



NARBO ANNUAL REPORT

Network of Asian River Basin Organization

2005



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MESSAGE FROM THE CHAIRPERSON



The second year of implementation of NARBO Action Plan 2004-2005 has been implemented in order to achieve the goals and objectives.

In the year of 2005, it has been implemented some important activities such as Exchange of Information and Good Practices on Integrated Water Resources Management (IWRM), Exchange of Personnel, Training for Capacity Building in River Basin Organizations (RBOs) and continuing of Network Support.

As the continuation of Small Workshop on Benchmarking held in Jatiluhur, Indonesia (Oct 2004) and Members Consultation Workshop on Benchmarking held in Batu, Malang, Indonesia (Nov 2004), there is an important activity i.e. Launching of Performance Benchmarking held in Bali, Indonesia (September 2005).

That's all activities purposes to support the implementation of the Action Plan. Further more, the cooperation among members, secretariat and other supporting agencies also increases.

During the preparation of next Action Plan 2006 – 2007, I consider that we still facing many constrains in managing water resources in a sustainable manner, so we still need to keep our commitment to enhance our cooperation by increasing NARBO Members' participation in this network.

In this occasion , I appreciate to NARBO Secretariat who has actively promoted NARBO Activities based on the NARBO Action Plan.

Hopefully, NARBO Annual Report of 2005 and the information inside could become input in evaluating our efforts in continuing the next programs.

Chairperson of NARBO

Dr. M. Basuki Hadimoeljono



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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 Third 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.

Two years have past, the number of members increased from 43 to 56 as of January 16, 2006. (At the end of the Second General Meeting)

Various NARBO activities had been conducted from January 2005 to the end of the Second General Meeting (February 2006) and those activities are summarized in this 2005 NARBO annual report.

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, and 2003, 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 at basin level with the involvement of stakeholders at the basin level. The water conference in Dublin in 1992 referred to the need to manage 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 improving 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 (recently reconstituted as the Japan Water Agency), 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 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.

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- 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 a NARBO General Meeting.

4) NARBO's activities will initially focus on the monsoonal areas of Asia.

(3) Charter

NARBO Charter is like a constitution because it stipulates NARBO organization and activities. The charter was presented and explained by NARBO Secretariat on February 23, the first day of the First General Meeting, 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 and February 2006 (At the Second General Meeting) in an effort to make it to be complete.

About the whole NARBO Charter, please refer to Appendix 1

(4) Action Plan

The action plan 2006-2007 was formulated by eight principles based on the lessons learnt in the past 2 years' activities. And some of the activities were prioritized to tackle with them more

intensively. The action plan was proposed by the secretariat at the 2nd General Meeting on February 16, 2005. The prioritized activities are as follows.

- Activities for Sharing / Exchange of information
- IWRM Training Program
- Performance Benchmarking
- Thematic Workshop
- Twinning Program
- Discussion for Case Study on Site
- Charting IWRM Progress in Asia
- Facilitating IWRM Investment Project

Detailed information, please see “2. The Second General Meeting”

About the whole NARBO Action Plan (2006-2007), please refer to Appendix

(5) Members

At the First 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 First 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 Second General Meeting (February 14-16, 2006) in Indonesia.

As of February 16 2006, the number of members is 56 and the number of countries is 12. (Bangladesh, Cambodia, India, Indonesia, Japan, Korea, Laos, Malaysia, Philippines, Sri Lanka, Thailand

and Vietnam)

If an organization wants to become a member, that organization gets the application form from NARBO web-site.

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

[The list of NARBO members]

As of April 21, 2006

	Member	Interest
River Basin Organization (RBO)	16	2
Government Organization (GOV)	21	4
Regional Knowledge Partner (RKP)	15	1
Inter Regional Knowledge Partner (IRKP)	3	0
Development Cooperation Agency (DCA)	1	0
Total	56	7
Contacted Organization and Others		1

River Basin Organizations (RBOs)

Classification		Country		Organization
Member	RBO	Bangladesh	M	Bangladesh Water Development Board
		Indonesia	M	Jasa Tirta I Public Corporation
		Indonesia	M	Jasa Tirta II Public Corporation
		Indonesia	M	Jragung-Tuntang Basin Water Resources Management Unit (BWRMU) (Balai PSDA Jragung-Tuntang)
		Japan	P	Japan Water Agency (JWA)
		Korea	M	Korean Water Resources Corporation (KOWACO)
		Lao PDR	M	Nam Ngum River Basin Development Sector Project
		Malaysia	M	Selangor Water Management Authority
		Philippines	M	Laguna Lake Development Authority (LLDA)
		Sri Lanka	M	Mahaweli Authority of Sri Lanka
		Vietnam	M	General Office for RBOs in Vietnam
		Vietnam	M	Cuu Long & Dong Nai River Basin Organization
		Vietnam	M	Red River Basin Organization
		Vietnam	M	Day River Basin Organization
		Vietnam	M	Vu Gia Thubon River Basin Organization
		Mekong region	M	Mekong River Commission Secretariat

Governmental Organizations (GOs)

Classification		Country		Organization
Member	GOV	Bangladesh	M	Local Government Engineering Department, Ministry of Local Government, Rural Development and Cooperatives
		Cambodia	M	Ministry of Water Resources and Meteorology
		Cambodia	M	Department of Hydrology and River Works
		Indonesia	M	Directorate General of Water Resources
		Indonesia	M	West Nusa Tenggara Regional Office of Settlement and Regional Infrastructure (Dinas Kinitraswi Provinsi NTB)
		Indonesia	M	Bengawan Solo River Basin Development Project
		Indonesia	M	Jeneberang River Basin Project
		Indonesia	M	River Basin Water Resources Managenet 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 Managenet Unit Citarum(PSDA)
		Japan	M	Water Resources Department, Land and Water Bureau, Ministry of Land, Infrastructure & Transportaton
		Lao PDR	M	Water Resources Coordination Committee Secretariat
		Malaysia	M	Department of Irrigation and Drainage
		Philippines	M	National Water Resources Board
		Philippines	M	Department of Environment and Natural Resources
		Sri Lanka	M	National Water Resources Authority
		Thailand	M	Department of Water Resources, Ministry of Natural Resources and Environment
		Vietnam	M	Department of Water Resources Management, MoNRE (General Office for RBO, WRD MARD))
		Vietnam	M	Sub Institute for Water Resources Planning
		Vietnam	M	Department of Natural Resources and Environment of Dong Nai Province

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

Classification		Country		Organization
Member	RKP	Southeast Asia	M	Global Water Partnership (GWP) SEARWP (Malaysia)
		South Asia	M	Global Water Partnership (GWP) SAS RWP (Bangladesh)
		South Asia	M	South Asia Network of River Basin Organization (SASNET-RBO)
		Bangladesh	M	Institute of Water Modeling (IWM)
		Thailand	M	Thailand Water Resources Association (TWRA)
		Indonesia	M	Indonesia Water Partnership
		Indonesia	M	The Foundation on Water Affairs ADHI EKA
		Indonesia	M	Faculty of Engineering, Brawijaya University
		Indonesia	M	Research Institute for Water Resources
		Indonesia	M	Center for Environment & Civil Engineering Research
		Indonesia	M	Post Graduate Study on Water Resources Management Faculty of Engineering Gadjah Mada University
		Indonesia	M	Sembrani Foundation
		Australia	M	The World Wildlife Fund International (WWF International)
		India	M	CapNET South Asia
		Thailand	M	IUCN - The World Conservation Union
	IRKP	Japan	P	Asian Development Bank Institute
		Sri Lanka	M	International Water Management Institute (IWMI)
		Japan	M	Asia Pacific Association of Hydrology and Water Resources (APHW)
	DCA	Philippines	P	Asian Development Bank

About the whole NARBO members' list, please refer to Appendix 3

(6) Chairperson, Vice-Chairperson and Secretariat

1) Chairperson



Chairperson: Dr. Basuki Hadi Moeljono
(Director General, Agency for Research
and Development, Ministry of Public
Works, Indonesia)

2) Vice-Chairperson



Vice Chairperson: Dr. M.U.A. Tennakoon
(From 30 November, 2004 to 14 November, 2005
(Director General of Mahweli Authority of Sri
Lanka)



Vice Chairperson: Mr. Piyadasa Koralevidana
(From 16 February, 2006)
(Director General of Mahweli Authority of Sri
Lanka)

3) Secretariat

a) Secretary General



Secretary General: Dr. Masafumi Fukuda
(Executive Director: Japan Water Agency (JWA))

b) Vice Secretary General

Dr. Takeyoshi Sadahiro (Until 16 February, 2006)
(JWA)

Mr. Hiroyuki Shindo (From 16 February, 2006)
(Director, International Affairs Division, JWA)

Mr. Wouter Lincklaen Arriens
(Lead Water Resources Specialist, ADB)

Mr. Toru Tatara
(Special Advisor to the Dean, ADBI)



**Newly selected officials of NARBO at the 2nd
General Meeting**

c) Secretariat

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

2. The Second General Meeting

(1) Summary

The Second General Meeting (GM) was held from February 14 to 16 for three days at Jatiluhur (The organization : Jasa Tirta II public corporation (PJTII)), Indonesia with thirty-nine organizations from nine countries attended and ended very successfully. Various kind of pragmatic activities would be organized in accordance with the action plan 2006-2007 that was endorsed on this occasion. In this GM, the NARBO forest program was launched in the site visit.

At the reception on 13 evening, NARBO Forest Initiative was launched in cooperation with NARBO chairperson and PJT II with witness of Director General of Water Resources, Ministry of Public Works, Indonesia.

During the field trip on 14 February, participants planted seedlings of Rambutan, Avocado and Mango with local school kids in the vicinity of the Jatiluhur Dam (around 100 trees in the 20,000m²) as practical IWRM activities in collaboration with the Indonesian program "National Partnership on Water

Resources Area". Thanks to PJT II, participants recognized site is our field. It is expected to expand this activity to all NARBO members.

On February 15, the first day, more than fifteen papers presented in four sessions, i.e., session on water quality, flood, finance and benchmarking.

On February 16, the last day, the secretariat reported the activities in the past two years, proposed the revision of the charter and the action plan for the coming two years (2006-2007). The revision of the charter and the action plan were approved by applause. At the same time, the secretariat announced that fourteen organizations joined NARBO and one organization was eliminated from the member due to merged organization and it was also approved by applause.

Finally, new NARBO constitutional body was selected.

(2) Field Visit (February 14)

Participants visited three Jasa Tirta II water resources development facilities, namely Ir. H. Djuanda Dam, Walahar Weir and Curug Barrage. These facilities are the important component of Jatiluhur water resources system in Citarum River Basin.

The Citarum River Basin and Regional Water District (extended river basin) are located in West Java Province in Java Island of Indonesia. The annual rainfall is

3,000 mm in the mountain area and 2,500 mm in the lowland.

The Citarum River Basin and Regional Water District measures over 11,000 km². The Citarum River is 270km long and there are three large multi-purpose dams in the Citarum River, namely Saguling, Cirata and Ir. H. Djuanda (Jatiluhur) Dam. These three dams regulate the flow of the Citarum River.

Due to its location and its available

resources, the Citarum River Basin can play the major role in the development of the rapidly growing West Java region, in which Jabotabek and Bandung are major centers of economic activity. Considerable investments in infrastructure have already been made to support irrigation

development, hydropower production, flood control, and domestic municipal and industrial water supply.

However, the expected socioeconomic development of the region forms a considerable challenge for water management.

1) Ir. Djuanda Dam (Jatiluhur Dam)

Ir. H. Djuanda multi-purpose dam was constructed in 1957 and is located in Jatiluhur Purwakarta, West Java. The type of dam is rock-fill, the height is 100m, the reservoir area is 83 km² and the reservoir volume is 36 billion m³.

Benefits of Jatiluhur Dam are,

- a) Flood every year inundated and endanger fertile area (20,000 ha) could be

controlled and minimized.

- b) Technically irrigated of agricultural area of 240,000 ha with two crops annually.
- c) Hydropower electric generation with installed capacity of 187.5 MW.
- d) Raw water supply for domestic, municipal and industry.

Participants visited Ir. H. Djuanda Dam hydropower plant, after the visit of the dam.



At the dam site of Ir. H. Djuanda Dam



At the entrance of hydropower plant

2) NARBO Forest

NARBO Forest that is located within the green belt area of Ir. H. Djuanda (Jatiluhur) Reservoir under initiative of NARBO secretariat and PJTII, was established on land area owned and managed by PJTII. In addition for conservation purpose, this pilot forest has also the aim that planted

fruits trees (rambutan, avocado and mango) will benefit to community around the area.

In this cooperation, NARBO will give advocacy, increase awareness, sharing information, good practice, lessons learned and technical advice on the

sustainable aspect of watershed function.

All participants visited NARBO Forest site before going to Walahar Weir and planted those fruit trees with local school students.



Inscription of NARBO Forest



Planting fruit trees in the site

3) Walahar Weir and Curug Barrage

After participants finished planting fruit trees in NARBO Forest, they visited other two facilities, Walahar Weir and Curug Barrage.

Walahar Weir has 4 single gate weir of 20m width and 7.5m height of each, besides one gate used to accommodate exclusive vessels from upstream to downstream of the weir. The weir maintains water elevation at 18.0 mean



Walahar Weir

sea level and diverted water for North Tarum irrigation system of 80,000 ha.

Curug Barrage is located in Citarum River of the Jatiluhur Tailrace, stands as the main distribution structure of water for multipurpose in north plan of West Java include Jakarta Capital City. At Curug Barrage, water coming down from Ir. H. Djuanda Dam is being diverted into the north canal, east canal and west canal.



Intake of west canal at Curug Barrage

(3) Workshop (February 15)

Workshop was held on February 15 and it consisted of 4 sessions, namely “Water Quality”, “Flood”, “Water Finance” and “Benchmarking”.

At the “Water Quality” session, there were 4 papers presented from members in Philippines, Sri Lanka and Indonesia titled “Water Quality Management for the Laguna De Bay Region” by Laguna De Bay Development Authority, “Water Quality Management of Kala-Oya Basin in Sri Lanka” by Mahaweli Authority of Sri Lanka, “Monitoring and Studies on Water Quality in some Rivers and related Water Bodies” by Indonesian Water Partnership and “Water Quality Management for the Citarum River Basin” by Jasa Tirta II.

At the “Flood Management” session, there were 7 papers presented from members in Japan, Thailand, Vietnam, Philippines and Bangladesh titled “Brief review on results of investment for flood damage” and “Experiences on effective dam operation for flood in Japan” by Japan Water Agency, “IF Net and GFAS (Global

Flood Alert System) by Dr. Sadahiro, “Report from Thailand” by Department of Public Works and Town & Country Planning, “Report of Vietnam” by Red River Basin Organization, “ADB’s experience in flood management in Indonesia” and “Report of Bangladesh” by Bangladesh Water Development Board.

At the third session, “Water Financing”, there were 3 papers presented from members in Indonesia, Philippines titled “The Concept of Financial Sustainability of Water Resources Management in a River Basin” by PJT I, “Financing Water Investments” by Asian Development Bank and “Raw Water Charges in the Philippines” by National Water Resources Board.

At the last session, “Performance Benchmarking”, Asian Development Bank made the presentation titled “Indicators and Definitions” and “Next Steps” and International Water Management overviewed and demonstrated the prototype system.



(4) The 2nd General Meeting (February 16)

The General Meeting started with the opening remarks by the high-ranking officials from the Ministry of Public Works who substituted for the Minister and there were some provincial officials attended the meeting.

The General Meeting consisted of three sessions, namely "The report of NARBO activity 2004-2005", "NARBO Charter and Action Plan 2006-2007" and "Selection of NARBO constitutional body".

1) The report of NARBO activities 2004-2005

At the first session, the Secretary General overviewed and summarized two-year activities by "The lessons learnt", which is as follows.

-The achievement of the action plan

Having carried out many activities according to the action plan is the big success. However, some of the activities did not get started. Considering this, identifying priorities in the activities is recommended.

-The expansion of the network

Nine organizations joined in NARBO in the past two years and there were not new RBO members joined. Therefore making efforts to increase the number of NARBO members, especially RBO members, is quite important.

-Members' positive participation in NARBO activities

NARBO activities such as training courses and workshops were organized in

various countries with effort of host organizations. This is the big success of NARBO as the network activity.

However, it is unfortunate that members' involvement in providing information and members' participation in NARBO activities are still not enough.

-The practical activities

The secretariat has been promoting activities for members from the practical and useful point of view. It is important to study the present situation / issues of river basins / members' organizations, to evaluate them and to reflect the results on future NARBO activities.

-Financial resources for NARBO activities

Presently, the secretariat supports the most part of the costs needed for the activities, however the financial resource is limited. In order to use the limited financial resources into many activities effectively, we should not have the gorgeous events and should save the cost for each activity as much as possible. The secretariat is also highly expecting all members to make every effort for finding other financial resources.

-The secretariat activity

The secretariat has been supporting activities under the guidance of the Chairperson and Vice-Chairperson. There are some issues left like lacking of close contact with members and the secretariat is expected to solve these issues.

After the Secretariat General, JWA NARBO secretariat reviewed last 2 years' activities quickly. Then, KOWACO explained IWRM training courses in detail and Indonesian NARBO and KOWACO explained the twinning programs conducted between JWA and Indonesian NARBO, KOWACO and Indonesian NARBO thoroughly. Finally, Mr. Nakai from ADBI explained the 1st Thematic Workshop finely.

2) Approval and withdrawal of NARBO member, proposal and approval of revised charter

In the afternoon, at the "NARBO Charter and Action Plan 2006-2007" session, first, JWA NARBO secretariat announced that one member withdrew from NARBO and 9 organizations joined NARBO. On top of those 9 organizations which sent the application forms to the secretariat before the 2nd General Meeting, around a half dozen organizations showed their intentions to become a member, so 5 organizations became a member in the end.

After this, also JWA NARBO secretariat proposed some revisions of the NARBO charter regarding an extraordinary General Meeting and the application for membership. These proposed revisions were approved by applause from the attendees. Prior to the 2nd General Meeting, also some provisions of the charter concerning the venue of a General Meeting, Chairperson and Vice-Chairperson were revised by exchanging opinions by e-mails.

3) Action Plan 2006-2007

Following those two matters, the Secretary General mentioned the principles of the action plan 2006-2007. According to the principles, some of the activities got the priority, then JWA NARBO secretariat explained them in detail. The principles and the prioritized activities are;

Principles

- To implement activities suggested in the action program 2004-2005 more actively identifying priorities in the activities
- To minimize additional new activities
- To bring more positive participation of NARBO members to various activities
- To encourage member organizations to take initiative of various activities
- To emphasize activities taking advantage of characteristic networking system
- To carry out practical activities
- To make effort to increase the number of NARBO members, especially RBO members.
- To strive to minimize cost for each activity in order to make the most effective use of financial resource

Prioritized activities

-Activities for Sharing / Exchange of Information

To promote activities for sharing and exchange of information via web site, database and newsletters. For this, all member organizations are requested to provide information actively.

-IWRM Training Program

To promote IWRM training program in order for member organizations to develop their capacities. With an advantage of NARBO network, it is expected to diversify

training resources among members and others. Member organizations are expected to propose to be a host organization of the training.

- Performance Benchmarking

To establish a performance benchmarking system for RBOs, supported by peer reviews, to stimulate performance improvement of RBOs and allow practical exchange of experience.

-Thematic Workshop

To hold thematic workshops in order to deepen discussion on specific themes concerning water resources management suggested by members

-Twinning Program

To facilitate twinning program for closer relations among NARBO members. Various forms of the program highly recommended such as information exchange, staff exchange and exchange visit.

- Discussion for Case Study on Site

To give much importance to discussion for case study on site with the aim of more pragmatic activities.

- Charting IWRM Progress in Asia

To undertake a study of practical progress of implementing IWRM in river basins in the region, supported by ADB and IUCN, to improve exchange of information and experience, build capacity, present a region-wide perspective on the progress of IWRM, identify further actions needed, and expand NARBO activities.

- Facilitating IWRM Investment Projects

To help NARBO members promote investments and financing for IWRM in their river basins, by getting advice from other members and partners in identifying and preparing river basin projects

At the final session, the new NARBO officials were chosen as mentioned in “(6) Chairperson, Vice-Chairperson and Secretariat”, in “1. General Information of NARBO” and each official delivered their short resolutions.



The Secretary General was summarizing two-year activities



A participation stating his opinions

About the detailed program, please refer to Appendix 4

3. Record of activities 2004-2005

(1) Table of activities

Year	Month	Name of the activity	Outline of the activity
2005	April	Web-site	The database was opened.
		Twinning Program	JWA dispatched 2 staff members to PJT I and II (Indonesian NARBO) based on the agreement. (for 3 months)
		The 2nd Training Course on IWRM	- It was held from April 25 to 29 at Negombo in Sri Lanka - There were 27 trainees from 5 countries.
	May	NARBO Annual Report	The year of 2004
		Newsletter	The 5th issue
	July	Twinning Program	PJT I and PJT II dispatched 3 staff members to JWA based on the agreement. (for two months)
		Web-site	Design was fully renewed.
	August	The 2nd Southeast Asia Water Forum	- It was held from August 29 to September 3 in Bali, Indonesia. - NARBO held the RBO session on August 31 morning and there were around 150 participants.
		The Benchmarking Workshop	- It was held on September 3 in accordance with The 2nd Southeast Asia Water Forum
		Newsletter	The 6th issue
	November	The 3rd Training Course on IWRM	- It was held from November 14 to 18 in Daejeon, Korea. - There were 21 trainees from 9 countries.
		The workshop in the 10th MRC Anniversary	- It was held from November 27 to 30 in Chiang Rai, Thailand - 2 persons from NARBO attended the workshop to report the RBO session of The 2nd Southeast Asia Water Forum
	December	The 1st Thematic Workshop on Water Allocation and Water Right	- It was held from December 5 to 9 in Hanoi, Viet Nam. - There were 24 participants from 6 countries.
2006	February	The 2nd General Meeting	-It was held from February 14 to 16 for 3 days. Around 90 members gathered

(2) Website <URL: <http://www.narbo.jp>>

The website is being administered by one of the secretariats (JWA secretariat). From the viewpoint of the recognition that website is the important tool for sharing

and exchange of information among members and it is needless to say that members' contribution is crucial.



NARBO Network of Asian River Basin Organizations

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Brief report of the Second General Meeting - 22 February 2006 -
The Second General Meeting (GM) was held from February 14 to 16 for three days at Jatiluhur (host organization: Jasa Tirta 2 public corporation), Indonesia with thirty-nine organizations from nine countries attended and ended very successfully. In this GM, various kind of pragmatic activities will be organized in accordance with the action plan 2006-2007 which was endorsed. In this GM, the NARBO forest program was launched in the site visit. >> More details

Event >> See more

- 14 April 2006 **Renewed!**
Introduction on The 2nd Thematic Workshop on Water Allocation and Water Rights
The 2nd Thematic Workshop on Water allocation and Water Rights will be held from 5th -9th June, 2006 in Manila, Philippines. This workshop will be emphasized to discuss the causes of the issues and the approach to improvement on the basis of the information obtained from the 1st workshop. This workshop is targeted for the people who participated in the 1st one.
>> More details
- 29 March 2006 **NEW!**
JWA's annual report 2005 completed.
- 28 March 2006 **NEW!**
NARBO Chairperson made presentations at the 4th World Water Forum.
- 17 March 2006
Brief report on RBO visit in Vietnam & Philippines posted.
- 16 March 2006
RRBO's (The Red River Basin Organization) annual report completed.
- 22 February 2006
NARBO official brochure finally completed!
NARBO Secretariat has finally completed the official brochure in March. To make you understand NARBO easily, this brochure consists of many pictures that introduce various NARBO activities. You can get the brochure transformed to PDF on this web-site. NARBO secretariat expects you to download and distribute your colleagues it.
>> NARBO official brochure [PDF/840KB]
- 07 February 2006
NARBO newsletter No.7 issued.

Focus

- NARBO ANNUAL REPORT 2004
- Registration form for joining NARBO
- Benchmarking
- Twinning Program
- Formats
- Work Plan [PDF/73KB]
- NARBO Charter [PDF/78KB]
- Draft Framework and Proposa
- New Network of NWRM for Asia Network of Asian River Basin Organizations
- NARBO Person
- Pictures
- Other Information

NARBO Person

Tjoek Walujo Subijanto
- Vice Executive Director of Indonesian NARBO Secretariat -

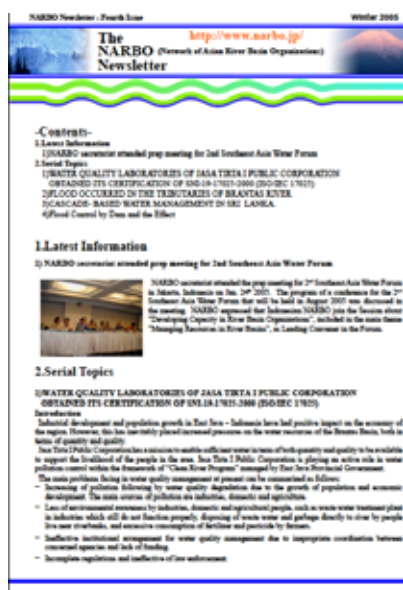
Tjoek Walujo Subijanto is Director of Operation for Brantas River, the Jasa Tirta I Public Corporation (the Brantas and Bengawan Solo River Basin Management Agency), Indonesia. He graduated in Mechanical Engineering at Brawijaya University and Diploma Degree in Water Resources Management. He was working for 18 years since 1972 in Brantas River Basin Development Projects. (See more)

NARBO Website

(3) Newsletter

Newsletter is recognized as another useful vehicle for NARBO activities along with website and JWA is in charge of newsletter. In the same manner, members' positive involvement regarding information gathering is essential. JWA

has issued the 4th, the 5th, the 6th and the 7th issue in February, May, August 2005 and February 2006, respectively. All newsletters were posted on NARBO website to make it possible for all members to see easily.



The 4th Issue



The 5th Issue



The 6th Issue

About all back issues, please refer to Appendix 5

(4) The 2nd Southeast Asia Water Forum

The 2nd Southeast Asia Water Forum was held from August 29 to September 2 at Bali International Conference Center in Bali, Indonesia. At this forum, Indonesian NARBO convened the session titled “Developing Capacity in River Basin Organizations (RBO)” in the morning and NARBO Secretariat organized the side event in the evening on August 30.

At the morning session, Dr. Basuki made the keynote speech and 4 speakers from Department of Water Resources (Thailand), Jasa Tirta I and II (Indonesia), Red River basin organization (Vietnam) and World

Bank made the presentations about their experiences and information about RBOs. After the presentations, 5 panelists discussed what are the essential points for capacity development of RBOs. At the end of the session, Mr. Bambang Hargono declared the outcome titled “Developing Capacity of River Basin Organizations” for the better water management in Asia. More than one hundred participants gathered and the session ended very successfully.



Presentation by Thailand



Mr. Hargono explained the session outcome

About the session program and outcome, please refer to Appendix 6, 7

(5) Training Course on IWRM

1) The 2nd Training Course

The training course on “River Basin Management and Organization” was held from April 25 to 29 at Beach Hotel on Negombo in Sri Lanka. Twenty-seven participants from Afghanistan, Bangladesh, India, Nepal, Pakistan and Sri Lanka took part in the training. From NARBO secretariat, Dr. Tennakoon, who was Vice-Chairperson, Mr. Dennis, Mr. Imama, Mr. Ishimura and Mr. Takagi also attended.

The training course was organized under the auspices of 6 organizations. These 6 organizations were IWMI, ADB, ADBI, JWA, GWP-South Asia and Lanka Jalani. The core training team from IWMI HQ guided the course and they emphasized on the first day that it was very important for participants to learn each other by exchanging their experiences and knowledge, discussing problems they had.

The program consisted of 4 modules titled “General overview of reasons for River Basin Management (RBM)”, “New insights from recent studies”, “Problems and constraints, at local and national levels” and “Designing an appropriate institutional system”. On module 3, participants were divided into 3 groups and visited the upper reach, middle reach and lower reach of Maha Oya River Basin. After they came back from the field trip, they were working on the group assignments until late at night to meet the deadline of submission. Also on module 4, each group tackled with the assignment given by the core training team and presented it on the final day.

At the closing ceremony, every participant was given the certificate and the training course ended very successfully and fruitfully.



At a group work



At a field trip

About the detailed program, please refer to Appendix 8

2) The 3rd Training Course

The training course on Technology for Integrated Water Resources Management -River Basin Approach” was held from November 14 to 18 in Daejeon in Korea. The main objective of this training course was to share experiences of developing and applying technologies for Integrated River Basin Water Resources Management among Asian countries. Twenty participants from Cambodia, China, Indonesia, Mongolia, Malaysia, Philippines, Sri Lanka, Thailand and Vietnam took part in the training. From NARBO secretariat, Dr. Basuki, who was Chairperson, Mr. Shindo also attended.

The 1st day was for the opening session and country report presentation by participants. In the opening session, 4 special lecturers made their presentations. The 2nd day was for the field trip and participants visited KOWACO main office, Daecheong

Multipurpose Dam and Cheongju Water Supply Plant. The 3rd day was for the group work, lectures on IWRM tools and the special session. In the group work, participants discussed the observations from the field trip. And in the special session, they reported the twinning program between JWA and Indonesian NARBO, KOWACO and Indonesian NARBO. The 4th day was for hands-on training and wrap-up discussion. In the hands-on training, participants exercised runoff forecasting system, K-MODSIM DSS etc. The final day was for the group presentation and concluding session. In the group presentation, participants made recommendations and proposals to share technology and experience among members' countries to develop appropriate tools for river basin IWRM.



At a field trip (KOWACO main office)



At a hands-on training

About the detailed program, please refer to Appendix 9

(6) Thematic Workshop

The 1st thematic workshop on water allocation and water right was held from December 5 to 9 in 2005 in Hanoi, Vietnam. Red-Thai Binh River Basin Organization (RRBO), ADB, ADBI and JWA organized this workshop jointly. 24 participants from 6 countries (Vietnam, Indonesia, Philippines, Thailand, Lao PDR and Japan) participated in the workshop.

On December 6 and 9, special lecture and 3 sessions were held. The special lecturer was Mr. Ian Fox, Principal Project Specialist of Vietnam Resident Mission, ADB, and the theme of the lecture is "Understanding water right and water allocation". Also, the themes of 3 sessions were "Water allocation issues", "Water right system" and "Drought management". In each session, participants made presentations and discussions, and finalized the sheets for session outcomes. Through these processes, they could share the information on current situation and issues on water allocation and water rights, which was one of the objectives of

this workshop. And the session outcomes were uploaded onto the NARBO website.

On December 7 and 8, field trips were held. On December 7, participants went to the Hoa Binh Hydropower plant in Hoa Binh Province, which is one of the most important infrastructures in Vietnam. On December 8, they went to the Tac Huong Irrigation scheme in Thai Nguyen Province. In both of the field visits, participants were enthusiastic to make questions or discussions. Especially, in the field trip on December 8, they were able to learn the practical issues on water resources management including upstream vs. downstream issue, which was a precious experience. In addition, the situation of the workshop was broadcast by Hanoi Television on December 9.

Together with RRBO's good preparation work for the workshop and the participants' dedication to this workshop made it fruitful.



At a meeting



At a field trip (Tac Huong Irrigation Scheme)

About the detailed program, please refer to Appendix 10

(7) Benchmarking activity

ADB and IWMI organized the workshop on developing capacity in RBOs in accordance with the 2nd Southeast Asian Water Forum on September 3, 2005 at Inna Putri Bli Hotel in Bali, Indonesia.

The workshop helped more than 30 participants to better understand the capacity-building needs of RBOs including those related to institutional strengthening,

water allocation, financing, technical aspects, and stakeholder participation. The workshop emphasized the need for: (i) exchange of information and experiences, (ii) joint efforts for capacity development, (iii) government support, and (iv) respect for traditions.



General explanation about prototype system



Demonstration of prototype system

(8) Twinning program

1) JWA and Indonesian NARBO

Based on the MOU of twinning program concluded on November 29, 2004, first two JWA dispatched 2 staff to Indonesia from April 10 to July 9 for almost 3 months. They worked mainly at PJT I headquarters and also PJT II headquarters. During their stay in Indonesia, they visited many facilities of PJT I and PJT II to see operation and maintenance works and check the general condition of Indonesian practice.

After JWA staff came back, 3 exchange staff came to JWA on July 12 and went back to Indonesia on September 10. 2 staff came from PJT I and one came from PJT II. During their 2 months stay, they had lots of lectures about water resources management, river etc. and visited JWA facilities and other water resources related facilities.



Indonesian exchange staff at JWA



Indonesian exchange staff at the site

2) KOWACO and Indonesian NARBO

Based on the agreement on exchange of personnel on twinning program between PJT I, PJT II and KOWACO that was signed on December 15, 2004, 4 Indonesian exchange staff came to KOWACO from September 5 to September 30 for 3 weeks. 3 Indonesian staff were from the Ministry of Public Works, PJT I and PJT II. During their three-week stay at KOWACO, they worked on a few models that were developed / used in the IWRMS by KOWACO and visited dams, rivers and water treatment in KOWACO.



Indonesian exchange staff at KOWACO Headquarters

(9) Others (Members' meeting, secretariat meeting)

1) Members' meeting

Members' meeting was held on August 31 2005 in Bali on the occasion of the 2nd Southeast Asia Water Forum.

The meeting started from 7 p.m. with Dr. Basuki's opening remarks. After the opening remarks, Dr. Omachi from APHW, Japan gave the special lecture titled "Water Rights and Duties for Rational Water Use", then the

secretariat reported on NARBO activities and announced the 3rd training course in Korea and the 1st thematic workshop on "Water allocation and water rights" in Vietnam. After that, 3 presenters reported about their organization and Dr. Tenakoon, Vice-Chairperson of NARBO, delivered his closing remarks.



Presentation by APHW



Closing remarks by Dr. Tenakoon

2) Secretariat meeting

Secretariat meetings were held several times in April, 2005 on the occasion of the 2nd NARBO training course in Sri Lanka,

and in Saitama in September and November (twice).



Secretariat meeting at JWA

4. NARBO members' information (Summary)

(1) Japan Water Agency (JWA)

1. Organization

Water Resources Development Public Corporation (WRDEC) was transformed into Japan Water Agency (JWA), Incorporated Administrative Agency in October 2003.

Incorporated administrative agencies are established and given objectives and missions by the national government to carry out "administrative tasks and projects, where implementation should ensure public benefits such as stable public life and social and economic activities". The objective and the mission of JWA are as follows.

Objective: To ensure stable supply of water to areas that need to use water because of industrial development and population concentration.

Mission: Construction (Projects for increasing water supply are limited to the ongoing projects.), reconstruction and operation of completed facilities based on the Basic Plan for Water Resources Development.

2. NARBO Activities

JWA did or involved in a series of activities as NARBO Secretariat and also as one of NARBO members (as an RBO), the name of activities and date are summarized below.

(1) Activities as NARBO Secretariat

1) The Second training course on IWRM

The training course was held from April 25 to 29 at Negombo, Sri Lanka.

2) Electrical newsletter

JWA secretariat issued NARBO newsletter two times, namely issue No.5 and No.6 according to the work plan.

3) NARBO web site

JWA secretariat opened database in May 2005, and has been operating and maintaining it on regular basis.

4) NARBO Annual Report

JWA secretariat compiled members' annual report and prepared NARBO Annual Report 2004.

5) The Second Southeast Asia Water Forum.

The forum was held from August 29 to September 3 in Bali, Indonesia. In the forum, the RBO session was held on August 31.

6) The Third training course on IWRM

The training course was held from November 14 to 18 in Daejeon, Korea.

7) The First Thematic Workshop on Water Allocation and Water Right

The workshop was held from December 5 to 9 in Hanoi, Viet Nam.

(2) Activities as one of NARBO members

1) The annual report

JWA prepared the annual report and it was stored in database on NARBO website.

2) Twinning Program

JWA dispatched two staff to Indonesia for three months from April to July based on the agreement between Indonesian NARBO and JWA>

3) Mekong River Committee's 10th Anniversary

It was held from November 27 to 30 in Chiang Rai, Thailand. JWA dispatched one staff to MRC

3. Topics

Topics in 2005 are summarized below.

(1) Flood

Due to series of concentrated heavy rain during the rainy season in June and three typhoons, eight JWA dams did eighteen times flood control altogether.

(2) Drought

Because of a little rainfall from April to June, Chubu and Sikoku regions were hit sever drought. Especially, the drought in Shikoku was very sever.

(3) The Second JICA Group Training Course on Integrated Water Resources Management (IWRM)

JWA had the second course on IWRM from October 17 to November 7 with six participants from nine countries.

(4) The First JICA Country Focused Training Course on Integrated Water Resources Management (IWRM)

JWA had the first course from November 14 to December 9. Nine participants came from Iran.

(5) The First JICA Country Focused Training Course on Dam Management and Safety

JWA had the first course from November 21 to December 13. Seven participants came from Syria.

(6) The 29th "Water Week"

JWA joined a various "Water Week" related events.

(2) Korea Water Resources Corporation (KOWACO)

1. Objectives

The Korea Water Resources Corporation (KOWACO) is a state-run agency engaged in the construction, operation and management of Dams, Reservoirs, Water Supply Networks and Hydro-Power Facilities. It supplies water and electricity to municipal authorities and to private companies. KOWACO not only provides industrial and residential development services but specializes in water related services including provision of water resources information to public sector.

2. History

KOWACO was founded in 1967 as a specialized water resources management corporation. It is responsible for providing public with high quality water at low costs, supplying related water services and responding quickly to the various demands of clients. As the main impetus for water resources development and management in Korea, KOWACO is proud of its contribution to the nation's economic development and better quality of life being enjoyed by publics.

3. Organization

President of KOWACO is Dr. Kyul-Ho Kwak.

KOWACO consists of headquarter, four regional bureaus, 38 site offices and research and training center.

Total employee is 3,850 personnel in April 2004.

4. Financial

KOWACO's finances are from the central government, local government, national Industrial banks, and beneficiary shares of water users. KOWACO receives government funds in the form public supports. The scale of the budget of KOWACO is about 5,710 billion won (\$5.19; \$1 U.S. = 1100 won) in 2004.

5. Projects

KOWACO is undertaking the following projects based on the Water Resources Development Basic Plan.

- (1) Construction of multipurpose dams for flood prevention and water supply, estuary barrages, and Navigation canals.
- (2) Development of industrial complexes.
- (3) Disaster prevention works of concerning (1) or (2) facilities.
- (4) Operation of accompanying (1), (2), or (3).

6. Installing Law or the articles of association

KOWACO was established under the Ministry of Construction & Transportation, Korean Government.

7. Related Legal System

The legal system has been promoted with the intensive and integrated water resources management. Related Laws had been consolidated by late 1960s with the rapid economic growth and urbanization, and laws on environmental issues and ecological conservation have been developed since 1970s.

(1) Basic Law

The water resources management Law

(2) Water Use & Supply

- 1) Water Resources Development & Management Law
- 2) Specified Multipurpose Dam Operation Law
- 3) Sustainable Water Resources Development Law
- 4) Electric Power Development Promotion Law
- 5) Municipal Water Supply Law
- 6) Industrial Water Supply Law

(3) Environment

- 1) Basic Environmental Law
- 2) Nature Conservation Law
- 3) Water Pollution Prevention Law
- 4) Industrial Water Law

(4) Disaster Prevention and Land Conservation

-
-
- 1) Disaster Prevention Basic Law
 - 2) Flood Control Law
 - 3) Environmental Protection Law

8. NARBO Activities

KOWACO carried out the following activities in 2004:

- (1) KOWACO organized the 3rd NARBO Training Workshop on “Technology for Integrated Water Resources Management – River Basin Approach” from November 14 to 18, 2005 in Daejeon, Korea.
- (2) KOWACO conducted the Twinning Program with Indonesian NARBO, PJT I and PJT II.

9. Topics

- (1) Typhoon

None of the 23 typhoons occurred in 2005 directly passed the Korean peninsula. However, the typhoon "Nabi" passed the East sea and poured 164~351 mm of rain in the eastern part of Korea.

- (2) Rain

The national average annual rainfall was 1,282 mm similar to the normal average value of 1,310 mm. The Summer Monsoon started on June 25th and ends on July 18th which is 9 days shorter than that in the past. The rainfall amount showed great regional variability ranging from 108.1 to 496.5mm.

- (3) Flood

The rainfall during flood season was 63% of the total annual precipitation whereas the stream-flow during the same period was 73% of the total annual stream-flow, which means there was increased intensity of rain storm.

(3) Mahaweli Authority of Sri Lanka

The Mahaweli Authority of Sri Lanka (MASL) was established under the Act No. 23 of 1979. The year 2005 marks the completion of the 26th year of its existence. The functions of the Mahaweli Authority of Sri Lanka are set out in Section 12 of the MASL Act, and is entrusted with the task of implementing the Mahaweli Development Programme (MDP).

According to the Mahaweli Act, the functions of the Mahaweli Authority in or in relation to, any Special Area are,

- (a) To plan and implement the Mahaweli Ganaga Development Scheme, including the construction and operation of reservoirs, irrigation distribution system and installations for the generation and supply of electrical energy;.

provided however, that the function relating to the distribution of electrical energy may be discharged by any authority competent to do so under any other written law.

- (b) To foster and secure the full and integrated development of any Special Area;
-
-

-
-
- (c) To optimize agricultural productivity and employment potential and to generate and secure economic and agricultural development within any Special Area.
 - (d) To conserve and maintain the physical environment within any Special Area;
 - (e) To further the general welfare and cultural progress of the community within any Special Area and to administer the affairs of such area;
 - (f) To promote and secure the participation of private capital, both internal and external, in the economic and agricultural development of any Special Area, and
 - (g) To promote and secure the cooperation of Government Departments, State Institutions, Local Authorities, Public Corporations and other persons whether private or public, in the planning and Implementation of the Mahaweli Ganga Development Scheme and in the development of any Special Area.

The Mahaweli Authority of Sri Lanka has introduced an interim organization structure- in 1999 as part of a reform process and the following main Divisions and units were engaged in the implementation of projects, programmes and related activities of the Mahaweli Authority of Sri Lanka.

1. Organizational Structure

Main functions of the Mahaweli Authority of Sri Lanka

- (a) Secretariat
- (b) Planning and Monitoring
- (c) Central Internal Audit

Technical Services Division

- I. Head works, Operation and Maintenance

Development Services Division

- I. Lands
- II. Agriculture Development
- III. Business Development
- IV. Human Resources and Institutional Development.

Administration & Finance Division

- I. Personnel and Administration
- II. Finance
- III. Mahaweli Centre
- IV. Mahaweli Security Corps
- V. Transport & Maintenance

River Basin Planning & Management Division

- I. River Basin Planning & Management
 - II. Kala Oya Basin Organization
 - III. Water Management Secretariat
 - IV. Environment & Forest Conservation
-
-

Mahaweli Architectural Unit
Foreign Funded Special Project
Companies established under the MASL

2. Main Functions of Mahaweli Authority of Sri Lanka

The administration of the Divisions, units and projects offices of the MASL is co-ordinated by the Director General through the respective Executive Directors and Resident Project Managers.

The operation and maintenance of the major reservoirs and dams for provision of water to downstream irrigation settlement projects, and for power generation is a major function of the Authority. Water allocation for major water uses such as irrigation, hydropower and domestic water supply is coordinated at the national level in consultation with relevant line agencies through seasonal operational planning process. In the downstream major irrigation projects of system 'B', 'C', 'H', 'L' and Walawe, emphasis is on water management, community and human resources development, livestock, agriculture development with special attention on crop diversification, intensification and promotion of enterprises for socio-economic development and employment generation. Watershed management is promoted through educational and awareness programmes on soil and water conservation while monitoring of sedimentation and water pollution have become important programmes of the MASL. Dam Safety, through effective operation and maintenance programmes relating to upstream dams, reservoirs and diversion canals, maintenance of main and branch canals of major irrigation systems, transfer of responsibility of O & M of tertiary canals to Farmer Organizations in the downstream irrigation systems are also considered as priority programmes. Land settlement activities are continued in Victoria and Kotmale special areas. Management of special areas, downstream of Bowatenna up to Huruluwewa reservoir is one of the responsibilities of MASL.

Several programs were launched under the direction of Director General/MASL and immediate action was taken to provide relief assistance to the victims who suffered from the Tsunami Tidal wave of December 26.

3. NARBO Activities.

One participant from Mahaweli Authority of Sri Lanka (MASL) and Network Coordinator for South Asia Network of River Basin Organizations (SASNET-RBO) were invited by the ADB to attend to 1st General Meeting of Network of Asia River Basin Organizations (NARBO) which was held 24-26 February, 2004 held in Batu, Malang, Indonesia. Mr. P. T. Senaratne, Director General of MASL and Mr. Sudharma Elakanda, Network Coordinator of SASNET-RBO attended to this general meeting and actively contributed for all the sessions. SASNET-RBO was initiated in the year 2002, when GWP-SA identified Sri Lanka as focal point for River Basin Management in the region and MASL as the Driver Agency.

At this meeting, Director General of MASL was elected to the Vice-Chairpersonship of NARBO for two year period. Both Mr. P. T. Senaratne, Director General of MASL and Mr. Sudharma Elakanda, Network Coordinator of SASNET-RBO signed the NARBO charter on behalf of two institutions respectively. Although SASNET-RBO is not a Government Institution, but it is now housed in the MASL Head Quarters. Very limited funding available for SASNET-RBO and it is channeled through GWP-SA. MASL is supporting to network by providing office space and

employing professional staff and giving some ICT equipment etc.

In the General meeting MASL agreed to give Mahaweli RBO as one of the Pilot River Basins to study under NARBO activities during next few years. After the Government change in April, 2004 Dr M U A Tennakoon assumed duties as the new Director General of MASL. On the Invitation of NARBO Secretariat, Dr Tennakoon, new Director General of MASL attended the Scoping Meeting held in Batu , Malang , Indonesia in September, 2004. Similarly in November , 2004 a Bench Marking meeting was held in the same venue in Indonesia and Both Dr Tennalkoon and Mr Elakanda attended and made very effective contribution for the success of the workshop objectives.

First training Program of NARBO was held in Thailand and second NARBO training was held in Sri Lanka 24-29, April 2005 in Negombo, Sri Lanka.

During this 18 months experience, NARBO learned several lessons and it was noticed in the NARBO charter there is no provision to accommodate a new person to any cardre posts of NARBO in the case of when he/she left the organization. This was practically happened for the Vice Chair Position. Next NARBO Bench Making meeting on 2-3, September 2005, at Bali, Indonesia will address this issue and do some amendments to the existing Charter. Dr Tennakoon attended for 2nd Bench Marking workshop held in Bali , Indonesia immediately after the 2nd SEA Water forum.

(1) NARBO Training & Exposure Visits

Following three international training programs were conducted upto now and planned to do another two programs in the year 2006.

1st Training Program -Thailand

2nd Training Program -Sri Lanka

3rd Training Program –South Korea.

(2) Proposed Training Programs -

4th Training Program- Indonesia

5th Training Program- Sri Lanka

It is agreed that 5th training program will be held in Sri Lanka in September/October 2006. DG/MASL and Vice Chairperson of NARBO will take the lead role of planning this program using existing Mahaweli Infrastructure and it's resource base. Also it was agreed that , it has to be done with lesser cost since, very limited funds available for NARBO for there annual activities.

(3) NARBO Coordinating Committee

It has been plan to form a NARBO Coordinating Committee in Sri Lanka under the guidance of MASL. Mr Sudharma Elakanda has suggested and Mr Koralevidana accepted it as principle. Those who have been attended for NARBO training and other activities will be members of that committee. They are mainly 4 participants of 2nd Training of NARBO in Sri Lanka, 2 participants of 3rd Training of NARBO in Korea and Mr Elakanada(Secretary) and Mr Koralevidana will be the chairman of that committee. It was suggested to organize 5th NARBO in Sri Lanka by this committee.

(4) How NARBO demonstrated it's "corporate social responsibility" after Tsunami

Three officials of NARBO secretariat , including Mr Sasahara, Mr Nakai came to Sri Lanka in early 2005 with Y600,000 which was collected through voluntary contribution from their own staff to assist Tsunami affected people , to handover to Dr Tennakoon, Vice Chairperson of NARBO. The

money was generously accepted by DG/MASL and promised that it would be utilized for most appropriate place where it should be due for. They attended to a discussion organized by DG/MASL along with senior management and visited tsunami affected costal area with Mr Elakanda before they left the country. This money has been utilized for rebuilding the Buddhist temple which was completely washed away due to tsunami tidal in Southern coast where the team has visited with Mr Elakanda. A report with some photographs will be sent to you with some story for enable NARBO to publish in their News Letter in due course.

(5) Strengthening the ties between Agencies and Governments.

In September 2005, Japan Water Agency (JWA) & NARBO Secretariat invited Dr M U A Tennakoon , Director General , MASL and Vice Chairperson of NARBO and Mr Sudharma Elakanda Project Director of MASL to Japan to study current activities/achievements of JWA visit few river systems such as Tone River System and how it works towards it's objectives. Dr Ayoyama , Chairman of JWA and the Senior Management warmly welcomed both delegates of Sri Lanka had a discussion which led for bilateral important issues .Also organized a visit to Yagisawa and Narmita Dams which was very useful as learning events for Mahaweli Project in Sri Lanka. Both Dr Tennakoon and Mr Elakanda made Presentations on "The Mahaweli (River) Development of Sri Lanka : Its Present & Future" and "Mahaweli Dams and Focus on Dam Safety". It was very effective for sharing experience in both countries.

(6) Second NARBO General Meeting

Second NARBO General Meeting was held in Jatiluhur , Jakarta, Indonesia in 14-16 February , 2006. Again to recognize Sri Lanka experience on River Basin Management in the region , Mr P Koralevidana , Director General of MASL was elected as vice chairperson of NARBO for next two years. He accepted that post and said he will do his best service for the achievements NARBO objectives.

(4) Department of Water Resources (Thailand)

The Department of Water Resources' organization chart and its mandate can be found in the 2004 Annual Report. Referring also to the 2004 Annual Report submitted in 2005, progress of work under the topic water shortages solving is elaborated as attached. It covers cross-cutting sectors such as management system, investment, decentralization, training, and awareness raising. Access to safe drinking water is focused in the national water resources policy and according to it by the year 2008 every village in Thailand will access to pipe water supply, which will be saved for drinking purpose.

As of NARBO activities, the representative of Department of Water Resources attended the 2nd Southeast Asia Water Forum with financial support from NARBO. On the other occasions, its representatives attended the 3rd NARBO Training Workshop during 14 – 18 November 2005 in Korea and the 1st NARBO Thematic Workshops on Water Allocation and Water Right during 5 – 9 December 2005 in Vietnam. There are also representatives from other agencies that were chosen to attend the Workshop and the 2nd General Meeting during 14 – 17 February 2006 in Indonesia.

For other international conferences during April 2005 – March 2006, the representatives of the Department attended many international conferences for example the International Workshop

organized by World Bank on River Basin Management at the Lowest Appropriate Level in Poland during 22-25 May 2005, the International Conference on Integrated Water Resources Management organized by Green Cross Spain in Spain during 24-25 November 2005.

(5) Department of Water Resources, the Ministry of Agriculture and Rural Development (Vietnam)

In the year 2005, the development of river basin organization in term of management, operation and cooperation has a lot progress. Most activities of the office was focused on cooperation with river basin organization' offices with some main activities as follows:

1. Organize a workshop on river basin management to evaluate the achievements and constraints of national river basin management in the year 2004 and plan for 2005;
2. Cooperation with river basin organization's office to collect and update river basin profile as well as river basin organization activities specially cooperate with Vietnam Mekong River Commission in international activities;
3. Cooperated and agreed with Quang Nam province and Danang city about members of Vu Gia-Thu Bon river basin organization and submitted to Ministry for approval
4. Organized some workshops to develop draft decision and operation regulation of some new organization such as Ca, Srepok, Cau and Day rivers.
5. Cooperate with Hanoi University of water resources to organized a workshop on river basin management model;
6. Collect and develop river basin profile for big river basins including Banggiang-Kycung, Red-Thai Binh, Ma, Ca, Thachhan, Huong, Trakhuc, Con, Vu Gia-Thu Bon, Ba, SrêPôk, Sê San, Dong Nai, Cuu Long.
7. Research on the relation between river basin organization and related agency and organizations such as vietnam Mekong River Commission, Vietnam Water Partnership, National Water Resources Council etc.
8. Close cooperation with international organizations and donors in water resources and river basin management, specially cooperate with NARBO, ADB, WB, AFD, DANIDA.

(6) Red River Basin Organization (Vietnam)

1.1. Organization

1.1.1 Organization Name

Red River Basin Organization (RRBO)

1.1.2. Objectives

RRBO is 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.

1.1.3. History

On April 9, 2001 Minister of Agriculture and Rural Development of Vietnam signed a decision on establishment of the Red – Thai Binh River Basin Organization (RRBO) to implement river basin planning management in the river basin pursuant to the Law on Water Resources. Dr. Pham Hong Giang is Chairman of RRBO.

1.1.4. Organization

RRBO comprises 50 members, including

- Chairman: Vice Minister of Agriculture and Rural Development
- Vice Chairman: Director of Irrigation Department

RRBO has its office based at Institute of Water Resources Planning (IWARP). Dr. To Trung Nghia, Director of IWARP is also Head of the RRBO Office.

On December 1, 2005, Minister of Agriculture and Rural Development signed the Decision No. 3365/QĐ-BNN/TCCB on establishment of Day Sub-RBO under the RRBO.

1.1.5. Financial

Funds for operation of RRBO are provided from the State budget upon approval by Ministry of Agriculture and Rural Development (MARD).

1.1.6. Projects

With direction of the RRBO leadership, the RRBO have carried out in 2005 various activities in view of water resources management in the Red – Thai Binh river basin, e.g.:

- To continue implementation of integrated water resources use planning for basins;
- To coordinate with Department of Water Resources (MARD) in implementing measures against droughts;
- To coordinate with Department for Dike Management and Flood control in prevention and control floods and typhoons;
- To well play the role of the steering committee in the Second Red River Basin Project funded by ADB;
- The RRBO Office closely coordinated with relevant Ministries, agencies and sectors, especially with provincial DARDs in effectively realizing its functions and responsibilities.

1.1.7. Installing Law or the articles of association

On April 9, 2004, Minister of Agriculture and Rural Development signed the decision issuing “Regulations on organization and operation of river basin organizations”.

AFTERWORD FROM THE SECRETARY GENERAL



More than two years has passed since NARBO was established in February 2004. We, NARBO Secretariat, feel very happy and relieved that we could issue the 2nd NARBO Annual Report that summarizes the activities conducted in 2005.

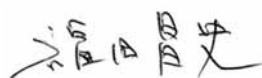
We, NARBO Secretariat issue an annual report to summarize the activities in each year, but this annual report covers the 2nd General Meeting that was held in February this year in Jatiluhur in Indonesia. When NARBO was established, the number of members was 43 from 10 countries, and that was 56 from 12 countries when the 2nd General Meeting ended. I think that this is the result of each member's earnest activities and I feel very happy to know that NARBO has got acknowledged widely in monsoon Asia region.

The secretariat adopted 8 principles for the coming two year's activities by lessons learnt that we got through the two-year activities, 2004-2005. And the secretariat proposed the action plan 2006-2007 that reflected those 8 principles, gave priority to 9 activities also at the 2nd General Meeting and it got approved.

NARBO is the network among members and NARBO activities fully depend on members' ownership. I'd like to call for much more positive involvement from members so that NARBO will take another big step forward solving various water problems and realizing IWRM in monsoon Asia.

May, 2006

Secretary General of NARBO



Dr.

Masafumi Fukuda

APPENDIX

Appendix 1

NARBO Charter

February 2004

(Revised February 2006)

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, and 2003, 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 at basin level with the involvement of stakeholders at the basin level. The water conference in Dublin in 1992 referred to the need to manage 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 improving 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 (recently reconstituted as the Japan Water Agency), 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.

Note: This Charter is intended to guide NARBO in its start-up phase, during which membership by RBOs and partner organizations will be promoted and initial activities started to meet immediate needs of RBOs for training and

exchange of information and experience. It is expected that the Charter will be reviewed and revised by the NARBO General Meeting when membership has grown, a program of activities is agreed and under implementation, and membership fees can be introduced.

Section 1. Denomination and Working Language

- (1) This new initiative is entitled the Network of Asian River Basin Organizations (hereafter NARBO).
- (2) The language to be used is English.

Section 2. Goal and Objective

The goal of NARBO will be to help 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 on the establishment of RBOs in Asia.

Section 3. Activities

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:

- (a) Advocacy and raising awareness for IWRM among RBOs, water sector apex bodies, and leading water sector agencies in the region, mainly through regional workshops.

- (b) Sharing of information, good practices, and lessons learned for IWRM among the participating organizations, mainly by operating databases and a website for IWRM exchanging information, and by sending a newsletter by email 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.

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

Section 4. Organizations

Article 4.1. Membership

- (1) Membership will be open to the following types of organizations.
 - (a) RBOs, defined as organizations that have been officially recognized by the government of their country as having a mandate to promote and implement IWRM at the river basin level.
 - (b) National and federal/ provincial / local governmental organizations in charge of water administration in the countries which implement or are interested in promoting and implementing IWRM at the level of river basins. This includes water sector apex bodies and leading water agencies.
 - (c) Regional knowledge partner organizations with expertise in promoting and supporting IWRM, such as international RBOs and research and training organizations.
 - (d) Inter-regional knowledge partner organizations with expertise in promoting and supporting IWRM.
 - (e) Bilateral and multilateral development cooperation agencies promoting and supporting activities related to IWRM at the level of river basins.
- (2) Among these, the organizations under (1.a) are considered as RBO members and (1.b to 1.e) are considered as partner members. Partner members will participate in NARBO as promoters and supporters of IWRM and RBOs, and as knowledge partners to RBOs.
- (3) If other organizations wish to join NARBO, it needs to be recommended by an existing NARBO member or government agency concerned, notified to the Secretary General (see “Article 4.4.”) and approved in the NARBO General Meeting (see “Article 4.2.”).

Note: (1.c) and (1.d) include regional and inter-regional nongovernment organizations (NGOs) with expertise in promoting and supporting IWRM. For participation of national NGOs, (3) will apply. Participation as an observer in NARBO General Meetings is also possible (See “Article 4.2 (2)”).

(4) Application for membership in NARBO or withdrawal from NARBO

- (a) An application to join NARBO should be submitted to the Secretary General with a recommendation from a NARBO member or the government.
- (b) The Secretary General evaluates the application and confer with the Chairperson and the Vice-Chairperson with his/her comments.
- (c) The Chairperson makes the final decision.
- (d) The Secretary General notifies the result to the applicant organization.
- (e) When the applicant receives the approval, the applicant organization becomes the member.
- (f) The new member is introduced to the NARBO members.

(5) Withdrawal from NARBO

- (a) The following are grounds for a member to cease to be a NARBO member:
 - (i) The member applies for withdrawal from NARBO membership;
 - (ii) The member organization is abolished; and
 - (iii) The member organization undertakes activities contradictory to the principles of NARBO.
- (b) When a member matches to one of these grounds, the Secretary General evaluates the ground and confer with the Chairperson and the Vice-Chairperson with his/her comments.
- (c) The Chairperson makes the final decision.
- (d) The Secretary General notifies the result to that organization.

(6) Member's obligation

- (a) Members will participate in NARBO activities of their interest with commitment to use their own resources and to work effectively in partnership with other organizations that are collaborating in the

network. Members will support the objectives of NARBO and will comply with its rules and regulations.

- (b) RBO members are obliged to submit an annual report to the Secretary General once a year within 3(three) months after their yearly fiscal year, in which its plan, scope of action, major activities, and issues are summarized. The report will be submitted in English.
- (c) The NARBO members are required to pay an annual membership fee. The amount and schedule of payment will be approved by NARBO General Meeting.

Note: For the time being, no membership fees are being considered.

Article 4.2. NARBO General Meeting

(1) Venue and Date

- (a) The NARBO General Meeting is held, in principle, every two years.
- (b) In principle, the General Meeting is held in the Chairperson's country, except as otherwise determined by the Chairperson. The date is proposed jointly by the Chairperson and the Secretary General.
- (c) An extraordinary NARBO General Meeting can be convened at the request of the Chairperson, Vice-Chairperson, Secretary General or NARBO Secretariat before the next General Meeting, if there is a specific reason or if there are important issues to be solved urgently.
 - ii) The decision of the venue and date is the same as the decision for a General Meeting.
- (d) The venue, date and agenda of General Meeting shall be distributed with an appropriate advance notice.

(2) Participation

Members, technical advisory committee members, and observers may attend the NARBO General Meeting. Observers need

endorsement from the NARBO Secretariat and the local organizing committee hosting the NARBO General Meeting.

(3) Agenda of the NARBO General Meeting

- (a) Two year action report and future action program of NARBO
- (b) Reports by members on matters related to activities of NARBO
- (c) Selection and replacement of Chairperson, Vice-Chairperson, Secretary General and Vice-Secretary Generals
- (d) Approval and revision of the Charter
- (e) Approval of new members, or their withdrawal

(4) Approval

The approval of the NARBO General Meeting is based on consensus between the attending members.

Article 4.3. Chairperson and Vice-Chairperson

- (1) Nomination and Selection of the Chairperson and the Vice-Chairperson
 - (a) The Chairperson and the Vice-Chairperson are nominated by the Secretariat and selected by the NARBO General Meeting.
 - (b) In case the Chairperson is or becomes unable to perform his / her function as Chairperson, the Vice-Chairperson will exercise the function and responsibility of the Chairperson until a Chairperson is selected at the next NARBO General Meeting.
 - (c) The Chairperson will be deemed to be unable to perform his/her function as Chairperson if (i) The Chairperson declares that he/she is unable to perform his/her function as Chairperson; or (ii) The

Secretariat recognizes that the Chairperson is unable to perform his/her function as Chairperson.

(d) In case the Vice-Chairperson is or becomes unable to perform his/her function as Vice-Chairperson, an Acting Vice-Chairperson is nominated by the Secretariat and appointed by the Chairperson for a period extending until a Vice-Chairperson is selected at the next NARBO General Meeting.

(e) The Vice-Chairperson will be deemed to be unable to perform his/her function as Vice-Chairperson if (i) The Vice-Chairperson declares that he/she is unable to perform his/her function as Vice-Chairperson; or (ii) The Secretariat recognizes that the Vice-Chairperson is unable to perform his/her function as Vice-Chairperson.

(2) Responsibility of Chairperson

The Chairperson leads the NARBO General Meeting and guides NARBO activities until the next General Meeting.

(3) Responsibility of Vice-Chairperson

(a) Assist the Chairperson

(b) Substitutes for the Chairperson when he/she is not available

Article 4.4. Secretariat

(1) Responsibilities of the NARBO Secretariat

(a) Initiatives and Activities of NARBO

(i) Collection of relevant information and coordination with related organizations, including participation in relevant meetings

(ii) Preparation of the documents needed for and writing reports of the NARBO General Meeting

- (iii) Preparation of two-year action report and action program
 - (iv) Operation and management of the NARBO web site and other communication facilities
 - (v) Advice on the enabling policy, institutions and efficient operation to improve IWRM and on the establishment and capacity building of RBOs in implementing IWRM (subject to available resources of NARBO to provide advice through cost-effective means)
 - (vi) Organization of other NARBO initiatives and activities
- (b) Logistics Service for NARBO
- (i) Contacts and coordinates the members
 - (ii) Handles the administration, including registration of members, accounting, document preparation etc.
- (2) Composition and Location of the NARBO Secretariat
- (a) The NARBO Secretariat is composed of the Japan Water Agency (JWA), the Asian Development Bank Institute (ADBI), both in Japan, and the Asian Development Bank (ADB), in Philippines.
 - (b) The Headquarters of the Secretariat is located in JWA and its branches are located in ADBI and ADB. Secretariat staff are nominated by the Secretary General in consultation with JWA, ADBI and ADB.
 - (c) Any organization in the NARBO Secretariat may resign its function at any time without condition.

(3) Nomination and approval of the Secretary General and the Vice-Secretary Generals.

(a) The Secretary General and the Vice-Secretary Generals are nominated by the Secretariat and approved at the NARBO General Meeting.

(b) In case the Secretary General or any Vice-Secretary Generals is or becomes unable to perform his/her function, an Acting Secretary General or an Acting Vice-Secretary General, as the case may be, is nominated by the Secretariat and appointed by the Chairperson for a period extending until the Secretary General or the Vice-Secretary General is selected at the next NARBO General Meeting.

(c) The Secretary General or a Vice-Secretary General will be deemed to be unable to perform his/her function if (i) he/she declares that he/she is unable to perform his/her function as the Secretary General or the Vice-Secretary General; or (ii) The Secretariat recognizes that the Secretary General or such Vice-Secretary General is unable to perform his/her function as the Secretary General or the Vice-Secretary General.

(4) Responsibilities of the Secretary General

(a) Initiates and manages NARBO's initiatives and activities.

(b) Convenes the NARBO Meeting and sets its agenda in consultation with the Chairperson

(c) Supervises the Secretariat's work

(5) Responsibilities of the Vice-Secretary Generals

(a) Supports the Secretary General

(b) Substitutes for the Secretary General when necessary

Article 4.5. Technical Advisory Committee

(1) A Technical Advisory Committee may be convened by the Secretary General. The Committee will be composed of individuals and organizations who can advise and support NARBO in its activities. Its task is to extend the financial and the technical support for the implementation of regional activities of NARBO.

(2) The statute of the committee will be approved by the NARBO General Meeting.

Section 5. Resources

(1) Financial and human resources to support NARBO activities will be provided from the following sources:

(2) The Members of NARBO will voluntarily provide resources in cash and kind to support NARBO activities in which they are interested to participate.

(3) Costs (personnel and traveling expenses) of the NARBO Secretariat will be provided by JWA, ADB, ADBI who will mobilize financial resources for this purpose. Travel expenses for the Chairperson and Vice-Chairperson will be provided by JWA for travel approved by JWA.

(4) NARBO activities will be financed by JWA, ADBI, ADB, bilateral and multilateral agencies to be identified, and NARBO Members, on a parallel co-financing basis.

(5) ADB may be requested by the NARBO General Meeting to convene a NARBO Financial Support Group of interested bilateral and multilateral organizations to help support NARBO activities.

Appendix 2

Action Plan -2006–2007-

NETWORK OF ASIAN RIVER BASIN ORGANIZATIONS (NARBO)

ACTION PLAN 2006-2007

- 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

(As of 16 Feb, 2006)

A. Advocacy, Raising Awareness, and Exchange of Information and Good Practices on Integrated Water Resources Management (IWRM)				
Activity	Remarks	Implementation Program (plan)	Leading Agency	Note (latest)
<p>Activities led by the NARBO Secretariat:</p> <p>1. NARBO Website (http://www.narbo.jp) The NARBO Web site will provide news and updates, information and reminders about NARBO's activities. The site linked to other related sites will release publications, case studies, electronic newsletters and online data bases</p>	<p>The website is managed by the Japan Water Agency (JWA) in collaboration with the Asian Development Bank (ADB) and the Asian Development Bank Institute (ADBI). It will be updated on regular basis.</p>	<ul style="list-style-type: none"> - Provide prompt and useful information. - Update Web site contents with frequency. - Manage database with various contents. - Implement on-line forum after feasibility study being conducted and its effectiveness being considered. 	JWA	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin-bottom: 10px;">Priority</div> <p>- NARBO members' positive involvement regarding information gathering is essential.</p>

				- JWA NARBO Secretariat has been making continuous efforts to fulfil members' requests such as lightening the size of website for the quicker display.
2. NARBO Newsletter (E-news letter) The newsletter covers topics on good practices, lessons learned, activities etc.	JWA will issue newsletters. Basically, newsletters will be distributed by e-mail and via the website.	- Newsletters is being basically issued in every three month. - To ensure sending newsletters by email, organize email addresses informed and conduct survey of email accessibility of each recipient	JWA	<div>Priority</div> NARBO members' positive involvement regarding information gathering is essential.
3. Online data base Necessary materials developed on IWRM practices are compiled. Materials comprise lessons learned in river basins in Asia, standards and manuals, recommended formats for river basin organization (RBO) annual reports, reference materials on IWRM, and topics of interests, etc. Materials are shared through website and in CDs.	ADBI and JWA will lead this work in collaboration with ADB and other partners concerned. The reports and materials will be accumulated in the database continuously. Contents of Online data base are distributed in CDs.	Compile various information as much as possible from member organization.	ADBI, JWA	<div>Priority</div> NARBO members' positive involvement regarding materials gathering is indispensable.

<p>4. NARBO Annual Report Drawing on member organizations' inputs, the report will summarize NARBO's activities.</p>		<p>-JWA will issue the NARBO Annual Report 2005 by May in 2006. -JWA will issue the NARBO Annual Report 2006 by May in 2007. - NARBO Annual Reports will be distributed through website and CDs.</p>	JWA	RBO Members are requested to submit their reports by the end of March the following year
<p>5 Media Relations and NARBO Promotion and Dissemination NARBO will implement a media strategy to send key messages on IWRM and the work of RBOs, and promotes NARBO's objectives and activities at suitable events in the region.</p>	The Media Relations and NARBO Promotion will be conducted to attract great interest in NARBO's activities and to increase NARBO member	<p>- ADB will develop the concept media strategy by June 2006. - The development and implementation of a media strategy will be initiated and supported by ADB as part of ADB's Water Awareness Program</p> <p>- JWA will promote NARBO and its activities by taking advantage of every opportunity in order to draw the attention to NARBO and to increase the number of the members.</p>	ADB, JWA	Put much emphasis on increasing NARBO member

6. NARBO General Meeting The general meeting is held, in principle, every two years in accordance with NARBO Charter, and JWA will lead the Secretariat's work to organize the meeting in consultation with the NARBO Chairperson.		- The 2 nd General Meeting will be held in Indonesia, Feb 2006	Chair person and Vice-Chair person JWA ADB ADBI	The 3 rd General Meeting will be held in the first quarter of year 2008.
7. Remarkable events				
8. Others				

<p>Activities led by NARBO Member Organizations:</p> <p>1. NARBO members' websites NARBO member organizations develop and maintain their own websites and post relevant information on their activities in relation with IWRM and its implementation.</p>	<p>NARBO members should update them at least quarterly basis. JWA will encourage NARBO members to do so. NARBO secretariat will use the member websites to accumulate relevant information on activities for the NARBO website.</p>	<p>- NARBO members are expected to develop their own web site by December, 2006. - NARBO members should strive to develop informative web site and to provide news and updates via online. - JWA will survey current situation of member's web site,</p>	<p>NARBO members</p>	<div data-bbox="1688 292 1874 363" data-label="Text"> <div>Priority</div> </div> <p>All members are encouraged to update the websites .</p>
<p>2. NARBO members' Annual Report NARBO RBO members are obliged to submit an annual report on their activities in accordance with guidelines prepared by the NARBO Secretariat.</p>	<p>The member's annual reports will be prepared by RBOs and submitted to NARBO Secretariat by March 2005. Other NARBO members are expected to prepare an annual report too.</p>	<p>- The annual reports 2005 will be prepared RBOs and should be submitted to NARBO Secretariat by March 2006. - Only 8 member organizations contributed annual report 2004</p>	<p>RBOs</p>	<div data-bbox="1711 807 1897 879" data-label="Text"> <div>Priority</div> </div> <p>It is highly expected all RBO members submit an annual report 2005 by the end of March 2006</p>

B. Capacity Building in River Basin Organizations (RBOs)				
Activity	Remarks	Implementation Program	Leading Agency	Note (latest)
<p>Activities led by the NARBO Secretariat:</p> <p>1. IWRM Training Program</p> <p>IWRM Training program is promoted in order for member organizations to develop their capacities. With an advantage of NARBO network, it is expected to diversity in training resources among members and others. Member organizations are expected to propose to be a host organization of the training.</p>	<p>In principle Training courses will be held 2 times every year. Training courses will be designed by the host organization, contributing organizations and the leading agencies with guidelines for participants selection, contents, modalities, organizational structures and cost sharing.</p>	<p>- The 4th training course will be held in Indonesia in June 2006.</p> <p>- Following Training courses will be held.</p> <p>- The 5th training course : Nov. 2006.</p> <p>- The 6th training course : Jun. 2007.</p> <p>- The 7th training course : Nov 2007.</p>	<p>JWA, ADB, ADBI, KOWACO</p>	<div>Priority</div> <p>NARBO Members are encouraged to be recipients organization</p>

<p>2. Workshops</p> <p>Regional workshops will be held in conjunction with NARBO General Meeting. Thematic workshops in order to deepen discussion on specific themes concerning water resources management suggested by NARBO members.</p>	<p>Sub-regional workshops will be considered on demand. Deal with thematic workshop highly recommended by NARBO members. Organize workshops in series</p>	<p>- The Thematic Workshop on Water Allocation and Water Right will be held in NARBO member's country, May 2006, Oct 2006, and May 2007. - The Thematic workshop on Facilities Management will be held in 2006.</p>	<p>JWA, ADB, ADB I</p>	<div data-bbox="1664 228 1850 304" data-label="Text"> <p>Priority</p> </div> <p>Small-scale workshops focusing on specific topics are preferable. NARBO Members are encouraged to be recipients organization</p>
<p>3. Performance Benchmarking</p> <p>Establishment of Performance Benchmarking system for RBOs is supported by peer reviews. Performance improvement of RBOs is stimulated and practical exchange of experience is allowed.</p>	<p>The program is designed by NARBO Benchmarking Group consisting of ADB and IWMI in consultation with NARBO members.</p>	<p>- The RBO Benchmarking Workshop will be held in NARBO member's country, Apr 2006, Sep 2006, Apr 2007 and Sep 2007.</p>	<p>ADB IWMI</p>	<div data-bbox="1686 651 1872 719" data-label="Text"> <p>Priority</p> </div>
<p>4. Advisory visits to RBOs</p> <p>NARBO Secretariat staff visits RBOs to learn their work to implement IWRM and to provide advice and support for knowledge generation and sharing.</p>	<p>This activity can be collaborated with RBO exchange visit.</p>	<p>NARBO Secretariat will consider and determine implementation method by Aug. 2006.</p>	<p>JWA, ADB, ADB I</p>	

5. Scholarship Programs NARBO Secretariat explores opportunities to promote participation of NARBO member organization staff in existing scholarship programs in the region and beyond.	NARBO Secretariat explores opportunities and welcome suggestions from NARBO members, knowledge partner organizations, academe and potential sponsors.	NARBO Secretariat will present an scholarship opportunity online	JWA, ADB, ADBI	Providing information on scholarship from NARBO members is anticipated.
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<p>Activities led by NARBO Member Organizations:</p> <p>1. RBO Centers of Excellence NARBO will recognize RBOs as centers of excellence in specific areas of IWRM expertise and stimulate opportunities for members to access and use the expertise within the network.</p>		<p>- JWA will conduct research on NARBO members intention until Aug., 2006 and consider the possibility of arranging program.</p>	<p>JWA, ADB, ADBI</p>	<p>RBOs will indicate areas of expertise.</p>
<p>2. Twinning Programs RBOs will facilitate Twinning Program for closer relations among NARBO members. Various forms of the program highly recommended such as information exchange, staff exchange and exchange visit.</p>	<p>To be initiated and arranged by RBO members. Information will be stored, classified and accessed by members on the website.</p> <p>Exchange visit between NARBO Members is a step before entering Twinning Programs between 2 (two) NARBO Members</p> <p>Intensive communication between NARBO Members are encouraged to establish closer relationship between NARBO Members.</p>	<p>- Existing Twinning Program will be continued. Another new agreements on Twinning Program among NARBO members are highly expected.</p>	<p>NARBO members</p>	<div data-bbox="1736 715 1921 783" data-label="Text"> <p>Priority</p> </div>

3. ISO certification RBOs will explore opportunities for ISO certification to stimulate achievement and maintenance of standards.	<p>To be initiated and led by Jasa Tirta I and II.</p> <p>It is desirable to continue to have the opportunities to lecture on ISO certification.</p>	RBO Members-who intersested in ISO Certification are kindly encourage to collaborate with Jasa Tirta I & II	Jasa Tirta I, Jasa Tirta II	
4. Transboundary Water Management RBOs will explore opportunities to foster regional cooperation for improving water resources management in transboundary river basins through sharing of information and exchange of experience.		- NARBO Secretariat will encourage considering the feasibility of transboundary water management	RBOs	Sharing information and experience accordingly. MRC will share their information and experiences.

C. Network Support				
Activity	Remarks	Implementation Program	Leading Agency	Note (latest)
1. Technical Advisory Committee NARBO is considering the establishment of a technical advisory committee in accordance with the provision in the NARBO Charter, to support NARBO's work.		- NARBO Secretariat will consider and determine implementation method by Aug. 2006.		The details and the target time of the set up of the committee need to be discussed among JWA, ADB and ADBI. Any comments and suggestions are highly welcome
2. Financial Resources The NARBO Charter provides the possibility to convene a financial support group to extend financial support for NARBO activities from other multilateral and bilateral agencies.			ADB	

<p>3. Charting IWRM Program in Asia</p> <p>Charting IWRM Program in Asia will be undertaken a study of practical progress of implementating IWRM in river basins in the region, supported by ADB and IUCN, to improve exchange of information and experience, build capacity, present a region-wide perspective on the progress of IWRM, identity further actions needed, and expand NARBO's activities.</p>			<p>ADB IUCN</p>	
<p>4. Facilitating IWRM Investment Project</p> <p>Facilitating IWRM Investment Project will be helped by NARBO members to promote investments and financing for IWRM in their river basins, by getting advice from other members and partners in identifying and preparing river basin projects.</p>			<p>ADB</p>	

Appendix 3

NARBO Members' List

List of NARBO Member and Interest to become member

As of 21st April 2006

	Member	Interest
River Basin Organization (RBO)	16	2
Government Organization (GOV)	21	4
Regional Knowledge Partner (RKP)	15	1
Inter Regional Knowledge Partner (IRKP)	3	0
Development Cooperation Agency (DCA)	1	0
Total	56	7
Contacted Organization and Others		1

Classification		Country		Organization	Representative/Signatory	Position
Member	RBO	Bangladesh	M	Bangladesh Water Development Board	Mr. Md. Azizul Haque	Director, Planning-
		Indonesia	M	Jasa Tirta I Public Corporation	Mr. Socheh	President Director
		Indonesia	M	Jasa Tirta II Public Corporation	Mr. Djendam Gurusinga	President Director
		Indonesia	M	Jragung-Tuntang Basin Water Resources Management Unit (BWRMU) (Balai PSDA Jragung-Tuntang	Mr. Tri Widodo D.	Head of BWRMU
		Japan	P	Japan Water Agency (JWA)	Mr. Toshiki Aoyama	President
		Korea	M	Korean Water Resources Corporation (KOWACO)	Dr. Ko Ich Hwan	Director, Hydrosystem Engineering Center
		Lao PDR	M	Nam Ngum River Basin Development Sector Project	Mr. Thatheva Saphangthong	Coordinator
		Malaysia	M	Selangor Water Management Authority	Mr. Rahmat Sharif	Director
		Philippines	M	Laguna Lake Development Authority (LLDA)	Ms. Dolora Nepomuceno	Assistant General Manager
		Sri Lanka	M	Mahaweli Authority of Sri Lanka	Mr. Piyadasa Koralevidana	Director General
		Vietnam	M	General Office for RBOs in Vietnam	Mr. Pham Quoc Hung	Specialist, General Office for RBOs
		Vietnam	M	Cuu Long & Dong Nai River Basin Organization	Mr. To Van Truong	Chief of Office of CLRBO & DNRBO
		Vietnam	M	Red River Basin Organization	Mr. To Trung Nghia	Chief of Office of RRBO
		Vietnam	M	Day River Basin Organization	Mr. Le Duc Nam	Deputy Director of DWR, MARD
		Vietnam	M	Vu Gia Thubon River Basin Organization	Mr. NGUYEN VAN SINH	Chief of GORBO's Secretariat Board
		Mekong region	M	Mekong River Commission Secretariat	Dr. Oliver Cogels	Chief Executive Officer

Classification		Country		Organization	Representative/Signatory	Position
Member	GOV	Bangladesh	M	Local Government Engineering Department, Ministry of Local Government, Rural Development and Cooperatives	Mr. Shahidul Hasan	Chief Engineer
		Cambodia	M	Ministry of Water Resources and Meteorology	Dr. Theng Tara	Director, Department of Water Resources Management and Conservation
		Cambodia	M	Department of Hydrology and River Works	Mr. Long Saravuth	Deputy Director of DHRW
		Indonesia	M	Directorate General of Water Resources	Mr. Imam Anshori	Director of Water Resources Management
		Indonesia	M	West Nusa Tenggara Regional Office of Settlement and Regional Infrastructure (Dinas Kinitraswi Provinsi NTB)	Mr. Djalal	Chief of Regional Office
		Indonesia	M	Bengawan Solo River Basin Development Project	Mr. Sudi Harsono	General Project Manager
		Indonesia	M	Jeneberang River Basin Project	Mr. Billy Parmono	Acting General Project Manager
		Indonesia	M	River Basin Water Resources Managenet Unit Pekalan Sampean(PSDA)	Mr. Wahjoe Pribowo, MT	Head of PSAWS
		Indonesia	M	Balai Pengelolaan Sumber Daya Air Ciujung-Ciliman Banten (BPSDA)	Ir.Winarjono, CES. MM	Head
		Indonesia	M	Sermo Water Resources Management Unit (BPSDA)	Ms. Rani Sjamsinarsi Fauzie	Head
		Indonesia	M	River Basin Water Resources Managenet Unit Citarum(PSDA)	Mr. Rustam Suharman	-
		Japan	M	Water Resources Department, Land and Water Bureau, Ministry of Land, Infrastructure & Transportaton	Mr. Koji Nukina	Deputy Director, Water Resources Department
		Lao PDR	M	Water Resources Coordination Committee Secretariat	Mr. Phonechaleun Nonthaxay	Head
		Malaysia	M	Department of Irrigation and Drainage	Datuk. Keizrul Abdullah	Director General
		Philippines	M	National Water Resources Board	Mr. Ramon Alikpala	Exective Director
		Philippines	M	Department of Environment and Natural Resources	Ms. Analiza R. Teh	Assistant secretary
		Sri Lanka	M	National Water Resources Authority	Mr. Ananda Jayaweera	Director
		Thailand	M	Department of Water Resources, Ministry of Natural Resources and Environment	Ms. Sukontha Aekaraj	Director, Foreign Relations Branch Department of Water Resources
		Vietnam	M	Department of Water Resources Management, MoNRE (General Office for RBO, WRD MARD))	Mr. Le Duc Nam	Deputy Director, DWR-MARD
		Vietnam	M	Sub Institute for Water Resources Planning	Mr. Nguyen Xuan Hien	Deputy Director
		Vietnam	M	Department of Natural Resources and Environment of Dong Nai Province	Mr. Phan Van Het	Vice Director

Classification		Country		Organization	Representative/Signatory	Position
Member	RKP	Southeast Asia	M	Global Water Partnership (GWP) SEARWP (Malaysia)	Datuk. Keizrul Abdullah	Chairperson
		South Asia	M	Global Water Partnership (GWP) SAS RWP (Bangladesh)	Mr. Nanda Abeywickrama	Chairperson
		South Asia	M	South Asia Network of River Basin Organization (SASNET-RBO)	Mr. Don Clement Sudharma Elakanda	Network Coordinator SASNET-RBO
		Bangladesh	M	Institute of Water Modeling (IWM)	Mr. Emaduddin Ahmed	Executive Director
		Thailand	M	Thailand Water Resources Association (TWRA)	Dr. Apichart Anukulamphai	President
		Indonesia	M	Indonesia Water Partnership	Mr. Achmadi Partowijoto Cae	Member of Trustee
		Indonesia	M	The Foundation on Water Affairs ADHI EKA	Ir. KUSDARYONO Sutosuromo	Chairman of the Executive Board
		Indonesia	M	Faculty of Engineering, Brawijaya University	Mr. Agus Suharyanto, Ph.D	Vice Dear for Academic Affairs
		Indonesia	M	Research Institute for Water Resources	Mr. Eddy A. Djajadiredja	Head of Research Institute
		Indonesia	M	Center for Environment & Civil Engineering Research	Ms. Indreswari Guritno	Senior Member
		Indonesia	M	Post Graduate Study on Water Resources Management Faculty of Engineering Gadjah Muda University	Dr. Budi Wignyosukarto	Senior Lecture
		Indonesia	M	Sembrani Foundation	Mr. Mardjono Notodiharjono	Chairperson
		Australia	M	The World Wildlife Fund International (WWF International)	Dr. Isabella Louis	Director, Asia Pacific Region
		India	M	CapNET South Asia	Dr. Jasveen Jairath	Director
		Thailand	M	IUCN - The World Conservation Union	Dr. John Dore	Leader, Asia Water & wetlands Program
	IRKP	Japan	P	Asian Development Bank Institute	Mr. Peter Mc. Cawley	Dean
		Sri Lanka	M	International Water Management Institute (IWMI)	Mr. Andrew Noble	Head IWMI-SEA
		Japan	M	Asia Pacific Association of Hydrology and Water Resources (APHW)	Dr. Katsumi MUSHIAKE	Secretary General
	DCA	Philippines	P	Asian Development Bank	Mr. Jan P. M. van Heeswijk	Director General

Classification		Country		Organization	Representative/Signatory	Position
Interested	RBO	Pakistan	I	Water and Power Development Authority	Mr. M Mushtaq Chaudhry	General Manager (P&D)
		Thailand	I	Bang Pakong River Basin	Mr. Chamroon Suaydee	Chairman, Sub-committee
	GOV	Bangladesh	I	Joint River Commision	Mr. Mir Sajjad Hossain	Director
		P.R. China	I	Huai He River Water Resources Commission of Ministry of Water Resources	Mr. Liu Chang Zhong	Senior Engineer
		P.R. China	I	Taihu Basin Authority of Ministry of Water Resources	Mr. Gong Zheng	Engineer
		Indonesia	I	Brantas River Basin Development Project	Ir. Imam Agus Nugroho	General Project Manager
		Indonesia	I	Seputih-Sekampung River Basin Development Project	Mr. Mudjadi	General Project Manager
	RKP	Japan	I	Ritsumeikan Asia Pacific University (Japan)	Dr. Fransisco P. Fellizar, Jr	Associate Professor

Note:

P = Promotor (Member)
M = Member
I = Interested to become a member
R = Pre-registered member

KP=Knowledge Partner
DCA=Development
Cooperation Agency

After the 2nd General meeting, the Signatory should be change to "representative"

Record of Update As of 20th Dec. 2005

KOWACO: changed contact person with position to Dr. Ko Ich Hwan

Japan government member (MLIT): Mr Nukina <- Mr Tokunaga

Format: split between RBO and Gov. (revised by Indonesian OC of 2nd general meeting)

IUCN joined member

Prospective members in 1st General meeting (Feb. 2004) : Another file

Appendix 4

Program of the Second General Meeting

Program of the Second General Meeting

DAY 0 13th February 2005 (Monday)

Time

Program

Arrival of participants, check-in and Registration

18.00 – 19.00	Secretariats' meeting	Secretariats, organizing committee, leading agency
19.00 – 19.30	Orientation meeting	
19.30 – 20.30	Reception dinner	

DAY 1 14th February 2005 (Tuesday)

Field Visit

Time

Program

07.00 - 17.00	Field visit, Good practice and issues on the site
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DAY 2 15th February 2005 (Wednesday)

Workshop

Time

Program

08.30 – 08.40	Opening address from PJTII	The president of PJTII
08.40 – 08.45	Briefing on the workshop program	JWA
08.45 – 10.15	Session 1 Water Quality Management	KOWACO
10.15 – 10.30	Break	
10.30 – 12.00	Session 2 Flood Management	JWA
12.00 – 13.15	Lunch	
13.15 – 14.45	Session 3 Water Financing	Indonesian NARBO Secretariat
14.45 – 15.00	Break	
15.00 – 16.30	Session 4 Performance Benchmarking	ADB, IWMI
16.30 – 17.30	Meaning and merits of Network activity - The questionnaire item 2	JWA, ADB, ADBI
	Closing remarks on NARBO workshop	
19.30 – 21.00	Side event: Indonesian NARBO Members Meeting	Indonesian NARBO Secretariat

DAY 3	16th February 2005 (Thursday)	<i>General Meeting</i>
Time	Program	
09.00 – 09.45	Opening Session	Organizing Committee
09.00 – 09.15	Welcome Remarks and Overview of the meeting	Organizing Committee
09.15 – 09.30	Opening remarks	Chairperson(Dr. Basuki)
09.30 – 09.45	Keynote Address and Official Opening	Minister of Public Works, GOI
09.45 – 10.00	Break	
10.00 – 12.00	Session “The report of NARBO activity 2004-2005”	Chaired by chairperson
10.00 – 10.15	Overall review of activities 2004 -2005	Secretary general & secretariat
10.15 – 10.30	Newsletter and web site	JWA
	Enhancement of Database for Information Sharing	
10.30 – 10.45	IWRM Training course	KOWACO
10.45 – 11.05	Twining program	Indonesian NARBO
11.05 - 11.25	Thematic Workshop	JWA/ADBI & RRBO
11.25 – 11.40	Others: Promotion and other events (Tokyo, SEAWF etc)	JWA
11.40 – 12.00	Discussion on implemented activities	JWA, ADB, ADBI
	The questionnaire. Item 1.	
12.00 – 13.15	Lunch	
13.15 –16.00	Session “NARBO Charter and Work plan 2006 – 2007”	Chairperson
13.15 – 13.25	Approval and withdrawal of NARBO member	JWA
13.25 – 13.40	Proposal and approval of the revised charter	JWA
13.40 – 13.45	Briefing of concept on Action plan 2006 – 2007	Secretary General
13.45 – 14.00	Briefing on action plan 2006 – 2007	JWA
14.00 – 14.30	Briefing on new program	ADB
	- Charting IWRM Progress in Asia	
	- Facilitating IWRM Investment Projects	
14.30 – 14.45	Q & A, Approval of Action plan 2006 –2007	JWA, ADB, ADBI
14.45 – 15.45	Commitment Speech	Member Organizations
	(The questionnaire. Item 3)	
15.45 – 16.00	Break	
16.00 – 16.15	Announcement	JWA, ADB, ADBI
	Guideline of financial support by the secretariat	
	Membership fee	
16.15 – 16.45	Selection “NARBO Constitutional Body”	JWA, ADB, ADBI
16.15 – 16.45	Nomination and approval	
	Short speech of Chair, Vice-Chair and Secretary General	
16.45 – 17.00	Closing Session	JWA, ADB, ADBI
16.45 – 17.00	Closing remarks on NARBO General meeting	DG of WR
19.00 – 21.00	Farewell Dinner	
DAY 4	17th February 2005	
	Participant are back to home countries	

Appendix 5

Electronic Newsletter

The NARBO (Network of Asian River Basin Organizations) Newsletter

<http://www.narbo.jp/>

From Secretariat

1. Report of the event

The 2nd NARBO training course

The training course on “River Basin Management and Organizations” was held from April 25 to 29 at Beach Hotel on Negombo in Sri Lanka. Twenty-seven participants from Afghanistan, Bangladesh, India, Nepal Pakistan and Sri Lanka took part in the training. From NARBO Secretariat, Dr. Tennakoon, who is acting vice-chairperson, Mr. Dennis, Mr. Imam, Mr. Ishimura and Mr. Takagi also attended and made presentations.

The training course was organized under the auspices of six organizations. Six organizations were IWMI, ADB, ADBI, JWA, GWP-South Asia and Lanka Jalani respectively. The core training team from IWMI HQ guided the course and they emphasized on the first day that it was very important for participants to learn each other by exchanging their experiences and knowledge, discussing problems they had.

The program was consisted of four modules titled “General overview of reasons for River Basin Management (RBM)”, “New insights from recent studies”, “Problems and constraints, at local and national levels” and “Designing an appropriate institutional system”. On module 3, participants were divided into three groups and visited the upper reach, middle reach and lower reach of Maha Oya River Basin. After coming back from the field trip, they were working until late at night to meet the deadline of group assignments on what they learnt from the field trip. Also on module 4, each group tackled with the assignment given by the core training team and presented the assignment on the final day.

At closing ceremony, every participant was given the citation and the training course ended very successful and fruitful.

It was quite impressive for me to see all participants make friends, chat and take photos here and there at the closing ceremony.

Finally, I'd like to offer my sincere thanks to all participants, the core training team, staff members of secretariat and all concerned organizations for their hard works and efforts.

Prepared by Katsunori TAKAGI, JWA NARBO Secretariat



Photo1 :
Presentation

Photo 2 :
Group work



Photo 3 :
At the field trip

Photo 4 : At the
closing ceremony



2. General information

(1) The 3rd preparatory meeting for Southeast Asia Water Forum

Toward the 2nd Southeast Asia Water Forum in Bali from August 29 to September 2, the 3rd preparatory meeting is going to be held on May 17 in Indonesia.

(2) JICA training course on IWRM

The 2nd training course is going to be held from October 11 to November 8. Ten participants will be nominated from Indonesia, Lao PDR, China, India, Philippines, Vietnam, Bangladesh and Pakistan. If interested, please inquire to JICA Office in your country to get GI (General Information).

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Members' contribution

SAVE BURIGANGA MOVEMENT

Mir Sajjad Hossain*

Dhaka is the capital of Bangladesh with an Metropolitan area of about 380 Km². It stands beside the Buriganga Turag river system. The length of the Buriganga river is about 17km. Owing to its historical perspective and cultural heritage, the Buriganga is termed as the "lifeline" of Dhaka city. This capital city was first established during the Mughal period about 400 years back. The river Buriganga gave the old metropolis its water connection and was easily navigable so that the great Mughal fleet could often anchor near the town. Once the water of this river was largely used as drinking water by the city dwellers. In 1874 a water treatment plant was set up by the then government at a place named Chadnighat in the city for supplying pure water to the city dwellers. In fact the total ecosystem of Dhaka evolved based on the river Buriganga. Presently Dhaka city has a population of about 11 million and would be about 16 million by 2025.

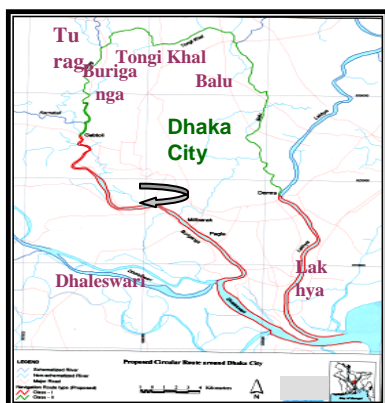


Figure: 1 Dhaka City and adjoining river system

The Turag, upper reach of the Buriganga, originates from the Bangshi at Kaliakoir that receives significant runoff contributions from the inland Gar areas. The river is connected to the Balu river through the Tongi Khal before joining the Buriganga at Mirpur. The river Balu originates from the Gar areas and joins the Lakshya near Demra. Usually,

Tongi khal flows from Turag towards Balu during monsoon when there is practically no tidal effect. But during the dry season, the flows of the Tongi khal changes direction from Balu towards Turag due to lower water level in the Turag and higher water level in the Balu caused by higher tidal influence in the Balu. The main source of water of the Buriganga had been the spills of the Brahmaputra river.

Problem

The river Buriganga is getting polluted over the years causing serious environmental degradation in the capital. The pollution problems are the outcome of both natural as well as human activities and interventions and also due to lack of adequate pollution control measures.



Photo 1 Contaminated water of the Buriganga



Photo 2 Encroachment near the Buriganga

The natural reasons behind the problems include hydraulic and morphological changes in the rivers around Dhaka. Due to gradual sedimentation in the Buriganga-Turag-Balu-Lakshya river systems, the conveyance capacities of the channels have decreased, causing no flow condition during the dry season and consequently the navigation drafts have been reduced. Moreover, the Feeder Rivers from the source of the Brahmaputra do not receive flows due to drying up of the off takes during the dry

* Mir Sajjad Hossain, Director, Joint Rivers Commission, House-13, Road-4, Dhanmondi R. A. Dhaka-1205, Bangladesh.

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season. Heavy sedimentation at the off take and river reaches is the major problem impeding sustainable development.

Human activities and interventions include encroachment on the river bed, floodplains and low lying areas, sewage and solid waste disposal, insufficient water supply and sanitation, industrial waste disposal and high rate of migration of the poor people in the slum areas of Dhaka.

The dumping of untreated liquid tannery wastes from tannery industries at Hazaribag, Dhaka is the major source of pollution of Buriganga. The chromium released from the Hazaribag tannery industries has been contaminating the water of the river Buriganga for the last forty-five years. This highly polluted water is spreading various diseases including cancer. A statistics available from the Department of Environment reveal that 95 per cent of the tannery industries have been built in unplanned way at the congested places of Hazaribag during the last fifty years. At present during the pick monsoon about 21 thousand and 600 cubic meters of liquid toxic wastes are dumped daily into the river Buriganga from the 185 tannery industries of Hazaribag. There is no alternative way to dump this liquid toxic waste at the time of continuous production of tannery industries. Besides contaminated water dumped everyday from the 500 kilometre long sewerage line of Dhaka city Buriganga is another important reason for water pollution in the river. An estimated 35,000 cubic meter of untreated highly toxic industrial wastes are also dumped into the river every day. Other reasons responsible for water pollution in the river Buriganga include dumping of oil from vessels playing in the river, human wastes thrown from the unsanitary latrine set up on or near the river. Illegal settlements on both sides of the river are also responsible for both water pollution and obstacles to the course of the river. An estimated 25 lakh cubic meter of toxic liquid wastes have been dumped into the river Buriganga in 2003 causing severe pollution of its water. Besides, about 12 thousand cubic meters of untreated wastes are dumped from the Tejgaon industrial area at Dhaka. About 40% of total sewerage wastes of the total one crore people of Dhaka city are dumped in the river in untreated condition.

The contamination of water of the river Buriganga is creating adverse effect on our environment. The Department of Environment (DOE) in a survey in 1997 found that oxygen in the river is close to zero level for which its marine life is depleted. In the meantime the river has reached in a stagnant position with black, slimy, stinking water due to continuous dumping of untreated industrial wastes. The flow of current is now almost non existent in the river. The condition of water of the river has now reached in such a situation that at Sadarghat, when big passenger launches start their engines and whirl the water with propellers, the foul odor become so unbearable that every one around have to press handkerchiefs on their noses. The tidal range from the sea is badly obstructed by the encroachments, massive sedimentation and dumping of all sort of wastes. As a result the rivers and channels around the city are extremely contaminated due to the dead slow tides. Thousands of people traveling everyday and residents of its banks are exposed to serious health hazards. Many residents complained of irritation in eyes and skins.

Values of some water quality parameters of the Buriganga river are as follows:

PH	EC	Chloride	Ts	DO	BOD
6.7-8.0	141-859	1.5-26.0	45-525	2-8.5	0.7-240

Initiatives to overcome the problem

Initiatives have been taken at both governmental and non-government level to save Buriganga from continuing environmental degradation.

- The department of Environment, Govt. of Bangladesh formed a committee in 1997 to implement the "Save Buriganga" Program.
- 'Bangladesh Paribesh Andolon' in active participation of its members and other Voluntary organizations formed the "Buriganga Bachao Andolon" in other words "Save Buriganga Movement" in order to protect it from encroachment and pollution. This committee first organized a meeting with the representatives of civil society in July 2000. It also organized a boat race in August 2000. The activities of the committee were publicized in TV and news media which helped building public opinion.

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In August 2000 a sit in program was staged by the committee against the encroachment by the “Sena Kallayan Sangstha”. The committee later on met the Ministers, Ministry of Water Resources and Ministry of Environment. This committee had been carrying out regular programs to “Save the Buriganga”.

The Government in October, 2002 formed a 11 member Task Force comprising four Ministers, Environmentalists, Elites, Journalists with Minister of Shipping as the Chairman of the Taskforce. The Taskforce formulated its recommendations which were subsequently approved at the cabinet meeting. The recommendations fall in the following categories:

- Steps be taken to stop encroachment on the river and gradients
- Demolish illegal structures on the river bank
- Maintenance of water quality
- Carryout dredging to increase the river
- navigability and establishing a circular waterway around Dhaka city.

An implementation committee under the chairmanship of Minister of Shipping was formed at the cabinet meeting to implement the recommendations of the Taskforce. In October, 2003, at a meeting chaired by the Shipping Minister, the Buriganga protection Taskforce decided to undertake an integrated action plan to demarcate the river bank. They decided to initiate an integrated project to protect the riverbanks coordination with nongovernmental organizations. The government has entrusted its two organizations BWDB and BIWTA to restore normal flow of the river and maintaining the required navigation draft respectively. BIWTA has identified 648 illegal structures along the Buriganga of which it has already demolished 576 since March, 2004. BWDB has constructed flood control embankment and revetment works alongside the riverbank. It has also conducted a study for augmenting the flow of the Buriganga with a view to maintain water quality, and navigation draft. The government has also undertaken steps to relocate the tannery industry outside the city with all precautionary measures to abate further pollution. Other activities are also being taken up by the government to mitigate further degradation of environment and ecosystem of Dhaka city and its water courses around it.



Photo 4 :



Photo 5 :



Photo 6 :

Ongoing Protection work

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Members' contribution

Mekong River Commission celebrates 10 years of cooperation

On 5 April 2005 The Mekong River Commission celebrated the 10th Anniversary of the Signing of the Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin.

This historic agreement was made between the four countries that share the Lower Mekong Basin: Cambodia, Lao PDR, Thailand and Viet Nam in Chiang Rai, Thailand on April 5 1995.

The countries agreed to co-ordinate and promote co-operation in all fields of sustainable development, utilization, management and conservation of the water and related resources of the Mekong Basin. At the same time they agreed to work together on formulating several procedures that would allow the water resources of the basin to be shared on an equitable basis.

These procedures cover such important areas as notification of proposed use of water in any of the member countries, prior consultation on developments, the basin development plan, protection of the environment and freedom of navigation.

But the story did not begin there. Cooperation regarding the Mekong begins in the middle of the 20th century with the formal signing of the Geneva Accords, when the newly independent nations of Cambodia, Laos and Viet Nam took their places on the world stage.

Studies of the Mekong by the United Nations' Economic Commission for Asia and the Far East (ECAFE) and the US Bureau for Reclamation sparked interest in the Lower Mekong countries and at the newly established ECAFE for a grand scheme to develop what was thought of as one of the world's great "untamed rivers".

No international river body had ever attempted to take on such encompassing responsibilities for financing, construction, management and maintenance of projects on an international river.

The "Mekong Project" was the largest single development project the fledgling United Nations organization had ever undertaken.



Photo 1 : The MRC symbol in balloons

When the new Mekong Committee began its work, there were no models to follow. In its early days, the Committee was guided and supported by ECAFE and the United Nations Development Agency.

Lack of stability in the region resulted in the interruption of Mekong Committee sessions in the late 1970s. In response to Cambodia's absence, in 1977 Lao PDR, Thailand and Viet Nam adopted a new statute forming the basis of the Interim Mekong Committee.

When Cambodia finally requested readmission in 1991, lengthy discussions began which led to the eventual transformation of the Mekong Committee through the 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin.

The 1995 Agreement was a coming-of-age for the Mekong Committee, which now became the Mekong River Commission. Its Articles give full management responsibility of the Commission to a Council of Ministers of member countries.

Following the '95 Agreement the MRC shifted its focus from the development of large-scale projects to sustainable development and management of natural resources.

It consolidated all the knowledge gleaned from 30 years of surveys and studies into a "knowledge base".

The MRC member countries agreed to work together in all fields of sustainable development, utilization, management and conservation of the

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<http://www.narbo.jp/>

water and related resources of the Mekong River Basin, such as navigation, flood control, fisheries, agriculture, hydropower and environmental protection.

Over the past 10 years the organization has achieved significant progress toward its stated goals through a variety of agreements on water use, quality and quantity. Member countries have concurred on the need for data and information sharing and exchange, a flood management and mitigation strategy, a hydropower strategy and have made a formal agreement with China on the exchange of hydrological and other data.

In the future the MRC is keen to encourage investment in water resources in the basin in all areas in order to reduce poverty and improve the livelihoods of the basin's residents. The people of the basin are predominately rural and are some of the poorest in the world.

The MRC's new Regional Cooperation Program for Integrated Water Resources Management and Development of the Mekong River Basin is intended to help member countries make the best use of their water resources. Through this strategy, the MRC plans to act as a promoter and facilitator of the development and investment process in the water sector, encouraging and coordinating sustainable use and management of water and related resources for navigation, food production, energy production and domestic use.

It will support the countries at the level of strategic planning and program implementation. It is now working to identify, plan and prioritize a broader range of development projects in cooperation with the donor community and at the same time finding the right mechanism to deliver the right strategy and priorities for funding.

The MRC works closely with many organizations either directly as partners or indirectly through information exchange, including UN agencies such as UNDP and UNESCAP, the World Wildlife Fund, the World Conservation Union (IUCN) and many government aid agencies.

The World Bank is a partner in programs such as the Basin Development Plan and the Water Utilization Program and the ADB is funding a component of the new Flood Management and

Mitigation Program. The MRC is keen to play a role within the ADB financed Greater Mekong Sub-Region initiative. We have many other organizations with whom

Today the member countries gain from the close cooperation with their neighbors in many ways. There is a regular exchange of information about new developments, support with technical expertise and knowledge to be gained in such areas as environmental testing of water quality, fishery management and sound hydropower development. There are many trans-boundary issues such as the provision of safe navigation, protection of the watersheds and flood management and

mitigation, which MRC programs are working to institute in all the countries. It would not be possible to deal with some of these big issues alone.

The MRC is currently seeking funding for a tourism program. The Mekong River is almost totally undeveloped as a tourist attraction, in nearly all the countries of the basin. There is huge untapped potential for making this river an exciting and economically advantageous addition to the tourism industry. However, in order not to damage the river, tourism needs to be developed in an ecologically and culturally sensitive way so local communities can benefit directly and tourists (both foreign and domestic) can enjoy the natural beauty of the countryside.

The MRC is looking forward to another decade of challenges and successful cooperation. The Mekong River Basin is facing a time of huge growth, both in population and the economy, and it is vital to take a united approach to its development needs if the valuable natural water resources are to be protected for the benefit of future generations.

<http://www.mrcmekong.or>

Editor's postscript

On this issue, we could introduce only two events as general information. Not to mention the forthcoming events, to enrich the contents of NARBO newsletter, your contributions are very important. Please contact us if you have news, comments, opinions whatever.
(Katsunori TAKAGI)

The NARBO Newsletter

(Network of Asian River Basin Organizations)

<http://www.narbo.jp/>

The 1st Twinning Program - Report from Japanese exchange staff -

1. The 1st Twinning Program was launched !

— Staff exchange between JWA and Jasa Tirta I, II —

Yasuhiro Ochii *

Between Indonesian NARBO and Japan Water Agency (JWA), MOU and agreement were concluded as a first case of Twinning Program on 29th November 2004. Then, exchange of personnel on Twinning Program among JWA, Jasa Tirta I (PJT I) and Jasa Tirta II (PJT II) was also agreed and signed.

The Program aims at sharing information to solve problems as well as to contribute toward an improvement of Asian IWRM. Developing good relationship between JWA and Indonesian NARBO is also important target, too.

Mr. Sugiura and Mr. Ochii from JWA were dispatched to Indonesia from 10th April 2004 to 9th July 2004. We had worked at Head Quarter of PJT I in Malan, East Java State mainly, but we also had worked at Head Quarter

of PJT II in Jatiluhur, East Java for about two weeks. Further, we visited two River Basin Organizations that belonged to Indonesian NARBO, and other related offices, too.

We had visited many O&M offices of water resources infrastructures in the Brantas River Basin and Bengawan Solo River Basin guided by PJT I and Citarum River Basin guided by PJT II.



Hearing from staff of maintenance office

It seemed that PJT I and PJT II had been doing their Operation and Maintenance works for their facilities well in spite of their severe budget

condition and facing some difficult problems. For example, We were impressed with seeing an old weir of more than 80 years old was still working very well because of proper maintenance by PJT II. PJT I and PJT II prepared maintenance rules and standard on how and when they should check the facilities, and they fully observed the rules. Documentation was well managed based on the ISO9001 system. Staff seemed to have good skill to maintain and repair their facilities and they know facilities condition well.



Hydraulic pump
(Water is pumped up by hydraulic power.)

We thought that PJT I and PJT II would be able to take an active role

*) Toyogawa Canal Management & Construction Dpt, JWA



Water grasses are really problem!



Steam engine which move gate up and down for more than 80 years



Final presentation to report our activities

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3. Three Indonesian exchange staff in JWA HQ

in the NARBO through dissemination of their O&M skill to other organizations in Indonesia and other NARBO members.

At the end of Twinning Program, we reported our activities to both PJT I and PJT II and also gave presenta-

tions on "Risk and Crisis Management" and "Irrigation Project And Farmers' Cost Bearing" based on the Japanese experience.

Hoping to continue this Program, we returned to Japan with fruitful experience and good friendship with

Indonesian NARBO. We think that we launched the first Twinning Program very well.

Finally, We would like to express our sincere thanks to PJT I, PJT II, Indonesian NARBO Secretary and all organizations.

The 1st Twinning Program - Report from Indonesian exchange staff -

1. "Jaga Tirta" is farmer leadership style

Saur Saragih *

In reaching a purpose, usually a group will agree to make some ordinances. Even if the simple ordinance, but it contains the procedure, mechanism and guidance in which they must do, so that their purpose can be executed better. Even in determining a figure as their leader, they will use a way to assign their leader by voting. That way the things of farmer groups in Indonesia had a good custom in determining their leader. This custom has the long history and is kept by farmers to date. This farmer group has expanded continually as a strong social institution. Farmer society in Indonesia has developed their institution since ninth century. There are a number of traditional irrigation institutions which have been expanded.

Role of water

A leader can manage water resource to various importances as according to its role. For example, long time ago in Bali area that ordinary water was managed traditionally based on concept of water management through power orientation according to each its benefit. King as highest power made the treatment ordinance of water so that the water have strong role. Power of the past Kings supported by Seven of Water (Sapta Tirta) so that role of water as follows : Irrigation water, Holy water Healthy water, Drinking water, Enjoyment water, Art Water Recreation Water,

Jaga Tirta

Of course water as according to its role will be managed by a man which assigned to the better function. However this article will explain "Jaga Tirta" as a leadership type in Indonesia farmer group. Understanding of the role of water is relatively same in other area in Indonesia, but more stress to first understanding, irrigation water. "Jaga Tirta" has conditions as follows : he has to own the farmlands, be experienced man, be trusted to arrange all farmers in concerning irrigation management (for i.e repairing the canal), be wise to distribute water and to handle the conflict among farmers, and he is very influential because other farmers follow his words and actions.

Farmers usually arrange the way and assign person in charge of water at each gate for their rice field. The election of "Jaga Tirta" is held

with all farmers gathering in Village hall. At the election, there are one or two important person in that area, such as the chief of the village and the security guard. Of course the election of "Jaga Tirta" is usually held in friendly atmosphere and "Jaga Tirta" is chosen by voting among candidates. Leadership in traditional irrigation has the important relationship to other institutions in the village. In general traditional irrigation with small scale covering one village only, relationship of conformity each other, so that very easy to mobilize mutual assistance (is called gotong royong). A lot of same term as "Jaga Tirta" in other areas in Indonesia, such as in West Java it called "Ulu-ulu", in North Sumatra "Raja Bondar", in Aceh "Keujuren Blang", in West Sumatra "Tuo Banda", etc .

*) Jaga Tirta II, Indonesia



2. Impressive experience during stay in Japan

— Spirit, dedication and responsibilities —

Titik Indahyani *

During my twinning program in Japan Water Agency, there are various impressive experiences I gained, especially about Japanese and its technology. The Japanese culture is worth appraising, mainly on their work dedication and time management.

I myself witnessed those two outstanding things on my way to work and in my working place. I found difficulties to adjust with Japanese footstep. It seems they accustomed to walk fast. Based on my observation, there aren't Japanese who walk briskly and jokingly. The same thing happened in JWA's office. Most of the workers work seriously and meticulously. It is little different with the working atmosphere in my office in Indonesia. Most of the workers in my office work seriously and meticulously also but sometimes there are joking



and snacks between their working hours. Eventhough the working hours ends at 17.30, but many JWA's workers gladly work until late at night because they are completely responsible with their work. The dedication and appraisal toward the work are another thing we must learn from Japanese. There is no single work which is done relaxly as most of the works are done seriously.

Another interesting experience happened when the strong earthquake came. I also almost happened to experience the typhoon. Yet it was just its impact-rain and strong wind-but it made the visit to Gunma Prefecture was canceled. Because of the typhoon, when I joined JWA operation work session (special work in emergency), I also can witness the hard work of operation room staff who were all in alert condition. I suddenly remembered when I had my alert turn to keep my eyes on the flood flow. I had to work until late at night at the office when the flood happened in Kali Brantas. One of the differences in the operation room between JWA and PJT are the screen for visual monitoring.

In JWA there are several monitoring screen in which we can directly and continously observe the condition (eventhough it is available only in certain reservoir/dam/canal) but it helped us to monitor it visually. All the observation datas had been integrated and connected with the outsider datas (ex. meteorology data). I think we can analize and evaluate the data more accurately. As a result the decision to overcome the disaster problem can be taken accurately.

Another simple example of time management can be seen when we travel by train. Most Japanese have their own different way to use their time-reading and sleeping. I rarely saw the train passengers use their time talking or joking in the train. The comfortable train condition makes it stands as the main transportation option in Japan, including me, besides walking ofcourse. I hope I can gain various breathtaking experiences and useful knowledge based on the purpose of this program.

*) Jasa Tirta I, Indonesia

3. Learn about Integrated Water Resources Management on Japan

— How to create innovation from getting the problem —

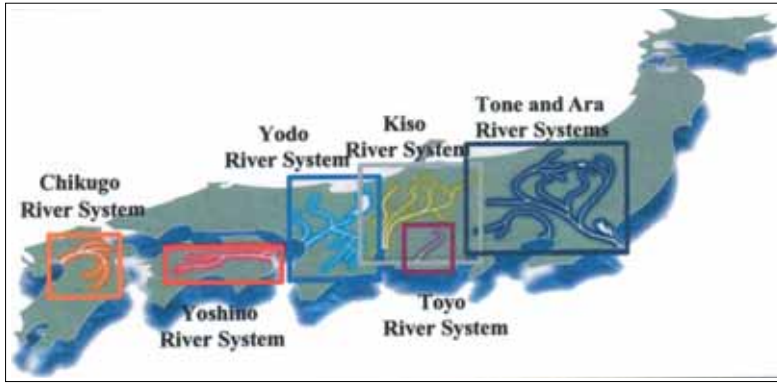
Alfan Rianto *

According to the Memorandum of Understanding on Twinning Program between Japan Water Agency and Indonesian Network of Asian River Basin, scope of the twinning program focuses on fields related to promoting Integrated Water Resources. And based on the discussions at a series of regional and global water conferences, including the World Water Forums in 1997, 2000, and 2003, they have underlined the need to adopt and operationally the approach of integrated water resources management (IWRM), which is defined by the Global Water Part-

nership 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."* Why the water is one of the most important aspect for human life in the world, because Water is a prime natural resources, a basic human need and precious national asset. Growing population urbanization and economic development are exerting pressure

on the available fresh water resources.

Basically from above matter we get surprise from my company to joint with twinning program on the Sakura Country under organizing of Japan Water Agency (JWA) as an Independent Administrative corporation with the goal of contributing the growth of national economy and improvement in the life of citizens through implementation water resources development and use project based on the water resources Development Basic plan formulated for each of the water



Locations of Water Resource Development River Systems

resources development river system (seven river system) designated for the purpose of supplying water to areas for which wide area water measures are required to be taken urgently. Japan one of the country in the world which implemented of integrated water management with long-term experience, content of water resources development basic plan such as 1) Water demand forecast and supply target according to purpose use, 2) Basic items relating to construction of facilities required in order to achieve the supply target and 3) Other important item related to the comprehensive development of water resources and rationalization of water utilization. The 1997 amendment to the River Law 1997 based from the process started from 1896 with purpose of flood control and on 1964 establishment of systematic framework for flood control and water use and in this time Japan introduced of integrated river management system, on 1997 established of comprehensive river administration system for flood control, water use and environmental conservation.

We would like to thank the all of JWA staff according to the lecturing, information and transfer knowledge to us for all matters such as management system, financial and budgeting system, technical matter and scheduling to site visit and etc. Particularly on the technical matters many kind of information and new knowledge given to us, this is very important to us because we get experience about how to create

innovation after to get the problem. For example problem about sedimentation and eutropication, we get comparing technical issues between Indonesian problem and Japanese problem and how to solve with the counter measures. Once more ..., how Japanese create the problem to reduce inundated area due to flood occurred, what is being done and what can be done, some of a good idea to create of solving the problem flooding by remarkable counter-measures and various facilities and system have been established to provide protection from damage. Watarase Retarding Basin is one of the countermeasures with the main function to keep amount of water flood approximately 200 million m³, but in the next session inundated water can use of some purpose like water supply for domestic water, industrial user, irrigation and etc, the operational system of Watarase retarding basin is very smart. And also the creation of reducing inundated area surrounding the metropolitan district by construction of underground subway (extension : 6.3km; depth : 50 m; inside diameter : 10,6 m) and draining it finally into

the Edogawa River, and effect of flood control is reduced flooded area from 264 km² to 90 km², in this project high level construction was achieved. This structure is remarkable structure and very expensive but very important to solve problem of flood on the future because in the next major cities, it is becoming more difficult to construct new surface floodways. Underground floodways and underground regulating reservoirs are underground rivers and ponds designed to protect the overlying cities from floods.

In conclusion, We would like to underline that The Japan Water Agency have a good vision and why all Japanese component support it. We believe that JWA can contribute to a better future for Water Management in Asia region. Networking among the members of NARBO can help a NEW GENERATION of Water management make Integrated Water Resources Management a reality in river basin. Water management start with changing people mind effect. The main purpose Development for poverty reduction and sustainable economic development. This is not daydream and not nightmare but is really dream and dream come true if the people mind in the world changing to support of basic vision on Integrated Water Resources Management. The Future depend on what we can do on the current condition and we must prepare with the vision and a good planning.

*) Jasa Tirta I, Indonesia



Watarase Retarding Basin



Underground Flood Way Construction, Metropolitan District

Information from members

1. Introduction of Jeneberang River Basin Development

— Bili-Bili Dam, South Sulawesi, Indonesia —

Bambang Hargono *

Jeneberang River Basin Development

Jeneberang River Basin is under tropical monsoon climate. The weather is warm, humid, with constant temperature throughout the year, but significant variation of rainfall intensity occurs between rainy and dry season. The basin may receive 80 to 90% of annual rainfall in rainy season. Rainfall at the mountains may reach 4000 mm, while in the lower plains it is around or less than 2500 mm. The average annual rainfall intensity is around 2800 mm. The whole extent of the Jeneberang River basin is 762 km², while the channel length of the mainstream is 85,5 km. Bawakaraeng Peak, 2830 m above mean sea level is the headwater. The River runs westward through Gowa District before eventually pours to the estuary, in the Strait of Makassar at the perimeter of the City of Makassar. Makassar is the capital of the Province; a big city with around 1.2 million populations.

Bili-Bili Dam

The Jeneberang River has been fully developed. A large dam, Bili-Bili Dam, has been built about 30 km from Makassar City. The reservoir catchment area for the dam itself is 385 km². This dam, 73 m high and around 1800 m crest length, is a

rockfill dam with earth central core. The impounding commenced in 1997 creaf around 37 million m³. The intake for irrigation, power generation, and water supply is set at a level created a dead storage of 29 million m³.



Bili-Bili Dam, the blue color of the water now turns brown due to sediment from Bawakaraeng Caldera wall collapse 45 km upstream.

Flood Protection

The idea for developing Jeneberang rose after the big flood of 1976 inundated 2/3 of Makassar City around 37 km². The development started with construction of dyke along Jeneberang River. The dyke is 11 km long, protects Makassar City for flood of 25 years return period. The development continued with a plan for Bili-Bili Dam development. Construction of the dam started in 1992 and completely finished in 1998. The dam then increased the flood protection intensity to a return period of 50 years, protecting around 58.5 km² area of the Makassar City.

Water Supply Facilities

A large supply concrete conduit 1.5

m diameter runs down 16 km from Bili-Bili Dam to Sombaopu Water Treatment Plant (WTP). The conduit, usually termed as Raw Water Transmission Main (RWTM), supplied raw water for domestic water supply and industry to Makassar City. Although the reservoir is able to supply raw water as much as 3.3 m³/second, the current capacity of the Sombaopu WTP is only 1.1 m³/second. This WTP serves around 1/3 of Makassar population, while there are still some WTPs for the rest of the city. The development for enlarging the capacity of the WTP is planned pursuant to the development of the city; which is increase of population and industry.

There are still five other raw water supply intake facilities along Jeneberang River downstream of Bili-Bili Dam; at Sungguminasa, Ratulangi, Pandang-Pandang, Malengkeri, and Maccini Sombala. The last one, Maccini Sombala intake is at the long storage, where the Jeneberang River split into two, around 4 km before reaching the estuary.

Due to important utilization of Jeneberang water for domestic water supply, a rubber dam is built at a site just after Jeneberang River split into two mentioned above. This rubber dam protects the water at the river from being brackish, beside to maintain the water level along the



Location Map, Jeneberang River Basin, South Sulawesi, Indonesia.



Jeneberang River Basin, Bawakaraeng Caldera at utmost left, and water resources infrastructures along the River

river to keep the head in the water supply intakes.

The operation of the rubber dam is also for water diversion to the long storage where the intake gate is located 300 m upstream of the rubber dam. At the end of the long storage a tidal gate is installed, to maintain the fresh water at the long storage. The distance from the intake to the tidal gate is around 4.7 km. The capacity of the long storage is 3.8 million m³. As mentioned before, water is extracted from the long storage into the Maccini Sombala WTP. Currently, the Maccini Sombala WTP supplies around 200 l/sec for possible improvement in the future to 700 l/sec. The long storage also provides regular city flushing to maintain sanitary in the Makassar City.

Irrigation development

Irrigation development has its long history in South Sulawesi. In Jeneberang River itself, there had been many irrigation intakes since the old days. The recent development intended to increase a cropping intensity from 160% to 240% with the provision of water from the Bili-Bili Reservoir. Change of water level after the dam development and excessive sand mining resulted in deterioration of the free intakes; besides water could not reach the operation level.

Three (3) weirs replacing the free intakes have been developed for 23,690 ha irrigation area at Kabupaten Gowa, and Takalar. The weirs are Bili-Bili (2,360 ha), Bissua (10,785 ha), and Kampili (10,545 ha). The irrigation system as well as the headworks have just completed in 2004.

Power Generation

The potential head of Bili-Bili reservoir will also be utilized for generating power. Two vertical shaft Kaplan Turbines are being erected; 14.1 MW and 6 MW, total 20.1 MW installed capacity. The operation of the power plant is scheduled to commence in 2006.

Bawakaraeng Collapse

A huge mass movement had occurred in 26 March 2004, in the afternoon at around 1.30 PM. The caldera wall of Bawakaraeng, as high as 1500 m collapse. All of a sudden, 200 to 300 million m³ of sediment material covered the Jeneberang River Valley from the headwater to around 8 km downstream. The sediment material piled to 150 m thick from the bottom of the V-shape river valley. On the surface this material spread to 400 m (Figure 1).



Figure 1. Bawakaraeng Caldera two days after the collapse.

The river ran dry for some time after the collapse.

The collapse occurred several times, but there were two main collapses, as sensed by a seismometer installed in a station located around 60 km from the collapse site. The first collapsed material filled the river valley. Based on the remnant found on the wall of the caldera, it seemed the second one run on the surface of the first. This second collapse destroyed Lengkesa village that is located on a hill at 150 m above the bottom of the Jeneberang River valley; 32 persons were reported missing, 10 among those were found dead. This collapse also destroyed 1 (one) elementary school and 10 houses, buried 1500 paddy field and coffee plantations, beside 635 cows were reported missing. People at the valley felt a very strong wind following the terrible sound of explosion from the caldera. The wind, filled up with dust drove people working in the paddy field and plantation away. This gave short but significant opportunity for the people to escape, before the debris came and buried the valley.

Local inhabitant reported that debris flow in Jeneberang River had ever occurred in 1958. Cracks in the Bawakaraeng had been reported in 1993. However, it is difficult to assess whether the crack will be followed by collapse of such magnitude. Bawakaraeng collapse started with cracks at the top of the caldera that get wider and wider from time to time. Rain water seeped through these cracks and made the rock saturated. Eventually the rock mass lost its stability and resulted a huge collapse. This is pure geological movement that has nothing to do with absence of vegetation on the caldera. (Dr. Sarono, Direktorat Vulkanology and Geological Disaster Mitigation, personal interview). There are still some cracks found in Mount Bawakaraeng nowadays. We still have to work hard to anticipate such large scale slope failures.

Land conservation

Jeneberang River Basin is classified as one of 59 critical watersheds in Indonesia. This is reported in 1999, and quoted in the opening ceremony of National Movement for Rehabilitation of Forest and Land in Malino, 2003. The result of soil erosion assessment as reported for the design of Bili-Bili Dam is that the annual erosion rate in the Bili-Bili Watershed is 600,000 m³. Many studies had been conducted to control sediment in the watershed, for the purpose of keeping sustainability of Bili-Bili Reservoir for 50 years the Government decided to build five sand pockets and three sabo dams, all the sand pockets and one out of the three sabo dams are in the mainstream of Jeneberang River. The rest are in its tributaries. However, after Bawakaraeng collapse, these sediment control structures along the mainstream have been buried by the collapsed material. Due to this disaster, the dead storage of the Bili-Bili reservoir may be full in 5 years.

*) Manager of Jeneberang River Basin Development Project, Indonesia

2. Introduction of the Red River Basin Organization in Vietnam

Nguyen Thuy Hang *

Red River system is the second biggest river of Vietnam. Red River is an international river which originates in China and runs through Lao and Vietnam before merges the East sea. Total area of the entire basin is 169,020 km² including 81,240 km² (or 48%) in China's territory, 1,100km² (0.65%) in Laos' territory and 86,660km² (51.35%) in Vietnam's territory.

Administratively, the Red River basin covers 26 provinces with a population of 28 million people (in 2002). The basin is consisted of 5 sub-basins as showed in the following picture.



The Red River Basin Organization is a non-productive body under Ministry of Agriculture and Rural Development of Viet Nam. The RRBO was established on April 9, 2001 according to a Decision by Minister of Agriculture and Rural Development of Vietnam. Dr. Pham Hong Giang, Vice Minister of Agriculture and Rural Development is Chairman of the RRBO.

The RRBO has its office (Secretariat) based at Institute of Water Resources Planning (IWRP).

Address: Red River Basin Organization
162A Tran Quang Khai street,
Hoan Kiem district – Hanoi

Tel: (84-4) 8267020

Fax: (84-4) 8267020

E-mail: iwrp.hanoi@hn.vnn.vn

Website: www.rrbo.org.vn

Dr. To Trung Nghia, Director of IWRP is also Chief of the Secretariat of the RRBO.

The RRBO has tasks to:

- Prepare, submit for approval the Red – Thai Binh River Basin Plan and monitor implementation in ensuring 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 and assessment for the Red – Thai Binh and in preparing, submitting for approval and monitor implementation of river basins' plans for tributaries of the Red – Thai Binh system;
- Propose resolution for water resources disputes in the Red – Thai Binh River Basin.

The Directory Board of the RRBO comprises of 4 persons with following details.

Dr. Pham Hong Giang

Vice Minister of Agriculture and Rural Development
Chairman

Dr. Pham Xuan Su

Director of Water Resources Department Ministry of Agriculture and Rural Development (MARD)
Vice chairman

Dr. Nguyen Thai Lai

Director of Water Resources Department (Ministry of Natural Resources and Environment -MONRE)
Vice chairman

Dr. To Trung Nghia

Director of Institute of Water Resources Planning (IWRP) Ministry of Agriculture and Rural Development (MARD)
Chief of the Secretariat

There are in total 46

members of the RRBO excluding those of the Directory Board. 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.



Funds for operation of RRBO are provided from the State budget upon approval by Ministry of Agriculture and Rural Development (MARD).

*) Institute of Water Resources Planning, Vietnam

From secretariat

1. The revision of NARBO Charter

NARBO Charter was revised a little bit to clear some of its stipulations. The outline of the revision is as follows:

1. Provision of selection of the Chairperson and venue for the General Meeting (changed)
 - (a) In principle, the General Meeting is held in the Chairperson's country.
 - (b) The date of the General Meeting is proposed jointly by the Chairperson and the Secretary General
2. Provision of the procedure for the change of officers in the middle of their tenure (added)
 - (a) When the Chairperson becomes unable to perform his/her function, Vice-Chairperson substitutes for the Chairperson until the next General Meeting.
 - (b) When the Vice-Chairperson becomes unable to perform his/her function, Acting Vice-Chairperson serves as the Vice-Chairperson until the next General meeting.
 - (c) When the Secretary General or any of the Vice-Secretary Generals become unable to perform his/her function, Acting Secretary General or Acting Vice-Secretary General serves as the Secretary General or Vice-Secretary General.

The processes regarding selection of Acting Vice-Chairperson, Acting Secretary General and Acting Vice-Secretary General need

- (1) Nomination by the Secretariat
- (2) Appointment by the Chairperson

If you want to know the detail, please see our web-site.

2. The announcement of the 2nd General Meeting

The three-day-long 2nd General Meeting will be held at Bandung, Indonesia next February. The last day will be the site visit.

3. Three Indonesian exchange staff in JWA HQ

Under the twinning program, signed between Indonesian NARBO and JWA, three Indonesian exchange staff, Ms. Titik Indahyani and Mr. Alfian Rianto from Jasa Tirta I and Mr. Saur Saragih from Jasa Tirta II, have been assimilating information that JWA and Japanese society have experienced and accumulated.

According to the two-month-long program, they came to Japan July 12 and go back to Indonesia September 10. They're staying at the weekly condominium near JWA HQ and walk to work every day. They seem to work very hard to fulfill their own purpose. The first month was constituted of lectures, but they have had some opportunities to go out for visiting JWA facilities and other organizations.

They seem to enjoy their stay in Japan as the communication between JWA staff and three exchange staff has been getting well and getting used to the ways in Japan.

We hope that they will continue to work hard, have good time with JWA staff without any problems and this program will end very successfully.



[Photo] At Naramata Dam, JWA (Ms. Titik, Mr Alfian, Mr. Yoshioka and Mr. Saur:from left)

Appendix 6

Session program (The 2nd Southeast Asia Water Forum)

Second Southeast Asia Water Forum

Theme	: Managing Water Resources in River Basins
Session	: Developing Capacity in River Basin Organizations (RBO)
Date	: Day 3, August 31 st , 2005
Convening Organization	: Network of Asian River Basin Organizations (NARBO), Japan Bank for International Cooperation (JBIC), Indonesian NARBO Secretariat (Session Coordinator), World Bank (WB)
Chairperson	: Mr. Sukrasno Sastro Hardjono (Executive Director of Indonesian NARBO Secretariat)
Facilitator/Rapporteur	: Mr Bambang Hargono

08.00 – 08.30	Registration
Preliminary Opening	Plenary
08.30 – 09.00	Keynote Speech (Chairperson: Dr. Basuki Hadi Moeljono)
09.00 – 09.20	Question and Answer
09.20 – 09.30	Move to concurrent session room
[09.30 - 12.30] Developing Capacity in RBOs session	
09.30 – 09.35	Moderator : Sri Hernowo Mashudi
<i>Presentations: Sharing of information and experiences on RBOs - its status and activities</i>	
09.35 – 09.50	1 st presentation: (RBO) Mr. Socheh, (Jasa Tirta I - Indonesia) and Mr. Djendam Gurusinga (Jasa Tirta II – Indonesia)
09.50 – 10.10	2 nd presentation : (RBO) Mr. Vu Hong Chau (Red River – Vietnam)
10.10 – 10.30	3 rd presentation: (Government organization) Ms. Sukotha Aekaraj (DWR - Thailand)
10.30 – 10.50	4 th presentation: (Donor) Mr. B. Haisman (World Bank)
10.50 – 11.10	Question and Answer (Q & A)

<i>Panel Discussion: What are the essential points for capacity development of RBOs?</i>	
11.10 – 11.15	<p>Moderator : (to be determined)</p> <p>Panelists are invited to the stage and introduced the name, organization and country. The program of panel discussion is introduced.</p>
Short speech (5 panelist)	
11.15 – 11.20	<p>Dr. Kaneko Atsushi, JBIC</p> <p>Lesson learn on the public participation project in Sri Lanka</p>
11.20 – 11.25	<p>Ms. Dolora Nepomuceno</p> <p>(to be determined)</p>
11.25 – 11.30	<p>Mr. Sura Adnyana, Local Government (Subak Bali)</p> <p>Traditional water management in Bali</p>
11.30 – 11.35	<p>Dr. Oomachi Toshikatsu, APHW</p> <p>Relationship between APHW and NARBO</p>
11.35 – 11.40	<p>Dr. M.U.A. Tenakoon, NARBO, Vice Chairman, Mahaweli Authority of Sri Lanka</p> <p>Lessons learn: the experience of Mahaweli Authority, and its expansion to Mahaweli special district.</p>
11.40 – 12.00	<p>Discussion by panelist</p> <p>Theme: What are the essential points for Capacity development of RBOs?</p> <p>The Rappouter mentions the paper on the “Needs”. (No need to read all, just read about the brief of result of questionnaire)</p> <p>Comments from panelists</p>
12.00 – 12.15	Opinions from participants
12.15 – 12.25	Introduction of outcome
12.25 – 12.30	<p>Conclusion and Closing remarks : Facilitator/Reporteur</p> <p>Mr. Bambang Hargono</p>

Appendix 7

Session outcome (The 2nd Southeast Asia Water Forum)

Outcome of the Session
“Developing Capacity of River Basin Organizations” for the better water management in Asia

In 2nd Southeast Asia Water Forum, 31st August 2005, Bali, Indonesia

Network of Asian River Basin Organizations (NARBO) aims to facilitate the better water management based on the understanding of characteristics of Asian monsoon region. For this purpose, a session on “Developing Capacity of River Basin Organizations” was held in Bali, Indonesia on August 31st 2005 by Indonesian NARBO.

Through this session, we confirm that following viewpoint, function and capacity are needed for River Basin Organizations (RBOs);

1. Water resources management should be undertaken at a basin level with understandings of the geography, meteorology, history of water use, regional cultures and customs and various value judgments of the basin. Accordingly, its approach should differ from basin to basin. This means that there is no sole guideline that everyone has to follow. RBOs have to develop the original and pragmatic approach through their effort to establish the original water resources management that best fits to the basin.
2. River Basin Organizations (RBOs), who should play the important role as advocates in the basin, are the practitioners of water resources management that are well versed in the situation in the basin. RBOs have to continue effort to get the confidence from residents in the basin with much close relationship between governments, stakeholders and residents.
3. Therefore, RBOs are requested to make their effort for development of capacity and to be the professional on water resources management with high level of capability in technical, social and spiritual.
4. In order to achieve above matters, various experiences, profound knowledge, information and training for capacity development, are absolutely necessary to be strengthened among Asia. Accordingly, it is desirable to expedite information exchange, sharing knowledge and experiences, conducting training for RBOs.
5. It should be enhanced that the network activities at the ownership point of view the quite effective vehicle to attain capacity development. In this sense, the network consists of RBOs in monsoon Asia is quite significant because it is true that monsoon Asia region has a lot in common in water usage, water resources management and water issues. For this reason, NARBO which is the networking for Asian River Basin Organizations is established and shall be reinforced.
6. It is, however, rather difficult to do capacity development of RBOs without supports from the governments for its institution, system and financial aspect. Of course, supports from various kinds of bodies like from academic fields and development cooperation agencies collaboration / cooperation among countries are equally important.

We, RBOs gathered here at “Session on Developing Capacity in River Basin Organization”, and confirm to try to do our best for capacity development for people and country. Also we insist that the strong/possible assistance from the government and related organizations are essential.

Appendix 8

Program of the 2nd training course

NARBO 2nd Training Workshop - River Basin Management and Organizations -- April 2005

Date	Sessions	08:30-10:00	10:00-10:30	10:30-12:00	12:00-13:30	13:30-15:00	15:00-15:30	15:30-17:00	17:00-18:30	18:30-20:00
Saturday 23rd	Participants arrival									
Sunday 24th	Participants arrival							Introductions of participants, outline of objectives and programme, administrative matters:		Official Opening and Welcome Reception: Presentations by MASL, NARBO Secretariat, GWP SASNET, JWA, ADB, IWMI
Resource Persons								Charles Abernethy, Prachanda Pradhan		Dr Tennakoon; Mr. Nanda Abeyawickrema; Mr. Wouter Lincklaen Arriens; Mr Katsunori Takagi; Mr. Gerard O'Donoghue
	Module 1 : General overview of reasons for RBM									
Monday 25th	Module 1 : General overview of the River Basin Management and Organizations		Tea/Coffee	Group Work 1 : Identification of objectives, emerging issues, and constraints in the six participating countries.	Lunch	Group Work 1 Reports and facilitated discussions.		River basin management and organizations in Japan and Indonesia Two presentations		Historical perspectives on water resources management in Sri Lanka,
Resource Persons	Presenter - CL Abernethy			Core Training Team as observers		Core Training Team		Mr Shinobu Ishimura (JWA) & Mr. Imam Anshori (Directorat of Water Resources, Indonesia)		Dr Tennakoon, DG MASL & Acting Vice Chair NARBO
	Module 2 : New insights from recent studies									
Tuesday 26th	Module 2: New insights obtained in a 5-country study of Effective River Basin Organizations;		Tea/Coffee	Group Work 2: This task will be determined by the Core Training Team after review of Work group 1 outputs and the participants backgrounds.	Lunch	Group Work 2 : reports and discussions		Short presentation on how to gather <u>institutional information in the field</u> ; Descriptions of field study basin (Maha Oya), maps, and its institutional set-up ; Division into sub-groups, preparation by each sub-group for their information-gathering strategy.		River basin Management in Sri Lanka and Japan-
Resource Persons	Presenter: Madar Samad			Core Training Team as observers		Core Training Team.		Ranjith Ratnayake (Lanka Jalani) & K Jinapla (IWMI)		Organized by JWA and MASL/ Lanka Jalani

NARBO 2nd Training Workshop - River Basin Management and Organizations -- April 2005

Date	Sessions	10:00-10:30	10:30-12:00	12:00-13:30	13:30-15:00	15:00-15:30	15:30-17:00	17:00-18:30	18:30-20:00
	Module 3 : Problems and constraints, at local and national levels								
Wednesday 27th	Field Visit - 3 Itineraries with specified objectives and contact points; Informants will be identified who can explain about this basin, from different perspectives: local government, private business sector, environmental, urban water supply, as well as agricultural water.								Informal reviews and discussions of field trip and findings
Resource Persons	Guides and resource persons from Field Visit Organization Team, Core training team and local institutions and communities								
	Module 3 continued: Problems and constraints, at local and national levels								
Thursday 28th	Presentation of observations from the field visit. Participants with comments by CTT and field trip guides etc.		Module 3 : Local / national experiences identifying <u>problems and constraints</u>, existing and anticipated - 2 presentations about local-level management issues and 2 presentations about national-level issues; Resource persons TBD		Group Work 3 : To evaluate yesterday's Field visit, in the light of the previous session on policies and constraints		Group Work 3 : Reports and discussions; Module 4 : Introduction of Group Work 4 task		Private study and review of Work Group 4 material, Completion of individual assignments
Resource Persons	Ranjith Ratnayake (Lanka Jalani) & K Jinapala, P G Somaratne, B R Ariyaratne (IWMI)	Tea/Coffee	Local perspectives: Mr Chandra Ranatunga, Chair of the Friends of Maha Oya; Professor Malik Ranasinghe, Moratuwa University; National perspectives: Mr Shantha Fernando, Additional General Manager, National Water Supply and Drainage Board; Mr R. de S. Ariyabandu, until recently Director of Policy Planning, National Water Resources Authority	Lunch	Core Training Team	Tea/Coffee	Core Training Team		
	Module 4 : Designing an appropriate institutional system								
Friday 29th	Group Work 4 : To propose an appropriate institutional system for managing the water resources of a specific river basin		Group Work 4 Continues : To propose an appropriate institutional system for managing the water resources of a specific river basin		Group Work 4 : Reports and discussions		NARBO Secretariat Presentation (15 mins) Review of modules and participants findings		Closing Ceremony, presentation of Certificates, Cultural Show and Training Workshop dinner
Resource Persons	Core Training Team as observers	Tea/Coffee	Core Training Team as observers	Lunch	Core Training Team	Tea/Coffee	NARBO Secretariat & Core Training Team		IWMI Conference Coordinator
Saturday 30th	Participants Departure								

Appendix 9

Program of the 3rd training course

**NARBO 3rd Training Workshop
Detailed Program**

Date	Sessions	08:30-10:00	10:00-10:15	10:15-12:00	12:00-13:00	13:00-14:30	14:30-14:45	14:45-16:00	16:00-16:30	16:30-18:00
Sunday 13th	Participants arrival							Introductions of participants		
Resource Persons								Dr. Ick Hwan Ko		
Monday 14th	Module 1: Official Opening & Introduction of the IWRM in Korea from KOWACO's experiences	Tea/Coffee		River basin management and organizations in Korea	Lunch	Report session: Each participant give the presentation on proposed theme in advance (e.g. Theme is needed to link with the theme of training)	Tea/Coffee	Report session: Each participant give the presentation on proposed theme in advance (Until around 18:00pm?)	Tea/Coffee	18:30 - 20:00 Welcome Reception: Presentations by KOWACO, ADB, ADBI, JWA
Resource Persons	Dr. Ick Hwan Ko (KOWACO), Mr. Wouter Lincklaen Arriens (ADB), Mr. Shindou (not fixed yet) (JWA)			Dr. Ick Hwan Ko (KOWACO)		Participants		Participants.		TBD
Tuesday 15th	Group Work 1: Identification of problems in developing and applying integrated water resources management tools in each participating organization.	Tea/Coffee		TBD	Lunch	Introduction of IWRM Tools developed by KOWACO (Run-off, Water Quality, and Dam Operation)	Tea/Coffee	Orientation on field trip on Wednesday including Descriptions of field study basin (Geum River), maps, and its institutional set-up ; Division into sub-groups, preparation by each sub-group for their information-gathering strategy.	Tea/Coffee	Special Session on Progress of Twinning Programs (1) between JWA and Indonesian NARBO; (2) between KOWACO and Indonesian NARBO
Resource Persons	Participants.					KOWACO's Core Training Team.		Dr. Jeongkon Kim		Organized by KOWACO, JWA and Indonesian NARBO
Wednesday 16th	Field Visit - Geum River Basin including KOWACO main office, Daechong Multipurpose Dam, Cheongju Water Treatment Plant									Informal reviews and discussions of field trip and findings
Resource Persons	Guides and resource persons from Field Visit Organization Team, Core training team and local institutions and communities									
Thursday 17th	Presentation of observations from the field visit. Participants with comments by CTT and field trip guides etc.	Tea/Coffee		Module 3: Hands-on Training of the IWRM tools (Run-off)	Lunch	Hands-on Training of the IWRM tools (Reservoir Operation)	Tea/Coffee	Hands-on Training of the IWRM tools (Water Quality)	Tea/Coffee	18:30 - 20:00 Closing Ceremony, presentation of Certificates, Cultural Show and Training Workshop dinner
Resource Persons	TBD			KOWACO's Core Training Team.		KOWACO's Core Training Team.		KOWACO's Core Training Team.		KOWACO Conference Coordinator
Friday 18th	To propose an appropriate Tools for managing the water resources of a specific river basin	Tea/Coffee		NARBO Secretariat Presentation (15 min) Review of modules and participants findings	Lunch	Participants Departure		Participants Departure		
Resource Persons	Core Training Team as observers			NARBO Secretariat & Core Training Team						
Saturday 19th	Participants Departure									

Appendix 10

Program of the 1st thematic workshop

NARBO 1st Thematic Workshop on Water Allocation Water Right (5th-9th Dec, 2005)

Schedule	Tuesday 6th - Room 101 - B6 at MARD Office (No.2 Ngoc Ha street)				Schedule	Wednesday 7th			
	Session Title	Agenda/Activity	Presenter/Speaker	Facilitator/Reporter		Session Title	Agenda/Activity	Presenter/Speaker	Facilitator/Reporter
8:00-9:00	Opening Session	Opening Remarks	JWA	Dr. To Trung Nghia	7:30	Pick up at Sunny Hotel			
		Introduction of Thematic Workshop	Michitaro Nakai (ADBI)		7:30-9:30	Field Trip to Hoa Binh	Travel to Hoa Binh by car		
9:00-9:45		Introduction of RRBO & Explanation about venue of field visit	Dr. To Trung Nghia						
9:45-10:00		Break			9:30-9:45	Tea break	at Hoa Binh plant		
10:00-10:45		Presentation of ADB	Ian Fox (ADB)		9:45 - 10:30	Discussion		Mr. Nguyen Van Thanh, Director General of Hoa Binh Hydropower Plant	
10:45-12:10	Session 1: Issues on Water	Presentation (First Half)	Each Participant (Vietnam: Dr. Pham Xuan Su)	ADB - Tentative	10:30-12:00	Visit to the hydropower plant	visit and discussion		Mr. Mai Van Bieu, Director of the Hydraulic Workshop
12:10-13:00	Lunch at the workshop venue				12:00-13:00	Lunch at the canteen			
13:00-14:20		Presentation (Latter Half)	Each Participant	Mr. Pham Xuan Su Mr. Nguyen Van Sinh	13:15-14:45	Reservoir visit	visit and discussion		
14:20-14:40		Tea Break			15:00-15.15	Tea break	on boat		
14:40-16:00		Discussion	Each Participant						
16:00-16:40		Explanation of Field Visit	Secretariat		15:30	Return to Hanoi			

NARBO 1st Thematic Workshop on Water Allocation Water Right (5th-9th Dec, 2005)

Schedule	Thursday 8th					Friday 9th - Room 101 - B6 at MARD Office (No.2 Ngoc Ha street)			
	Session Title	Agenda/Activity	Presenter/Speaker	Facilitator/Reporter		Session Title	Agenda/Activity	Presenter/Speaker	Facilitator
8:00	Pick up at Sunny Hotel				7:40-9:10	Session 2: Water Right System	Presentation (First Half)	Each Participant	Dr. Kobkiat Pongput (Thailand) - Tentative
8:00-9:30	Field trip to Thac Huong dam	Travel to Thac Huong dam						(VN: Mr.Nguyen Van Sinh)	Mr. Pham Hong Giang, Mr. Ngo Trong Thuan
9:30-10:30	visit to the dam	Thac Huong, Da Gan dam, 10 gate -sluice, Van Gia spillway (visit and discussion)		Mr. Vu Van Bao, Director of Thac Huong Irrigation Management Company (IMC)	9:10-9:20		Break		
					9:20-10:50		Presentation (Latter Half) and Discussion	Each Participant	
10:30-11:30	back to the Company								
11:30-	Lunch	near the company			10:50-11:00	Break			
13:30-15:00	Discussion		Vu Van Bao, Director of Thac Huong IMC		11:00-12:00	Session 3: Drought Management			
15:00-15:15	Tea break				12:00-13:00		Lunch at the workshop venue		
					13:00-15:00		Presentation (First Half)	Each Participant	Mr. Pham Hong Giang, Mr. Nguyen Anh Minh
								(VN: Mr.Nguyen Xuan Phong)	
15:30 Return to Hanoi						Break			
					15:00-15:20	Break			
					15:20-16:30	Closing Session	Toward Next Workshop	Michitaro Nakai (ADB)	To be determined
							Closing Remarks	Vice Minister Pham Hong Giang	
						Farewell Party (17:00-18:00)			



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