation	8
Computer System Management	2	Strategic Planning	2
Geographic Information Systems	4	Environmental Impact Assessment	4
Software Management and IT Solutions	2	Integrated Water Resources Management	10
Ground Water Management	13	Urban Water Management	6
GW & SW Modeller	3	Water Quality & Ecology	5
Hydro-Geologist	1	Water Supply and Sanitation	3
Irrigation Management	8	Wetland and lakes management	2
Drainage Management	4		
		Total	**210**

2) Amount of the annual budget in 2009

Annual Budget (2009-10): Tk 220.39 million (1USD = Tk 68.50)

3) Organizational chart

ORGANOGRAM OF INSTITUTE OF WATER MODELLING



4) On-going projects

IWM has a number of on-going projects which are being carried out by its 6 working divisions. Most of these projects are in Bangladesh but some are also outside Bangladesh. At present there are 33 on-going projects which have been listed below:

Sl No	Name of project	Type of project	Location	Remarks
1	Climate Change Impact Assessment of Nepal	Climate change	Nepal	External Contract
2	Development of flood forecasting model for Bagmati Basin, Nepal	Flood forecasting	Nepal	External Contract
3	Uttaran to prepare “Peoples Plan of Action for management of Rivers in Southwest Bangladesh	River management	Bangladesh	In-country contract
4	Impact of Climate Change and Sea Level Rise on Sungai Langat Estuary, Malaysia	Climate change	Malaysia	External Contract
5	Monthly Hydrodynamic Prediction for Chevron to Assist Seismic Survey	Water management	Bangladesh	In-country contract
6	Padma Bridge Design Modelling	Bridge hydraulics	Bangladesh	In-country contract
7	Hydrological and Morphological Study for the proposed Baniachong-Azmiriganj Road to connect Baniachong and Azmiriganj Upazilla under Habiganj District	Road Feasibility	Bangladesh	In-country contract
8	Hydrological and Morphological Study of Bangshi River and Dewali River	River management	Bangladesh	In-country contract
9	Hydrological and Morphological Study for the Proposed Road Bridge on Karatoya River at Ullahpara Upazilla under Sirajganj District	Bridge hydraulics	Bangladesh	In-country contract
10	River Management Dredging (Pilot Capital)	River management	Bangladesh	In-country contract
11	Hydrological and Morphological Study for the Proposed Re-excavation of Old/Mora Madhumati River under Gopalganj District	River management	Bangladesh	In-country contract
12	Hydrological and Morphological Study for the Proposed Road Bridge on Bangshi River	Bridge Hydraulics	Bangladesh	In-country contract
13	Hydrological and Morphological Study for the Proposed Road Bridge on Karua Natunbazar	Bridge Hydraulics	Bangladesh	In-country contract

	Road over Someswari River at Sreebardi Upazilla in Sherpur District			
14	Hydrological and Morphological Study for the Proposed Road Bridge on Gorai River at Kushtia Sadar Upazilla under Kushtia District	Bridge Hydraulics	Bangladesh	In-country contract
15	Dhaka Water Supply ADB Technical Assistance (TA) Project.	Urban water management	Bangladesh	In-country contract
16	Ganges River Basin Modeling	Basin management	Bangladesh	In-country contract
17	Detail WQ Investigation for FS of Khulna Water Supply Project of JICA	Urban water management	Bangladesh	In-country contract
18	Kalyanpur Retention Pond Study	Drainage management	Bangladesh	In-country contract
19	Water Supply, Drainage & Sanitation in 148 Pourashava	Urban water management	Bangladesh	In-country contract
20	Dhaka Artificial Recharge, DWASA	Urban water management	Bangladesh	In-country contract
21	Ashulia Reservoir Study DWASA	Urban water management	Bangladesh	In-country contract
22	DWASA WQ Monitoring & FS	Water quality monitoring	Bangladesh	In-country contract
23	Collaborative Research on Flood Resilience in Urban Area (CORFU)-EU	Urban water management	Bangladesh	In-country contract
24	ADCP & Bathymetry Survey for Padma Bridge Project	Survey project	Bangladesh	In-country contract
25	Cross section survey of the Kushiyara River at near Bibiyana Gas Field, Sylhet	Survey project	Bangladesh	In-country contract
26	Training of BWDB & EDP staffs on Hydrographic Survey under Estuary Development Programme	Capacity building	Bangladesh	In-country contract
27	Hydrological and Morphological Study for the Proposed Road Bridge on Bangshi River at Dhamrai Upazilla under Dhaka District	Bridge hydraulics	Bangladesh	In-country contract
28	Desk study on the transportation of heavy cargo from Chittagong port to Fenchuganj	River management	Bangladesh	In-country contract
29	Survey for Char Mainka Cross-dam Project under Estuary Development Program (EDP)	Survey project	Bangladesh	In-country contract
30	Hydrographic Survey in the Tetulia at Char Kazal	Survey project	Bangladesh	In-country contract

31	Dry Season Topographic & Bathymetric Survey, South Bank for River Training Work of Padma Multipurpose Bridge Project	Survey project	Bangladesh	In-country contract
32	National Water Resources Database (NWRD)	Database project	Bangladesh	In-country contract
33	Monitoring of Hydraulic Performance of Causeways in Khaliajuri FCD	Flood management	Bangladesh	In-country contract
34	Support to FFWC for CCA and DRR-Danida	Flood forecasting	Bangladesh	In-country contract
35	Khatlon Province Flood Risk Management Project	Flood management	Tazhikistan	External Contract
36	Chevron: Coastal Hydraulic Study and Survey to Support Seismic Survey	Coastal management	Bangladesh	In-country contract
37	Economics of Adaptation to Climate Change-Bangladesh Case Study	Climate change	Bangladesh	In-country contract
38	Malaysia: Costal hydraulic and morphological study for Labuan Island	Coastal management	Malaysia	External Contract
39	Survey and Modelling of Sandwip - Urir Char-Noakhali Cross dam	Coastal management	Bangladesh	In-country contract
40	Feasibility Study and Detailed Engineering Design for Long Term Solution of Drainage Problem in Bhabadaha water logged area	Drainage management	Bangladesh	In-country contract
41	Kobadak River Basin Drainage Management	Drainage management	Bangladesh	In-country contract
42	Planning and Design of Beel Kapalia Tidal Basin for Tidal River Management (TRM) and Sustainable Drainage Improvement	Water management	Bangladesh	In-country contract
43	BADC: Flow assessment for Survey and Investigation of Minor Irrigation Improvement project Phase -2	Irrigation management	Bangladesh	In-country contract
44	Conjunctive Use Potential of SW-GW for Malaysia	Groundwater management	Malaysia	External Contract
45	Math Modelling for Eng Design of Kurigram Irrigation Project (KIP) -North	Irrigation management	Bangladesh	In-country contract
46	Groundwater Model Study for Rajshahi Barind Phase-III	Groundwater management	Bangladesh	In-country contract
47	Installation of DTW Project Barind II	Groundwater management	Bangladesh	In-country contract
48	Sailabari Jamuna River Erosion Protection at	River management	Bangladesh	In-country

	Sirajganj			contract
49	Monitoring of Hydraulic & Morphological Conditions for the safety of the Jamuna Multipurpose Bridge (JMB) during 2008-09	Survey project	Bangladesh	In-country contract
50	Gaffargaon Bridge: Hydro-Morphological Study	Bridge hydraulics	Bangladesh	In-country contract
51	Scheme Information Management System for Water Management Improvement Project (WMIP)	Database management	Bangladesh	In-country contract
52	ADB: Strengthening the Resilience of the Water Sector in Khulna to Climate Change	Climate Change	Bangladesh	In-country contract
53	HYSAWA Project, Phase-II for Noakhali Region		Bangladesh	In-country contract
54	Mathematical Modelling for the Ganges Barrage Project	River management	Bangladesh	In-country contract
55	Study on Well Field Construction for Immediate Supplement to City Water Supply From Nearby Ground water Sources	Urban water management	Bangladesh	In-country contract
56	Support to Pacific Marine Service in dredging of Outer bar area of Chittagong Port	Ports management	Bangladesh	In-country contract
57	River Bank Protection Monitoring at Kurigram	River management	Bangladesh	In-country contract
58	Survey of the Ganges Barrage Project.	Survey project	Bangladesh	In-country contract
59	Fixation of alignment for new road construction from Madani Avenue to Eastern By-Pass	Survey project	Bangladesh	In-country contract
60	Development of a Data Management System for Hardware and Water Quality (HAWQ) for UNICEF	Database management	Bangladesh	In-country contract
61	Resource Mapping in Teknaf and Ukhiya Upazilla	Database management	Bangladesh	In-country contract

(5) Main events in 2009

Sl.	Topic	Organizer	Participants	Date	Remarks
1	Coastal Inundation Forecasting Demonstration Project	World Meteorological Organization	Deputy Executive Director	29 Jun-01 Jul 2009	Held in Switzerland

	Kick-off Meeting				
2	Application of Isotope Techniques to solve hydrological Problems	Bangladesh Atomic Energy Commission	A-WRP Professional	24 Jun 2009	Held in Dhaka, Bangladesh
3	Fourth South Asia Water Research Conference		2 IWM Professionals	04-06 May 2009	Held in Nepal
4	AEA/RCA Executive Meeting on Application of Isotope Techniques to Solve Hydrological Problems	IAEA	A-WRP Professional	19- 25 Apr 2009	Held in Malaysia
5	Conference of the Dialogue on Climate Change Adaptation for Land and Water Management		Deputy Executive Director	16-17 April 2009	Held in Kenya
6	Workshop on Feasibility Study of a Deep Sea Port in Bangladesh	Ministry of Shipping	A CPE professional	12 Apr 2009	Held at Dhaka
7	5th World Water Forum at Istanbul	World Meteorological Organization	Deputy Executive Director	19-22 March 2009	Held in Turkey
8	International Conference on Water and Flood Management	IWFM, BUET	10 IWM professionals	15-17 Mar 2009	Held at Dhaka, Bangladesh
9	Advances in Arsenic Research in the sub-continent	Organized by CERM, BUET	A WRP Professional	22 Feb 2009	Held at BUET, Dhaka, Bangladesh
10	Feasibility study for supply of SW from U/S of Teesta Barrage for supplementary irrigation of Lalmonirhat dist	Irrigation Management	BADC, Ministry of Agriculture, Planning Commission	19 Feb 2009	Held at BADC, Dhaka, Bangladesh

Sl.	Topic	Organizer	Participants	Date	Remarks
11	Climate Change Impacts and Adaptation Strategies for Bangladesh	Organized by ITN-BUET	Two IWM professionals	18-20 Feb 2009	Held at BUET, Dhaka, Bangladesh
12	Demonstration on AMR System metering in DWASA Pilot Area at Nikunja II	Water Resource Planning Division	Minister, ICT, DWASA decision makers attended	12 Feb 2009	At the project site, Nikunja, Dhaka, Bangladesh
13	Aquaterra World Forum on Delta & Coastal Development		A CPE professional	10-12 Feb 2009	Held at Amsterdam RAI, in the Netherlands
14	International Workshop on Tsunami and Storm Surge Hazard Assessment and Management for Bangladesh	Coast, Port and Estuary Management Division	International workshop	21-22 Jan 2009	Organized by MoFDM & CDMP. IWM professionals
15	Regional Workshop on Climate Change Adaptation for Land and Water Management		Deputy Executive Director	18-22 Jan 2009	Held in Vietnam
16	World Water Assessment Programme : Bangladesh Case Study'	World Bank Coordinated by Mr. Sharifuzzaman Choudhury	Royal Danish Embassy, local government and institutions like BWDB, WARPO, BUET, RHD	7 Jan 2009	Held at CIRDAP Auditorium, Dhaka, Bangladesh
17	Inception Report presentation on "Assistance to Climate Change adaptation and disaster risk reduction in BD	Flood Management Division	BWDB, Danish Embassy and NGOs	21 Dec 2008	Held at a local hotel, Dhaka, Bangladesh
18	Inception Report Presentation for Danida Project	FMG Division, IWM	Danish Embassy, IWM professionals	22 Dec 2008	Held at a local hotel (Ananda), Dhaka, Bangladesh

19	Seminar on Bridge Manual	REN division, IWM	BUET, RHD, IWM	5 Nov 2008	BUET Auditorium, Dhaka, Bangladesh
20	Sustainable Urban Environmental Practices		A WRP professional	28-31 Oct 2008	Held in Thailand
21	Discussions and Meetings at ADPC	ADPC	DED	14-20 Sept 2008	Held in Thailand
22	Intl. Seminar on Long lead flood forecast technology for disaster management	MOWR	IWM Professionals, ADPC, BWDB, MOWR	3-4 Sept, 2008	Sheraton Hotel, Dhaka, Bangladesh
23	Presentation on SIDR Rehabilitation using IWM Model	IWM	Planning Commission, IWM	21 Jul 2008	Planning Commission, Dhaka, Bangladesh

2. About NARBO activity

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

Emaduddin Ahmad, PEng.

www.iwmbd.org

1) The name, position, phone & fax number, e-mail address of contact person

Emaduddin Ahmad, PEng.

[Tel] 880-2-8823909 [Fax] 880-2-8827901

[E-mail] eua@iwmbd.org

2) The organization's website URL (English and local language respectively)

[URL] www.iwmbd.org

(2) Activities your organization implemented in 2009 as the member

IWM carried out number of clientele projects and research & development activities as member of NARBO. As it is widely recognized throughout the world Bangladesh is a riverine country and most of the development activities carried out is related to rivers, and innumerable water bodies that crisscrosses it while flowing to the Bay of Bengal. The country faces many natural calamities through out the year from time immemorial such as floods, storm surges, tornadoes, droughts etc. Recently the unpredictable phenomenon of Climate Change effects has added a new dimension to these natural calamities with increase in magnitudes, frequencies and unpredictability. Rise in Mean Sea Level is a major concern as most of the country

has a flat topography. As predicted by the end of the century with an increase of 1 meter MSL rise, a significant are of the country will be submerged. Apart for this the country has an agro-based economy which mostly depends on agricultural production for the huge population that dwells within its territorial boundary. Application of irrigation practices, both from surface & groundwater is therefore a major concern since weather has a great influence on it. Recently industrialization and urbanization has begun rapidly which has created great concern for need of dependable safe water supply and threats from pollution. As a consequence urban water management has become a major concern.

IWM has been using the General Model along with the Regional Models for carrying out planning and impact studies of all issues that have been described above. Climate Change model study is getting a wide recognition for preparing the nation for adaptation due to MSL rise. Use of irrigation models are widely utilized in agriculture practice by all agencies involved in the activities whether from surface or groundwater source. The recent activities for any infrastructural development on the rivers and water bodies are being tested for environmental and social impacts through model studies. Infrastructural interventions for facilitating navigation, ports & coastal protection are also tested through model studies for planning purpose. The recent phenomenon of unpredicted natural calamities are being predicted through use of flood forecasting and warning for the river system and storm surge modelling for coastal surges from the Bay of Bengal. The urban water management issues are also being addressed through identification of suitable surface / groundwater sources and drainage studies by using the model suite appropriate for planning purposes.

In a nutshell, IWM as a NARBO member has been involved in all aspects of river basin development through application of modelling technology. It utilizes GIS, RS & IT technology to supplement the river basin management for application of modelling technology. IWM imparts capacity building initiatives for all related stakeholders involved in these sectors through training programs. It also supports and sponsors in carrying out research based studies with local and foreign institutions in river basin studies. Under the circumstances it may be stated that in the year 2009, IWM has been involved in numerous river basin development projects of the nature described above. The name of some of the projects has been described above in the table showing on-going projects.

(17) Civil Engineering Research Institute, Public Works Research Institute

Date of preparation: 03/15/2010
Name of the editor: Yasuyuki HIRAI

1. About the organization

(1) Name of the organization and postal address of the office

Civil Engineering Research Institute, Public Works Research Institute
Hiragishi 1-3-1-34, Toyohira-ku, Sapporo, 062-8602 JAPAN

(2) The representative of the organization

Kazuyuki Kawamura, Director-General [Acting Chief Executive]

(3) Purposes and roles of your organization

a) Historical background of the organization

1937 Aug	Founded as the Testing Laboratory of the Civil Engineering Department, Hokkaido Prefecture Government.
1947 Sep	Became an independent institute as the Hokkaido Civil Engineering Institute
1950 Jul	Six divisions (River and Port Engineering, Road, Structure, Dam, Geology and Machinery) were established.
1959 Apr	Three divisions (Applied Science, Soil Conservation and Special Soil Development) were established. Dam Division was renamed Geotechnical Division, and Machinery Division was closed
1962 Apr	River and Port Engineering Division was divided into two divisions; River Engineering and Port and Harbor Engineering.
1964 Apr	Concrete Division was established.
1966 Apr	Pavement Division was established.
1968 Apr	Foundation Work Division was established.
1972 May	System of three Directors changed to system of four Directors.
1978 Apr	General Affairs Department was established.
1979 Apr	Fisheries Engineering Division was established.
1985 Apr	Special Soil Development Division was reorganized into Agricultural Engineering Division.
1985 May	Various research programs were established (Joint Research, Commissioned Research, Admission of Temporary Researchers and Specially Assigned Trainees)
1986 Apr	Research Coordinator was established.
1988 Apr	Reorganized the entire body.
2001 Apr	Became the Independent Administrative Institution Civil Engineering Research

	Institute of Hokkaido.
2003 Apr	Director for Special Research was established.
2006 Apr	Incorporated with Public Works Research Institute and became Civil Engineering Research Institute for Cold Region

b) Purposes and roles of the organization

Independent Administrative Agency Civil Engineering Research Institute (CERI) is major component of Public Works Research Institute (PWRI) that is one of Japan's representing research institutes that have been established with an aim to efficiently develop public works technologies and quality social capital by conducting research and development concerning public works, technological instruction and distribution of its research results at the same time as to contribute to promotion of development of Hokkaido and national land.

CERI and PWRI accurately identify social requirements, the people's needs and international needs and, by producing quality research results, aim to return benefits of their research results to society.

Hokkaido is distinguished by its wide land area, richness of natural environment, cold snowy climate and soft peaty soils. These can often be problematic for civil engineering works, for examples, wide potential flood damage area, vulnerable to natural disasters. Thus CERI mainly conducts advanced research for cost-effective development of infrastructure, environmentally friendly improvements to infrastructure and the mitigation of natural disaster damages to infrastructure.

In addition, CERI conducts research efficiently and effectively, and cooperates with other organizations, and has continued to provide technical guidance, including on measures against disasters, to disseminate research results. CERI will continue fulfilling the task of supporting the development of Hokkaido and national land through investigation, examination, research and development of civil engineering technologies as well as dissemination of research results to domestic and international areas.

(4) Outline of the organization

1) Number of staff

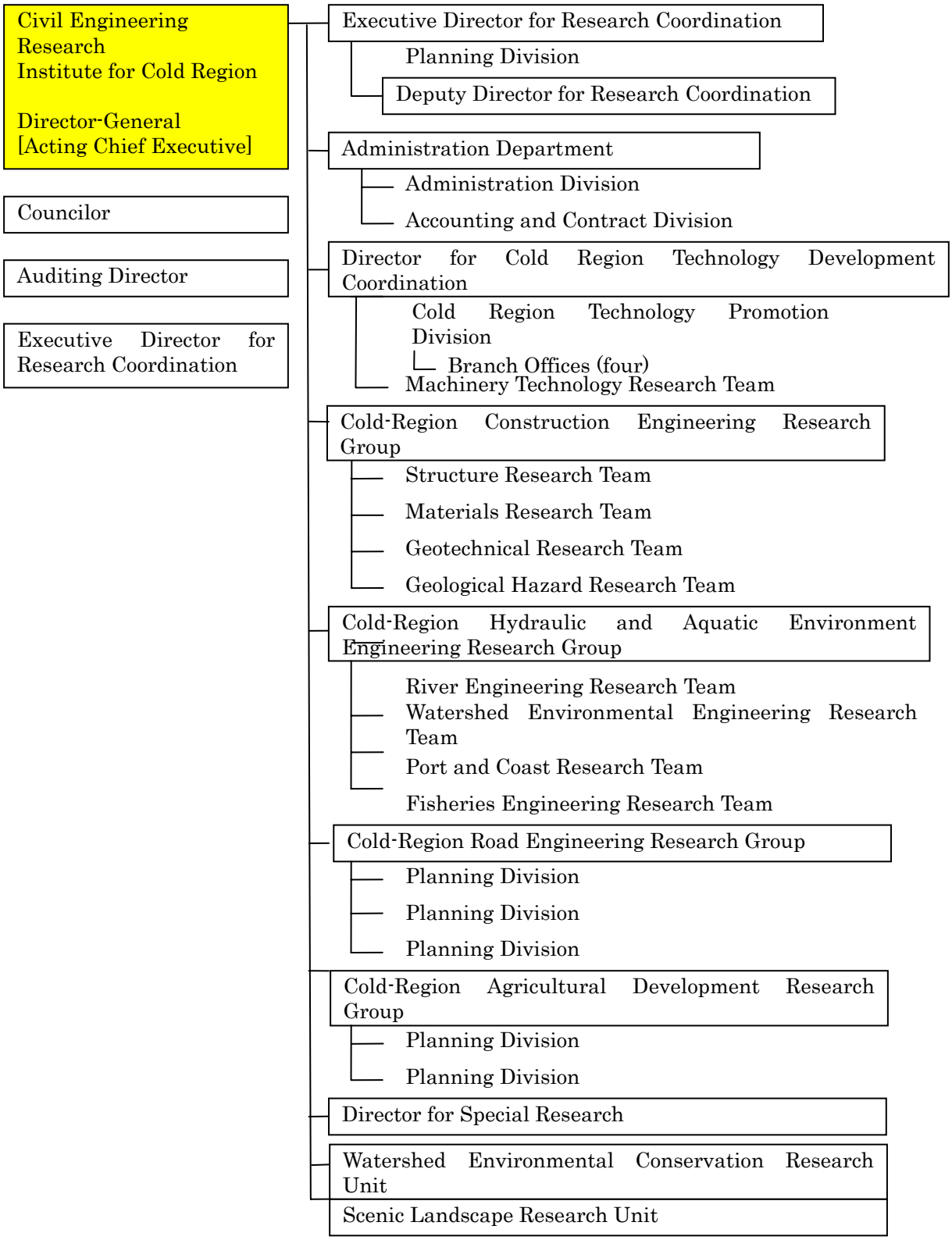
282

2) Amount of the annual budget in 2009

4,795,318,055 yen (including all sectors: FY2008)

3) Organizational chart

See figure below.



4) Ongoing projects (water resources and river related)

- Developing methods to enhance the diversity of the river environment through meander restoration based on hydraulic and morph-dynamics.
- Development of techniques for river channel design that fosters the natural propagation of cold water fishes.
- Clarification of the phenomenon of saltwater intrusion during the freezing season and development of discharge observation method.
- Development technologies for reducing the environmental load to rivers from large-scale farmland.
- Clarification of mechanism of river channel development and application of the results to measures against accumulation of driftwood between bridge piers.
- Research on sustainable tsunami countermeasures in developing countries.
- Research on assuming the impact of river structures on sediment transport and developing countermeasures for sediment management in watershed perspective.
- Experimental study on levee breach by overflow in the Chiyoda experimental channel.
- Research on floodplain management and conservation of natural environment.
- Research on conservation and restoration of retention environment for cold water.
- Development of evaluation methods for material dynamics in estuary environment.
- Clarification of mechanism of alluvial river channel deformation and reducing the flood related disasters.
- Research on interaction between snow melting characteristic and run-off mechanism of materials.
- Research on conservation of wetland vegetation.

(5) Main events in 2009

<International>

- The 5th World Water Forum (Istanbul, Turkey)
- International Association for Hydro-Environment Engineering (IAHR) General Conference (Vancouver, Canada)
- Japan-US committee on computational modeling for hydraulics (Seattle, USA)
- International Convention on water resources engineering (Nakhon Nayok, Thailand)
- River, Coastal and Estuarine Morphodynamics 2009 (Santa Fe, Argentina) [IAHR related conference]
- IAHR Asia-Pacific Division (Auckland, New Zealand)

<Domestic>

- Japan Society of Civil Engineering (JSCE) Hydroscience and Hydraulic Engineering
- JSCE River Engineering
- JSCE General Conference

2. About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person

Mr. Yasuyuki Hirai
Head of River Engineering Research Team
Phone: +81-11-841-1114
Fax: +81-11-820-4246
e-mail: yhirai@ceri.go.jp

2) The organization's website URL (English and local language respectively)

http://www.ceri.go.jp/english/index.html (English)
http://www.ceri.go.jp/ (Japanese)

(2) Activities your organization implemented in 2009 as the member

◆ Japan International Cooperation Agency (JICA) training course for ongoing technical cooperation project in Indonesia

The ongoing project "Capacity Development for River Basin Organizations (RBOs) in Practical Water Resources Management and Technology" in Indonesia has been conducted by Japan Water Agency (JWA) dispatched six trainees to Japan. One of the host organizations, Prof. Shimizu of Hokkaido University and CERI have concluded the agreement on collaboration research, thus CERI was asked to support the training in Hokkaido University. Three staff of CERI attended the training as tutors.

The training in Hokkaido University was focused on using software for the calculation of river hydraulics, bed deformation and inundation. Trainees should have been expected to enhance their capacity for knowing the profile of their managing rivers using the software for adequate management.

(18) Asian Development Bank Institute

Date of preparation: 23 / 3 /2010
Name of the editor: Tadashige Kawasaki

1. About the organization

(1) Name of the organization and postal address of the office

Asian Development Bank Institute
8F Kasumigaseki Building
3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo 100-6008
Tel: +81-3-3593-5500

(2) The representative of the organization
Dr. Masahiro Kawai, Dean

(3) Purposes and roles of your organization
f) Historical background of the organization
b) Purposes and roles of the organization

The Asian Development Bank Institute (ADBI) was established in 1997 in Tokyo, Japan, to help build capacity, skills, and knowledge related to poverty reduction and other areas that support long-term growth and competitiveness in developing economies in the Asia-Pacific region.

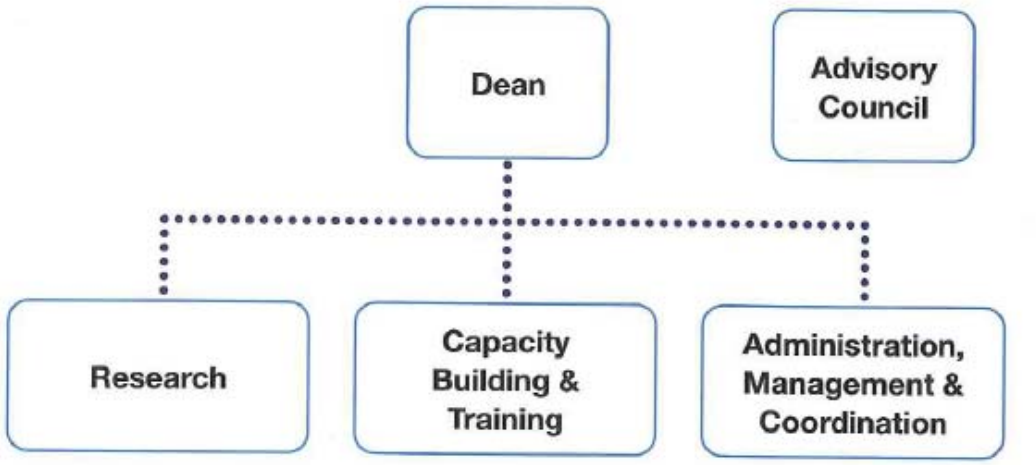
Our work covers applied research and policy seminars to disseminate thinking about best practices, and a range of capacity building and training initiatives.

Looking to the future, a key aim for ADBI is to become a leading center for the creation and dissemination of information and knowledge on development in the Asia-Pacific region.

(4) Outline of the organization
1) Number of staff
60

2) Amount of the annual budget in 2010
$17.29 million

3) Organizational chart



4) Ongoing projects

In 2010, we focus on climate change beyond the economic crisis.

We plan to conduct the workshop/conference on climate change, Public Private Partnership, finance and water.

The main objective of our programs is to promote sound development management by senior and mid-level officials of ADB's developing member countries (DMCs) by:

i) enhancing their understanding of important development issues,

ii) identifying appropriate policies or measures to address these issues, and

iii) assisting them to implement these policies and measures effectively.

This may involve identifying applicable international best practices and assisting DMCs in determining approaches to adopting them, including through sharing of country experiences and practices. In other cases, analysis may need to be conducted to identify the appropriate policies, practices, modalities, or approaches.

2. About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person

Tadashige KAWASAKI　　川崎　忠成

E-mail: tkawasaki@adbi.org
NARBO Associate
Capacity Building & Training
Asian Development Bank Institute
8F Kasumigaseki Building
3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo
Tel: +81-3-3593-5513 (Direct)
+81-3-3593-5500
Fax: +81-3-3593-5587

2) The organization's website URL (English and local language respectively)

http://www.adbi.org/

(2) Activities your organization implemented in 2009 as the member

ADBI took the initiative to conduct especially the 5th and 6th IWRM Training in Viet Nam and the 2nd Technical Advisory Committee Meeting in Singapore and contributed to the success of trainings. ADBI co-organized several events such as Water Governance Workshop in Singapore with ADB to enhance NARBO activities.

We continuously contribute to NARBO's activities in 2010 and offer opportunities to share knowledge and good practices on water by organizing workshops and seminars.

(19) International Research and Training Center on Erosion & Sedimentation

Date of preparation: 10 / March /2009
Name of the editor: Zhang Yanjing

1. About the organization

(1) Name of the organization and postal address of the office
International Research and Training Center on Erosion & Sedimentation (IRTCES)
P.O. Box 366, 20 Chegongzhuang West Rd.Beijing, 100048, China

(2) The representative of the organization<Please write the name and position of the representative>
Dr. Prof. Hu Chunhong , Secretary General

(3) Purposes and roles of your organization

a) Historical background of the organization

The International Research and Training Center on Erosion and Sedimentation (IRTCES) was jointly set up on July 21, 1984, in Beijing according to the agreement of the Government of China and UNESCO, which was renewed in November 2005. The Ministry of Water Resources is the governmental executive agency. Since its founding, IRTCES has devoted itself to research and training to solve scientific and engineering problems related to erosion and sedimentation.

b) Purposes and roles of the organization

Functions of IRTCES are as follows:

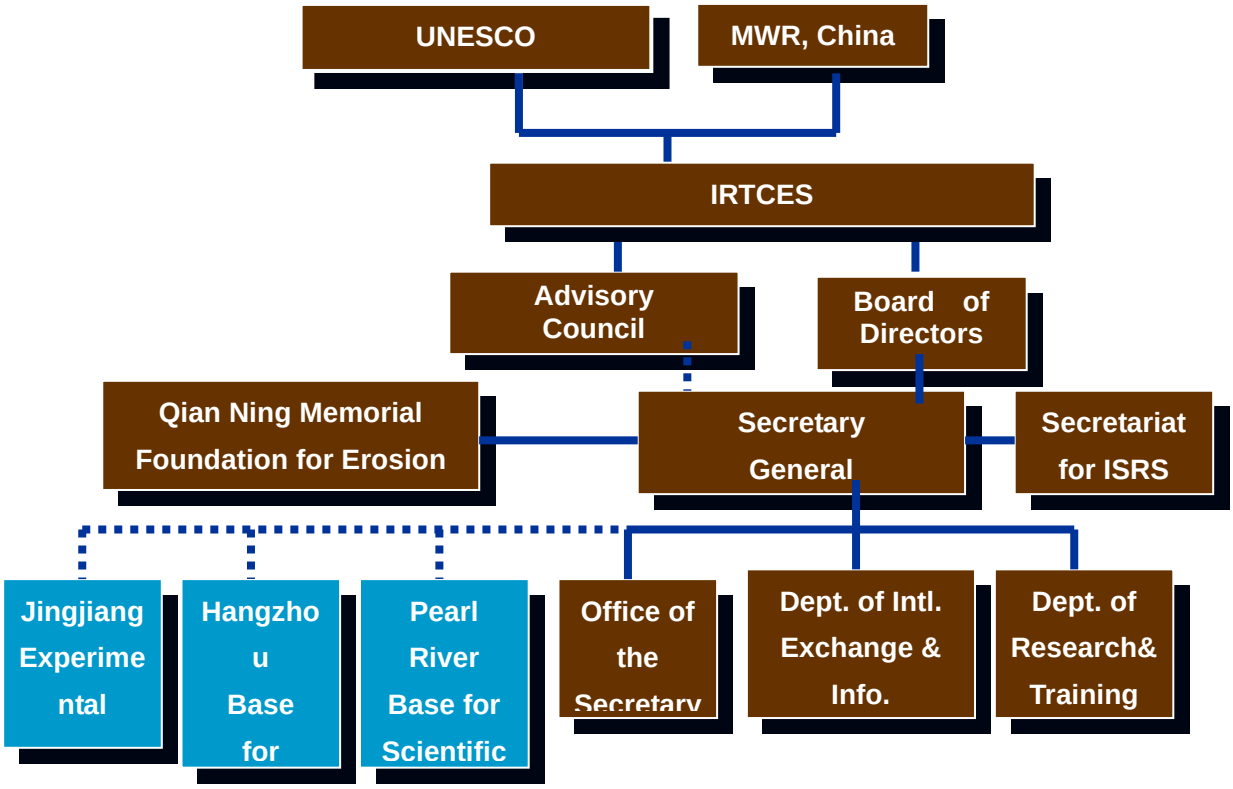
- ✧ To promote the scientific research, training and information exchange on erosion and sedimentation, and related fields ;
- ✧ To coordinate the cooperative research activities and to provide facilities for laboratory and field work for the experts;
- ✧ To organize international and regional training courses, symposia or workshops, study tours and lecturing activities; serve as the Secretariat for the International Symposium on River Sedimentation;
- ✧ To serve as secretariat of WASER & UNESCO-ISI technical secretariat;
- ✧ To undertake and organize domestic research projects on sediment related problems, and publish the “International Journal of Sediment Research”, monographs and circulars etc. in English.

(4) Outline of the organization

1) Number of staff
15 staff

2) Amount of the annual budget in 2009
US$300,000

3) Organizational chart
<Please attach the organization chart here>



4) Ongoing projects

<Please write about the ongoing projects>

- **Conferences**
  - ✓ Serving as the permanent secretariat for the International Symposium on River Sedimentation，IRTCES is helping to organize 11th ISRS to be held in Sept.2010 in South Africa.
  - ✓ Serving as the permanent secretariat for International Conference on Estuaries and Coasts, IRTCES is helping to organize the 4th ICES to be held in 2012 in Vietnam.
- **Scientific researches**
  - ✓ Variation Mechanism of River Channel Pattern Below Large-Scale Hydro Project.
  - ✓ Optimal Allocation of Water and Sediment in Rivers and Regulation Measures of Maintaining River Health.
  - ✓ Theories on Allocation of Water and Sediment Resources.
  - ✓ Ecological Hydrology Regulation on Ecological Safety in Areas of Dry River Valley After Operation of Western Route of South-to-North Water Transfer Project.

- ✓ Variation of water and sediment and response to salt water intrusion in the Pear River Mouth
- ✓ Organizing and Supervising Research Works on Key Sediment Problems on Three Gorge Project.

➢ **Update and Maintenance of the IRTCES's Web**

5) Main events in 2009

<Please write about the main events which were held in 2009 which your organization involved in>

➢ **Organizing International and Domestic Conferences**

- ✓ Serving as the permanent secretariat for the International Symposium on River Sedimentation，IRTCES helped to organize 11th ISRS to be held in Sept.2010 in South Africa.
- ✓ Serving as permanent secretariat for International Conference on Estuaries and Coasts, IRTCES helped to organize the 4th ICES to be held in Sept.2012 in Vietnam.
- ✓ The IRTCES Silver Jubilee Celebration was held on July 29, 2009 at Media Center in Beijing. Mr. Chen Lei, Minister of Water Resources of China attended the celebration and made an important speech. Mr. Walter R. Erdelen, Assistant Director General for Natural Sciences of UNESCO attended the celebration and made an address of congratulation. Minister Chen Lei, Mr. Erdelen, and Mr Wang Shucheng, Vice Chairman of Financial and Economic Committee of the National People's Congress awarded the "Qian Ning Prize for Erosion and Sedimentation" to the winners during the conference. The Prize was set up by IRTCES..
- ✓ The Seminar on Integrated River Basin Management under Global Climate Change was held at the Media Center, Beijing in the afternoonon of July 29, 2009. Over 200 participants from over 20 countries attended the seminar. Prof. Walter R. Erdelen, Assistant Director General for Natural Sciences of UNESCO, Academician Liu Changming, Prof. M. Sprafico, Chairman of UNESCO-IHP-ISI (International Sediment Initiative) Steering Committee and Prof. Wang Zhaoyin, Chairman of IRTCES Advisory Council gave sagacious and wonderful keynote lectures centering on the related issues.

➢ **International exchange**

- ✓ A delegation from the IRTCES, headed by Prof. Dr. HU Chunhong, Secretary General and Deputy Director of the IRTCES visited the International Centre for Water Hazard and Risk Management (ICHARM) at Tsukuba, Japan in 2009. The signing ceremony of the Memorandum of Understanding (MoU) between IRTCES and ICHARM was held.
- ✓ A delegation from the IRTCES, headed by Prof. Chunhong HU, Secretary General and Deputy Director of the IRTCES, visited Kyoto University, Japan in 2009. The visit was guided by three members from the Local Organizing Committee (LOC) of the 12th International Symposium on River Sedimentation (ISRS12) under the leadership of Prof. Hajime NAKAGAWA, Secretary General of the Symposium.
- ✓ IRTCES Director Kuang Shangfu met Mr. W. R. Erdelen, Assistant Director General of UNESCO, who was invited to participate in the IRTCES Silver Jubilee Celebration. Mr. Hu Chunhong, Secretary-General and Deputy Director of IRTCES and Yu Qiyang, Deputy Director of IRTCES and other relevant staff attended the meeting. .
- ✓ Hungarian State Secretary of Ministry for Environment and Water László KÓTHAY visited IWHR and International Research and Training Center on Erosion and Sedimentation (IRTCES) on October 12, 2009 before continuing his 10-day trip to Yellow River International Forum.

➢ **Training Course**

- ✓ The Advanced Training Workshop on Integrated River Basin Management was organized by the International Research and Training Centre on Erosion and Sedimentation (IRTCES) in collaboration with UNESCO Beijing Office, on July 27-August 3, 2009, in Beijing, China. The workshop was sponsored by the International Sediment Initiative (ISI) of UNESCO-IHP and the Ministry of Water Resources of China, and co-sponsored by the World Association for Sedimentation and Erosion Research (WASER) and the Chinese National Committee for UNESCO-IHP. 51 participants from 18 countries including Afghanistan, Australia, Bangladesh, DPRK, Hungary, India, Iran, Indonesia, Myanmar, Mongolia, Nepal, Romania, Sri Lanka, Sudan, Uganda, Uzbekistan and China attended the training workshop. Ten famous experts from China and Switzerland were invited to give lectures for training workshop.

- **Scientific Researches**
  - ✓ Construction of Global River Sediment Information Database. The project consists of two parts: Construction of Database, Research work on Global Water and Sediment Variation in Rivers and Impacts of Hydro Projects on River Health.
  - ✓ Technology of Integrated Regulation for Sediment Disasters in Irrigation Areas of Yellow-Huai-Hai Plains.
  - ✓ Variation Mechanism of River Channel Pattern Below Large-Scale Hydro Project.
  - ✓ Optimal Allocation of Water and Sediment in Rivers and Regulation Measures of Maintaining River Health.
  - ✓ Theories on Allocation of Water and Sediment Resources.
  - ✓ Ecological Hydrology Regulation on Ecological Safety in Areas of Dry River Valley After Operation of Western Route of South-to-North Water Transfer Project.
  - ✓ Organizing and Supervising Research Works on Key Sediment Problems on Three Gorge Project.
  - ✓ Technologies of ecologic water demand for vegetation recovery in fragile areas.
  - ✓ Soil erosion of typical countries and sediment research in the world.
- **Information Exchanges**
  - ✓ Editing and Publishing China River Sediment Gazette (2007).
  - ✓Editing and Publishing "International Journal of Sediment Research", the Journal became Source of SCI in 2008.
  - ✓ Update and Maintenance of the IRTCES's Web
  - ✓ IRTCES is in charge of three webs:
    - ① http://www.irtces.org/ "International Network on Erosion and Sedimentation" "国际泥沙信息网";
    - ② http://www.waser.cn/ "World Association for Sedimentation and Erosion Research" "世界泥沙学会";
    - ③ http://www.irtces.org/isi/ "International Sediment Initiative" "国际泥沙项目".

2. About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person

Zhang Yanjing, Prof. Senior Engineer,
Tel: 8610-68786409，mobile: 86-13801130762
Fax: 8610-68411174，
Email address: zhangyj@iwhr.com, z.yanjing@yahoo.com

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

http://www.irtces.org/ International Network on Erosion and Sedimentation 国际泥沙信息网

(2) Activities your organization implemented in 2009 as the member

1）The sediment management is closely concerned by many stakeholders involved in water resources management in the basins and rivers. IRTCES is establishing a "Global River Sediment Information Database", which will include large amounts of basic sediment data, sediment materials, sediment documents, sediment numerical models and software in global rivers. The database will provide sound service to technical persons and decision makers at different levels of NARBO member organizations.

2）Aiming at coordinating various sectors in the river basin, to protect the safety of the people dwelling by the river and to promote sustainable use of the land and water resources, arriving at economically productive, socially equitable, and environmentally sustainable, the Advanced Training Workshop on Integrated River Basin Management was organized by the International Research and Training Centre on Erosion and Sedimentation (IRTCES) in collaboration with UNESCO Beijing Office, on July 27-August 3, 2009, in Beijing, China. Through lectures, discussions, exchanges and one-day field study, the participants improved their professional river basin management theory and knowledge, got much latest concepts, techniques and information, and established linkage among participants.

3) Several research projects related with IWRM, such as sediment management, river eco- environment management and restoration, soil and water conservation have been carried out.

(20) WWF International

Date of preparation: 08 / march /2010
Name of the editor: Lifeng LI

1. About the organization

(1) Name of the organization and postal address of the office

WWF International
Avenue du Mont-Blanc
1196 Gland, Switzerland
Web: http://www.panda.org/about_wwf/what_we_do/freshwater/

(2) The representative of the organization
<Please write the name and position of the representative>

Lifeng LI
Director, Freshwater

(3) Purposes and roles of your organization

a) Historical background of the organization

WWF was born into this world in 1961. It was the product of a deep concern held by a few eminent gentlemen who were worried by what they saw happening in our world at that time.

In almost 5 decades, WWF (formerly known as the World Wildlife Fund) has become one of the world's largest and most respected independent conservation organizations.

With almost 5 million supporters distributed throughout 5 continents, WWF has offices in over 90 countries and can safely claim to have played a major role in the evolution of the international conservation movement.

Since 1985, WWF has invested over US$1 billion in more than 12,000 projects .

All these projects and activities play a part in the campaign to stop the accelerating degradation of Earth's natural environment, and to help its human inhabitants live in greater harmony with nature.

For more information, please visit http://www.panda.org/who_we_are/history/

b) Purposes and roles of the organization

WWF's Mission Statement

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- promoting the reduction of pollution and wasteful consumption.

WWF's Guiding Principles

To guide WWF in its task of achieving the mission, the following principles have been adopted. WWF will:

- be global, independent, multicultural and non party political
- use the best available scientific information to address issues and critically evaluate all its endeavours
- seek dialogue and avoid unnecessary confrontation
- build concrete conservation solutions through a combination of field based projects, policy initiatives, capacity building and education work
- involve local communities and indigenous peoples in the planning and execution of its field programmes, respecting their cultural as well as economic needs
- strive to build partnerships with other organizations, governments, business and local communities to enhance WWF's effectiveness
- run its operations in a cost effective manner and apply donors' funds according to the highest standards of accountability.

For more information, please visit http://www.panda.org/who_we_are/

(4) Outline of the organization

1) Number of staff

More than 4,000 employees in more than 100 countries.

2) Amount of the annual budget in 2009

More than 400 million Euro of WWF network, and about 100 million Euro of WWF International.

3) Organizational chart

<Please attach the organization chart here>

WWF is an independent foundation registered under Swiss law, governed by a Board of

Trustees under an International President. Currently, the President is Yolanda Kakabadse. President Emeritus is HRH The Duke of Edinburgh.

Gland, Switzerland is the home of WWF International, the secretariat for WWF's global organization. Its role is to lead and coordinate the *WWF Network* of offices around the world, through developing policies and priorities, fostering global partnerships, coordinating international campaigns, and providing supportive measures in order to help make the global operation run as smoothly as it can.

The various WWF offices around the world come under two categories:

1) those that can raise funds and carry out work automomously, and

2) those that must work under the direction of one of the independent WWF offices.

In all cases, WWF's offices carry out conservation work such as practical field projects, scientific research, advising local and national governments on environmental policy, promoting environmental education, and raising awareness of environmental issues.

Each office that can work independently (type 1) also contributes funding to WWF's global conservation programme (PDF Format: 3MB), while all offices help contribute to an enormous pool of environmental expertise and knowledge.

A specialist WWF office in Brussels works to influence the policies and activities of the European Union, while a second WWF Office in Washington DC works to influence global institutions involved in international economic issues, such as the World Bank.

WWF's 4 Associate Organisations are non-governmental organizations that work closely with WWF in countries where WWF has no independent office (type 1). The Associates promote shared conservation objectives, but do not contribute financially to the WWF Network.

In all, WWF has primary offices and associates in over 40 countries around the world, working as a team towards an overall goal: to halt and reverse the destruction of our natural environment.

http://www.panda.org/who_we_are/organization/

4) Ongoing projects

<Please write about the ongoing projects>

Too many. For more information, please visit http://www.panda.org/what_we_do/

(5) Main events in 2009

<Please write about the main events which were held in 2009 which your organization involved in>

Please visit http://www.panda.org/wwf_news/

2. About NARBO activity

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

1) The name, position, phone & fax number, e-mail address of the contact person

Lifeng Li
Director Freshwater
Tel: +41 22 364 9111
Direct: +41 22 364 9017
Mobile: +41 79 787 0654
E-mail: lli@wwfint.org

2) The organization's website URL (English and local language respectively)

http://www.panda.org
http://www.panda.org/about_wwf/what_we_do/freshwater/

(2) Activities your organization implemented in 2009 as the member

- met NARBO Secretariat during World Water Forum Istanbul
- attended IWRM training in Nov.

(21) Asian Development Bank

I. About the Asian Development Bank

(1) Name and Address

Asian Development Bank (ADB)	
Postal Address	Street Address
P.O. Box 789 0980 Manila, Philippines	6 ADB Avenue, Mandaluyong City 1550, Philippines
Telephone No.: + 632 632 4444 (connecting all Depts./Offices) URL: http://www.adb.org/water	

(2) Representative to NARBO

Wouter T. Lincklaen Arriens
Lead Professional (Water Resources Management)
Sustainable Infrastructure Division (RSID)
Regional and Sustainable Development Department (RSDD)
Asian Development Bank
and
NARBO Vice Secretary General

Tel (632) 632-6754
Fax (632) 636-2444
Email: wlincklaenarriens@adb.org

(3) Background on Organization

Historical Background. The ADB was conceived amid the postwar rehabilitation and reconstruction of the early 1960s - the vision was of a financial institution that would be Asian in character and foster economic growth and cooperation in the region. The Philippines capital of Manila was chosen to host the new institution, which opened its doors on 19 December 1966 with 31 members. Through the years, ADB's work and assistance levels have expanded alongside its membership as the region has undergone far-reaching changes. From 31 members at its establishment, ADB has grown to 67 members – of which 48 are from within the Asia and Pacific region, and 19 outside. See http://www.adb.org/About/history.asp

Purpose and Role. ADB is an international development finance institution. ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries (DMCs) substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two thirds of the world's poor: 1.8 billion people who live on less than $2 a day, with 903 million struggling on less than $1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration. See http://www.adb.org/About/default.asp

Number of Staff. ADB's staff numbers around 2,000, coming from around 67 member countries, including 48 from the region.

Amount of the Annual Budget in 2009. In 2009, ADB approved loans worth $13.23 billion for 93 projects. Technical assistance, which is used to prepare and implement projects and support advisory and regional activities, amounted to $267 million. Grant-financed projects totaled $1.113 billion for 64 projects. See http://www.adb.org/About/operations.asp.

Projects. ADB works in partnership with governments and public and private enterprises in its developing member countries on projects and programs that will contribute to economic and social development, based on the country's needs and priorities. ADB extends loans and TAs to its DMCs for a broad range of development projects and programs. See http://www.adb.org/Projects/ .

Organizational Structure. The highest decision making tier at ADB is its Board of Governors, to which each of ADB's 67 members nominate one Governor and an Alternate Governor to represent them. The Board of Governors meets formally once a year at an Annual Meeting held in a member country. The Governors' day to day responsibilities are largely delegated to the 12-person Board of Directors, which performs its duties full time at ADB's HQ in Manila. The ADB President, under the Board's direction, conducts the business of ADB. The President is elected by the Board of Governors for a term of five years and may be reelected. See http://www.adb.org/About/management-staffing.asp for details. View full organizational chart at http://www.adb.org/About/ADB_Organization_Chart.pdf.

II. About NARBO Activity

(1) Contact Person and Web Site

Wouter T. Lincklaen Arriens
Lead Professional (Water Resources Management)

Sustainable Infrastructure Division (RSID), Regional and Sustainable Development Department (RSDD)
Asian Development Bank
and
NARBO Vice Secretary General

Tel (632) 632-6754
Fax (632) 636-2444
Email: wlincklaenarriens@adb.org
http://www.adb.org/water

(2) NARBO Activities Implemented/Supported in 2009

ADB, as member of the NARBO Secretariat together with Japan Water Agency and ADB Institute, has played a key role in NARBO activities. In 2009, ADB continued its support to the network to improve water governance and to help achieve IWRM in river basins throughout Asia. ADB provided expertise through exchange of information and experiences, and technical advice.

Performance Benchmarking and Peer Review of River Basin Organizations. ADB recognizes the vital leading and facilitating roles that RBOs play in managing river basins, and the need for performance improvement so that RBOs can better meet increasing challenges in the water sector. NARBO's performance benchmarking service for RBOs, launched in September 2005 after a one-year participatory design process, is expected to enable RBOs to track its progress, to enable comparisons with the performance of other organizations; and to improve the efficiency and effectiveness of their service delivery. The pilot performance benchmarking and peer reviews were completed for Jasa Tirta 2 in Indonesia, Laguna Lake Development Authority in Philippines, Red RBO in Viet Nam, and Mahaweli Authority of Sri Lanka. A fifth pilot was completed for Balai Besar Citarum in Indonesia during the 1st quarter of 2008.

In early 2009, the pilot performance benchmarking and peer reviews were completed in six additional RBOs in Indonesia under ADB's regional technical assistance (RETA 6351 Process Development for Preparing and Implementing IWRM Plans), as follows:

- Balai Besar Wilayah Sungai (BBWS) Mesuji-Sekampung
- Balai PSDA Way Sekampung- Way Seputih
- BBWS Cidanau-Ciujung-Cidurian
- Balai PSDA Cidanau-Ciujung
- BBWS Brantas (East Java)
- Perum Jasa Tirta I (PJT1-Brantas)

Publication: Water Rights and Water Allocation – Issues and Challenges for Asia. The topic

of water rights is of great interest to NARBO members as it helps to introduce IWRM in river basins. Water rights emerged as the top-ranked topic in a survey of training needs carried out among NARBO members. In response, NARBO initiated a series of four workshops on the theme of water allocation and water rights starting December 2005, in partnership with NARBO member organizations from Indonesia, Lao PDR, the Philippines, Thailand, Viet Nam and subsequently Sri Lanka. ADB supported the sequence of workshops held in Hanoi, Manila, and Bangkok; including the fourth held in Saitama, Japan in January 2007, and a culminating workshop on water rights held at ADB's Headquarters in May 2007. These workshops served as foundation in crafting a knowledge product on water rights: Water Rights and Water Allocation – Issues and Challenges for Asia which is expected to assist RBOs in introducing or implementing effective and efficient water rights system. In August 2009, the ADB publication Water Rights and Water Allocation – Issues and Challenges for Asia was introduced at the Stockholm International Water Week in Sweden.

Letter of Intent for Collaboration to Improve Water Security in River Basins through the NARBO. The Presidents of ADB and JWA signed a letter of intent (LOI) on 12 January 2009 at the ADB Headquarters in Manila, Philippines to further strengthen the cooperation between ADB and JWA, and to expand their scope of collaboration on NARBO activities. NARBO Chairperson Dr. Mochammad Amron and NARBO Vice-Chairperson Mr. K. W. Ivan de Silva witnessed the signing of the LOI. Specifically, the LOI aims to:

- introduce and develop IWRM in river basins;
- work and collaborate with the Center for River Basin Organizations and Management (CRBOM) in Indonesia;
- support basin water investments to improve water security; and
- strengthen the interaction with leaders and decision makers though NARBO activities.

IWRM Guidelines at River Basin Level. The IWRM Guidelines were published by UNESCO in collaboration with the Ministry of Land, Infrastructure, Transport and Tourism, Government of Japan, JWA, ADB and NARBO in March 2009.！ Prior to their global launch at the 5th World Water Forum in Istanbul, the guidelines were pre-tested by NARBO in its 5th IWRM training held in the Vu Gia-Thu Bon river basin in central Viet Nam, and the guidelines were used as main reference materials in the 6th NARBO IWRM training. The IWRM Spiral Model, which is introduced in the guidelines, shows IWRM performance in river basins as a spiral process of continuous improvement in response to impacts caused by various drivers. Each turn of the spiral represents inclusive efforts to develop a solution that advances economic, social and environmental objectives in the basin within the evolving conditions, and seeking to optimize the satisfaction of the various stakeholders with the solution. The Guidelines argue that this process can be pursued regardless of the strength of the enabling environment, and that the identification or one or more keys for success at each turn of the spiral can help to secure a successful outcome. Progress up the spiral can be supported by single activities or projects, or by sequencing these in a roadmap for a longer-term IWRM investment program.

NARBO Technical Advisory Committee. NARBO is keen to improve the quality and credibility of its annual training program on IWRM to the level of a prestigious regional flagship program. At NARBO's 3rd General Meeting in Indonesia last February 2008, NARBO agreed to establish the Technical Advisory Committee (TAC) which will review and advise NARBO's leadership and secretariat in revamping the training program, based on experience gained by NARBO over the past four years and taking into account approaches and experiences by other training providers. ADB helped in establishing the NARBO TAC; and supported the conduct of the 1st NARBO TAC Meeting in Singapore last 5 April 2008, back-to-back with the meeting of the regional water knowledge hubs. ADB also supported the 2nd NARBO TAC Meeting in Singapore last 25 June 2009.

5th and 6th NARBO IWRM Training Programs in Viet Nam, February 2009 and December 2009, respectively. ADB supported the training programs which helped to

- Explain the process of IWRM, particularly as it is implemented in river basins, emphasizing trans-disciplinary nature
- Demonstrate a sound understanding of basic sectoral aspects of IWRM, including: irrigation, hydropower, environment, water-related disaster management, institutional coordination, etc.
- Apply the "IWRM Guidelines at River Basin Level" to introduce, implement and improve IWRM; and to outline basic "IWRM process" – (i) recognizing and identifying; (ii) conceptualizing; (iii) coordinating and detail planning; (iv) reaching an agreement; and (v) implementing, monitoring and evaluation; including policies/national strategies, legislative framework, financing which are important throughout entire IWRM process
- Understand "Keys for Success" that can be used in practice to help IWRM succeed and to enable breakthroughs in challenging situations, opening the door to better IWRM
- Introduce new thinking on river basin management: performance benchmarking of RBOs, peer review process, roadmap advisory service, Strategic Environment Assessment (SEA) and Benefit Sharing, using the Vu Gia – Thu Bon (VGTB) as case study.
- Produce good example of "case story" and "extracted keys for success" from the VGTB river basin; and to critically evaluate the VGTB case study and present this evaluation in terms of barriers and enablers to IWRM in the basin
- Explain how these keys for success may be applied in their own river basins

NARBO Secretariat Meetings. ADB participated in NARBO Secretariat meetings with either JWA and/or ADBI on several occasions in 2009, which discussed measures to improve planned activities of NARBO.

Promoting NARBO in Regional Events. ADB participated in regional events on water which provided the opportunity to promote NARBO and its activities.

(3) Resolutions and Expectations for NARBO Activities

ADB will continue to play a key role in NARBO, providing technical and financial support, guidance and direction to its activities (including training program, thematic workshop, performance benchmarking of RBOs, newsletter, web site, etc.) as provided for in the NARBO Action Plan. ADB expects NARBO to significantly improve its activities in the coming years, with increased cooperation from member organizations.