



5<sup>th</sup> General Meeting

**Network of Asian River Basin Organizations**

Chiang Mai, Thailand, 15-18 May 2013

# Activity Report 2010-2012

**May 2013**



## I. NARBO's track 2010-2012

	Activities	Date & Venue	Category of Action Program
1	NARBO Case Study Workshop	Feb 2010 / Thailand	B2
2	River Basin Study Visit	May 2010 / Spain	B4
3	4th General Meeting	Nov 2010 / Indonesia	A6
4	3 <sup>rd</sup> TAC Meeting	Nov 2010 / Indonesia	C1
5	1st NARBO Management Team Meeting	Jan 2011/Indonesia	A
6	6th WEPA (Water Environmental Partnership in Asia) Annual Meeting	Feb 2011/Japan	C5
7	Leadership for IWRM workshop: 'Preparing our river basins for the future'	Apr 2011/Indonesia	B2
8	1 <sup>st</sup> NARBO IWRM Executive Retreat on Leadership in River Basins	Jun 2011/Indonesia	B2
9	International Seminar on Corporate River Basin Organizations in Asia	Jun 2011/Indonesia	B2
10	IWRM Workshop at HELP Davao	Aug 2011/Philippines	B2
11	WEPA and NARBO Joint Session on Water Quality Management in River Basins with Integrated Water Resources Management	Sep 2011/Philippines	B2
12	Twinning Program (JWA & MARD)	Nov 2011/Japan	B-M-1
13	CRBOM Leadership Training for IWRM Proficiency	Nov 2011/Indonesia	B3
14	ADB Water Learning Week	Nov 2011/Philippines	C2
15	Online Course on River Basin Management	Nov 2011	B5
16	International Workshop on Water & History	Dec 2011/Japan	C5
17	GEO-UNESCO IWRM Joint Workshop	Jan 2012/Kenya	C2
18	6 <sup>th</sup> World Water Forum	March 2012/ France	C5
19	The 5th GEOSS AP Symposium: AWCI parallel session	April 2012/Japan	C5
20	RETA NARBO IWRM Training in Nepal	May 2012/Nepal	C4
21	International Seminar on River Basin Organization and the Bagmati River	June 2012/Nepal	C4
21	A Seminar on Corporate RBOs	Aug 2012 / Philippines	B2
22	CRBOM Activities on RBO-Performance Benchmarking 2010-2012	2010-2012	B3
23	Twinning Program (MARD & JWA)	Sep 2012 / Japan	B-M-1
24	9 <sup>th</sup> AWCI International Coordination Group Meeting	Sep 2012 / Japan	C5
25	The Asia-Pacific Water Forum (APWF) Workshop on Climate Change Adaptation	Oct 2012 / Japan	C5
26	Saitama-City Waterworks International Seminar	Oct 2012 / Japan	C5
27	7th IWRM Training	Nov 2012 / Sri Lanka	B1
28	2nd Management Team Meeting	Nov 2012 / Sri Lanka	A
29	RBO visit to India	Dec 2012 / India	B4
30	WEPA Seminar in Cambodia	Feb 2013 / Cambodia	C5
31	Side event of the United Nations Special Thematic Session on Water & Disasters	Mar 2013 / United States	C5
32	Asia Water Week	Mar 2013/Philippines	C2

## II. Knowledge Sharing through Knowledge Product

### NARBO Website

#### i) Design

The design of NARBO website was modified for easy browsing in 2012.

The design till 2011



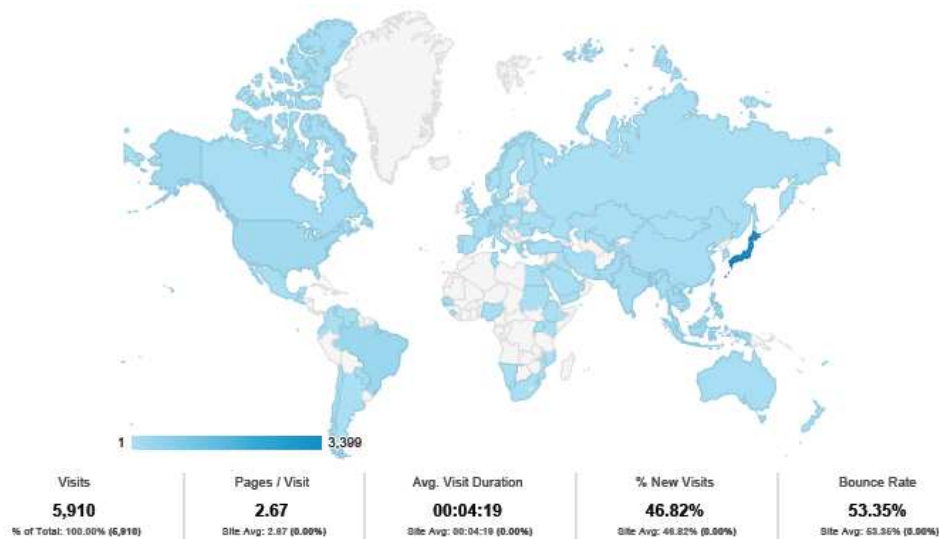
The new design from 2012



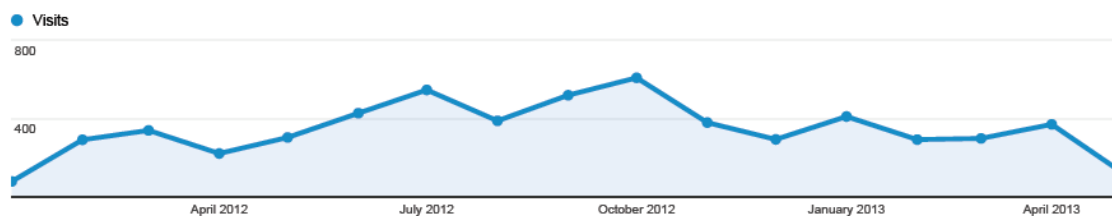
NARBO webpage is one of the important activities of NARBO, in terms of sharing knowledge and experiences. To embed IWRM approach by using NARBO activities and networks, NARBO website needs to be more attractive and understandable for IWRM practitioners. For these objectives, NARBO encourages to member to put link of NARBO webpage on your organization's webpage.

## ii ) Analysis

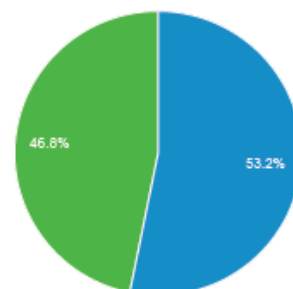
Because of system crash, past analysis data was lose, NARBO introduced new system for website analysis. Therefore, this analysis based on the duration January 2012 to April 2013. NARBO website is referred from Asia, Oceania, Europe, and North America.



Visit graph shows the peak was October 2012. In September, the 1<sup>st</sup> information of 7<sup>th</sup> IWRM training is put on NARBO website, it seems the attractive events draw much attention from public.

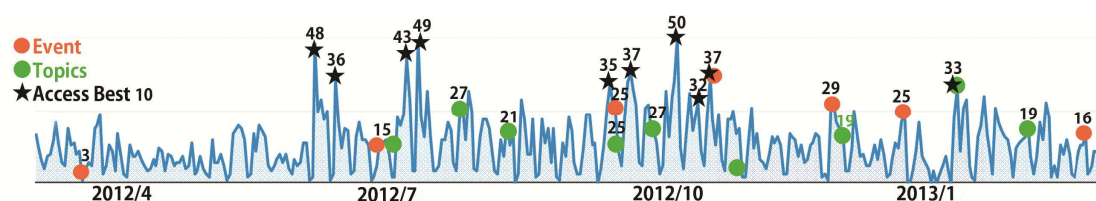


■ Returning Visitor ■ New Visitor



Right circle graph shows the rate of new visitors and returning visitors. NARBO has better to boost the returners.

The figure below shows the number of daily access to the web-site and the dates of updating of “Event” and “Topics” respectively. Certain days of updating are peaks of access among several days around. This tells that the updating has effect to increase the access. So, stable updating of the web-site is essential for making the web-site attractive.



On the other hand, 8 out of top 10 peaks of daily access do not derive from updating. The reason of the increase of access is not clear though, it is appropriate to consider that there is a certain room to raise the daily access in the updating days. To do so, utilizing some sort of social media such as Twitter or Facebook should be an effective way.

## News Letters

NARBO Newsletter is issued by the headquarters of the Secretariat (JWA). The Newsletter is recognized as useful tool for information sharing activities as well as the website. The secretariat has issued 4 newsletters (from 19th to 22th) between 2010 and 2012. All newsletters were posted on NARBO website and sent to the contact persons of each member organization through e-mail.

Issue of NARBO newsletter

Month	Name	Version	Month	Name	Version
Feb 2004	Preparatory Issue	PDF	Apr 2008	13 <sup>th</sup> issue	HTML / PDF
Apr 2004	First Issue	PDF	Aug 2008	14 <sup>th</sup> issue	HTML / PDF
Aug 2004	Second Issue	PDF	Dec 2008	15 <sup>th</sup> issue	HTML
Nov 2004	Third Issue	PDF	Mar 2009	16 <sup>th</sup> issue	HTML
Feb 2005	Fourth Issue	PDF	Apr 2009	17 <sup>th</sup> issue	HTML
May 2005	Fifth Issue	PDF	Aug 2009	18 <sup>th</sup> issue	HTML
Aug 2005	Sixth Issue	PDF	Jan 2010	19 <sup>th</sup> issue	HTML
Feb 2006	Seventh Issue	PDF	Mar 2010	20 <sup>th</sup> issue	HTML
May 2006	Eighth Issue	PDF	Sep 2010	21 <sup>th</sup> issue	HTML
Oct 2006	Ninth Issue	PDF	Aug 2012	22 <sup>th</sup> issue	HTML
Mar 2007	Tenth Issue	PDF	Jan 2013	23 <sup>th</sup> issue	HTML
Aug 2007	Eleventh Issue	PDF			
Jan 2008	Twelfth Issue	HTML / PDF			

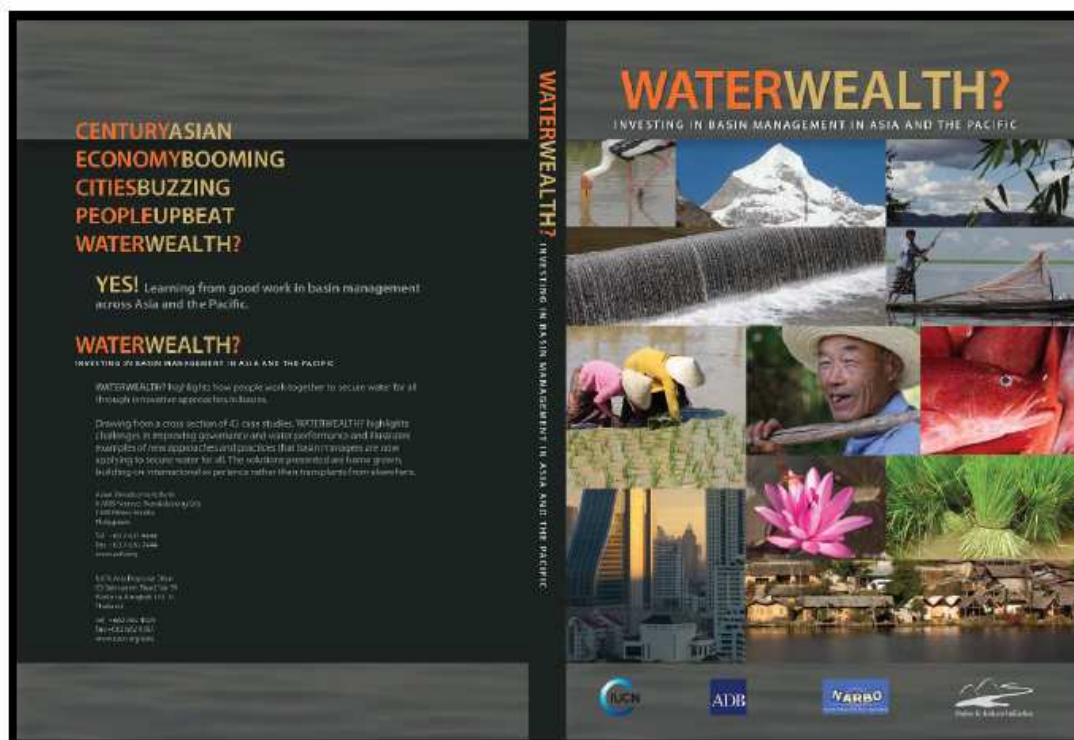


## Publications

### **“WaterWealth? Investing in Basin Management in Asia and the Pacific” ADB-IUCN Joint Publication (2013)**



Dennis Von C. Custodio  
IWRM Specialist and RETA 6470<sup>1</sup> Coordinator (Consultant)  
Asian Development Bank

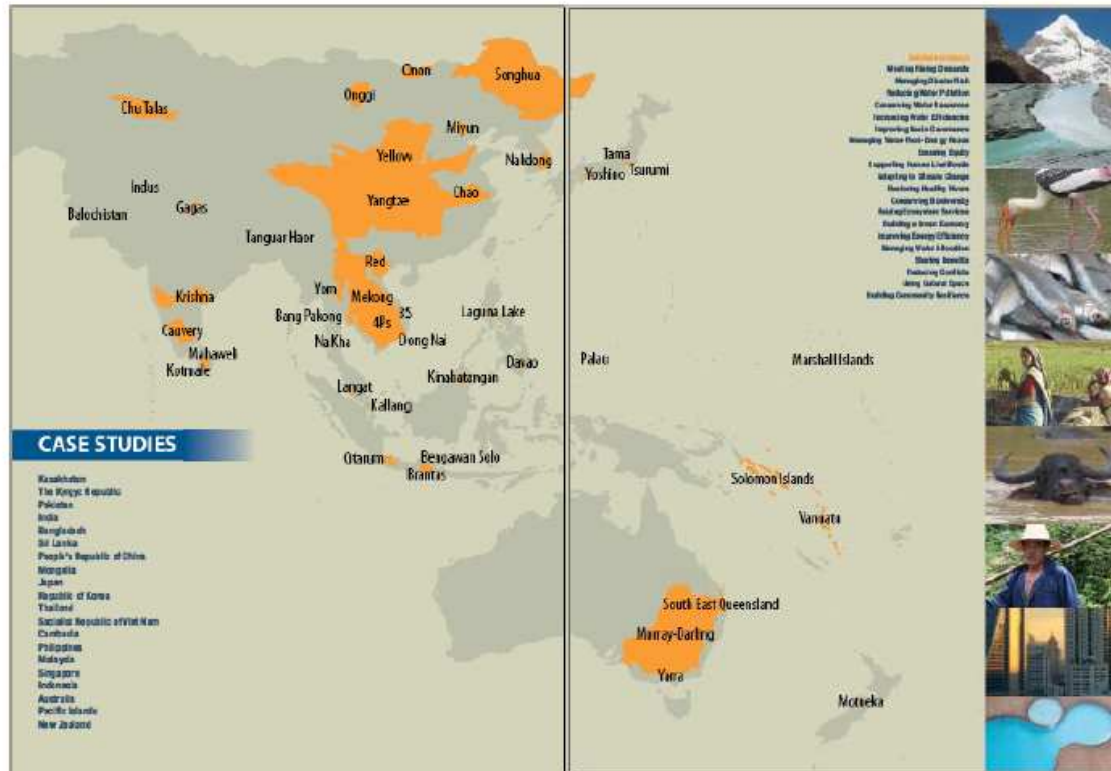


**WaterWealth? Investing in Basin Management in Asia and the Pacific** is a publication jointly commissioned by the Asian Development Bank (ADB), the International Union for Conservation of Nature (IUCN), and NARBO.

The key learning from the publication is that *‘if a country wants to achieve economic growth, become energy secure and feed its population, it must find ways to invest wisely in river basin management.’*

Its target audience are thus the ministers of finance and other policy makers who decide where and for what purpose a country invests its resources.

The publication draws on a cross-section of 43 case studies which explains the challenges and solutions to improving water governance and management across Asia and the Pacific, whereby many of the successful practices have benefited from knowledge sharing through NARBO.



The publication illustrates many examples of new approaches and practices already being applied by basin managers to secure water for all – the solutions are local ones, homegrown measures that build on international experience.

LEARNING FROM THE GROUND			
BASIN (Area in km <sup>2</sup> )	Major Productive Uses	Challenges	Responses
<b>CENTRAL AND WEST ASIA Kazakhstan and the Kyrgyz Republic</b>			
<b>Chu-Talas River Basin</b> (115,200)	Irrigation, mining, aquaculture, livestock, hydropower, and natural breeding habitat for fowl	<ul style="list-style-type: none"> <li>Water allocation and distribution</li> <li>Joint management of the river basins</li> <li>Safe and reliable operation of water distribution facilities</li> <li>Maintenance of environmental flows</li> </ul>	<p>Bilateral Framework Agreement of 2000 between Kazakhstan and the Kyrgyz Republic for better cooperation.</p> <p>Establishment of the Chu-Talas Joint River Commission.</p> <p>Investment by downstream country (Kazakhstan) in operation and maintenance (O&amp;M) of infrastructure in the upstream Kyrgyz Republic for mutual benefit.</p>

One of the authors of the publication include **Wouter Lincklaen Arriens**, Vice Secretary-General of NARBO and Lead Water Resources Specialist of Asian Development Bank. The publication also contains Key Messages/Statement from NARBO and its member organizations, as follows:

- **Keizrul Bin Abdullah**, Chairperson of NARBO  
*'Preparing Asia's River Basins for the Future'*
- **Tjoek Walujo Subijanto**, Vice-Chairperson of NARBO  
*'Some Thoughts on Promoting Financial Sustainability for River Basin Management'*
- **Apichart Anukularmphai**, Senior Adviser of NARBO  
*'The Role of RBOs in IWRM'*
- **Wouter Lincklaen Arriens**, Vice Secretary-General of NARBO  
*'Investing in Asia's River Basins Will Increase Water Security'*
- **Mark Smith**, International Union for Conservation of Nature  
*'Investing in Natural Infrastructure for More Sustainable River Basin Development'*
- **Colin Chartres**, (former Director-General), International Water Management Institute  
*'Managing River Basins in the 21st Century'*
- **Jeremy Bird**, (former CEO), Mekong River Commission Secretariat  
*'IWRM in the Context of River Basin Management'*
- **Sukontha Aekaraj**, Department of Water Resources of Thailand  
*'Water Resources Management from a River Basin Perspective'*

The publication was recently launched at Asia Water Week, 14 March 2013, ADB Headquarters, Manila, Philippines where NARBO Chairperson **Keizrul Bin Abdullah** and Vice-Chairperson **Tjoek Walujo Subijanto** gave key messages; and NARBO Vice Secretary-General **Wouter Lincklaen Arriens** gave introduction and moderated the launch.

To order, please contact:

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PDF file can be downloaded from:

<http://www.adb.org/publications/waterwealth-investing-basin-management-asia-and-pacific>





# The CRBOM Small Publications Series

## What is this?

The 'Small Publications' are intended for knowledge-sharing and dialogue within the Asian community of professionals involved in river basin management or related fields.

In some cases the papers present facts, information and lessons learnt. In other cases, they provide news, opinions, ideas, or open questions for discussion. The papers are published on the Internet and promoted via CRBOM's network. Contributions are most welcome! Please contact Mrs. Isebel Sara: isebelsara@yahoo.com

## List of SPS up to 2012 :

Strengthening Cambodia's Water User Communities *by Yem Dararath (175 kb)*

Odisha's Evolving Water Resources Management *by S.C. Mahapatra and Marisha Wojciechowska-Shibuya (88kb)*

The 2011 floods in Thailand – and the role of IWRM *by Apichart Anukularmphai and Marisha W-Shibuya (91 kb)*

Civil Society in the Songkhla Lake Basin *by Orasa Kongthong and Chatchai Ratanachai (234 kb)*

Organizational Resilience: Adaptation to changes for RBOs *by Pichai Uamturapojn (86kb)*

Kalahandi drought lore *by Mahendra Kumar Mishra (193 kb)*

The case for the corporate RBO *by Fahmi Hidayat and Raymond Valiant (204 kb)*

IWRM in the Davao watersheds *by Declan Hearne (243 kb)*

Secrets of successful RBOs *by Slamet Budi Prayitno (69 kb)*

Good practices for hydropower development *by Doan Tranh (386 kb)*

Agricultural value chains *by Yem Dararath (142 kb)*

Managing the Mount Merapi sediments *by Agus Sumaryono (377 kb)*

Livelihoods for re-settled communities *by Doan Tranh (470 kb)*

Forming the Nam Ngum River Basin Committee *by Chanthanet Boulapha and Clive Lyle (142 kb)*

Scenario-based development planning for the Nam Ngum Basin *by Clive Lyle and Chanthanet Boulapha (201 kb)*

The importance of shared values *by Slamet Budi Prayitno (179 kb)*

Adaptive water-sharing in the Vu Gia-Thu Bon Basin *by Pham Phuoc Toan (205 kb)*

Drama and dilemmas on the banks of the Cikapundung River *by Supardiyono Sobirin (135 kb)*

Moving our RBOs to the next level *by Tjoek Walujo Subijanto (248 kb)*

Resource-based development: Experience from Mahaweli *by Sudharma Elakanda (212 kb)*

The garuda, the owl, the raven and the peacock *by Gemala Suzanti (59 kb)*

Social marketing of healthy river basins *by Edwin S Arco and Caridad Rivera-Corridor (151 kb)*

Out of sight, out of mind - the forgotten merits of septic tanks *by Thi Thanh Van Ngo (188 kb)*

Java's water security *by Isnugroho (370 kb)*

Water use by households in Banjarsari, Surakarta *by Husnia Luluk Farida (181 kb)*

Irrigation performance benchmarking in Maharashtra *by B A Chivate (181 kb)*

Water auditing in Maharashtra *by B A Chivate (175 kb)*

Paddy cultivation - the traditional way *by Mak Solieng (135 kb)*

Paddy cultivation - 20 years from now *by Thi Thanh Van Ngo (108 kb)*

Water-related assets of our river basins *by Muanpong Juntopas (327 kb)*

Resource-dependent livelihoods in the Sundarbans *by Md. Tamimul Alam Chowdhury (223 kb)*

Satellite-based assessment of flood risk and flood exposure *by Tomonobu Sugiura (639 kb)*

The Banger Polder in Semarang *by Herman Mondeel and Hermono S Budinetro (108 kb)*

RBO benchmarking *by Harry M Sungguh (80 kb)*

Ten steps to benefit-sharing *by Doan Van Binh (79 kb)*

Examples of how to describe a river basin *by Dennis Von Custodio (501 kb)*

Framework planning for basin-level management - the Philippine approach *by Vicente B Tuddao Jr. (119 kb)*

A small self-powered pump irrigation scheme in the Bengawan Solo Basin *by Rahardjanto (167 kb)*

Floods and climate change - observations from Java *by Fahmi Hidayat (277 kb)*

IWRM-based development in a small Cambodian river basin *by Watt Botkosol (282 kb)*

The planning spiral of Brantas River Basin *by Fahmi Hidayat (366 kb)*

Water demand management in Selangor - why and how? *by James T Cherian (103 kb)*

Kampong Bay, Cambodia - the climate perspective in water-related development *by Yem Dararath (170 kb)*

The Bengawan Solo Water Council - providing insight and directions *by Sudarsono (205 kb)*

Orissa's pani panchayats - a case of successful irrigation management *by Debaraj Swain (86 kb)*

Roadmaps for river basin development *by Sri Hernowo M (245 kb)*

Water resources for livelihoods and economic development in Cambodia *by Watt Botkosol (115 kb)*

Authority and responsibility in river basin management *by Isnugroho (61 kb)*

**Please download from <http://www.crbom.org/SPS/> !**

## 1. NARBO Case Study Workshop - Follow up for NARBO 6th IWRM Training -

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

The workshop aimed to collect case studies and try to figure out possible solutions for each case. On the first day, participants respectively presented the current situation, emerging challenges including sectoral perspectives in their basin. Then possible solutions were presented and discussed on the second day. The outcome of this workshop has already compiled as a report and sent out to the NARBO members in mid March. It contains eight case studies from five NARBO member countries; the Brantas and Citarum Rivers in Indonesia, the Vu Gia–Thu Bon River and the Red river in Viet Nam, Laguna de Bay in Philippines, the Maduluruoya and Kotomale Rivers in Sri Lanka and the Bang Pakong River in Thailand.



The [IWRM Guidelines](#) were used as a platform for structuring discussion materials. Every participant well prepared IWRM Spiral of their own river basin, which clearly illustrates the past achievements and experience and future actions to be taken and much improved after [the 6<sup>th</sup> IWRM Training](#). In the workshop, other delegates from [IUCN](#), MLIT and Water Resources Association in Thailand actively supported and contributed to the discussion. Particularly, Dr. Apichart delivered a very interesting presentation of adaptive approach for IWRM implementation which has been carrying out in Yom River basin.

## 2. River Basin Study Visit / May 2012

River Basin Study Visit was organized by ADB, ADBI and Government of Spain (Ministry of Economy and Finance and Ministry of Environment) on 24-28 May 2010 in Madrid and Zaragoza, Spain. Around 20 senior officials from the NARBO member organizations and water related organizations in Asia took part in the study visit. The objectives of the study visit are to 1) exchange experiences and case studies on IWRM in Asian and European countries, 2) explore ways to improve water security in Asia, and 3) strengthen networking among participants, speakers and partner organizations.

Participants exchanged experiences and lessons learnt on IWRM and Water Governance of Asia and Spain each other. Representative of Asian countries introduced their situation of river basin by using the IWRM Spiral Model. Lack of institutional capacity and finance was pointed out as common issues in Asia. Experiences and practices of river management in Spain were introduced, including river management with private sector and through remote sensing. Rivers in Spain are managed by the river basin authority. River management of Spain is based on the EU Water Framework Directive\*. Participation of stakeholders in river management is much advanced and better coordinated through systematic consensus building. The history of dialogues on transboundary river between Spain and Portugal serves as a useful lesson for transboundary river management in Asia.

Participants also visited Ebro River basin and Tajo River basin. Ebro hydrologic federation is the river basin association (RBA) in the Ebro River basin and is the oldest river basin organization in the world. It was officially established in 1926. The river basin plan is made by the River Basin Water Council under each RBA. This council consists of representative of central and regional government and water users of the river basin and the role of the council is stipulated in the Water Law. In making the river basin plan, the most important thing is to share the common information of the river basin. To meet the terms, RBA improved the observation systems of rainfall, river flow and water quality and disclosed all information to the public to secure the transparency. They saw these systems and learnt how they monitor the rainfall, river flow and water quality by using the state-of-the-art remote sensing technologies.



Ministry of Economy and Finance



Field Visit; Tajo river basin



Participants recognized the importance of establishment of clear legal system in river management for improving IWRM. And they also acknowledged the necessity of the improvement of technical tools such as automatic hydrological system by using remote sensing to collect information for making river basin management plan.

**[Box] Comment from Ms. Hang of Red River Basin Organization(RRBO), Viet Nam**

The study visit was an excellent chance for me to learn how Spain manages their not very rich water resources. I found that Spain has achieved a sound legal basis for water resources, a good water governance, a very close and effective of public and private partnership in water resources development, management and protection, an excellent water resources R&D system and well-educated population. I was very interested in their application of technologies to water resources management and their trans-boundary water management, those are very important and relevant to our Red-Thai Binh river basin.



Study visit became a good opportunity to recognize the importance of legal framework and remote sensing technology on water resources management for improving Water Governance. It was also good opportunity to discuss water governance and IWRM with organizations concerned in Spanish for looking for the possibility of collaboration for improving IWRM and Water Governance in Asia.

### **3. 4<sup>th</sup> General Meeting / Makassar, South Sulawesi, Indonesia, 8-12 November 2010**

1. 98 water professionals from river basin organizations (RBOs), financing institution, government agencies, academic institutions, and knowledge partners representing 16 countries (Sri Lanka, Malaysia, Thailand, Viet Nam, Lao PDR, Philippines, Australia, Japan, Indonesia, Netherlands, Ireland, India, United Kingdom, Denmark, Nepal) participated in NARBO's 4<sup>th</sup> General Meeting which was held in Makassar, South Sulawesi in Indonesia, 8-12 November. The event was hosted by the RBO for the Jeneberang river basin in Makassar, in coordination with the Center for River Basin Organization and Management (CRBOM) under Indonesia's Ministry of Public Works.



#### **Study Visit at the Jeneberang River Basin (Day 1, 9 November)**

2. On the first day, participants familiarized themselves with the actions taken to address the collapse (in March 2004) of the caldera slope of Mt. Bawakaraeng in the Jeneberang river basin<sup>1</sup>. The collapse has increased the height of the river bed by more than 30 meters, and three bridges earlier constructed have been washed away by debris flow. The study visit focused on: (i) the structural measures undertaken (including construction of Daraha steel truss and pedestrian suspension bridges for transportation, consolidation dams as sediment control facilities, and concrete structures for bank protection); (ii) planting activity in the Artificial Forest (or the Arboretum Kayuara Salapang) area as part of biodiversity enrichment, soil conservation, prevention of soil erosion, and land development surrounding Bili-bili dam; and (iii) the Bili-bili dam whose reservoir waters are used for irrigation, municipal water, and hydropower.

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<sup>1</sup> The Jeneberang river basin has a catchment area of 762 km<sup>2</sup>. The upstream of the main Jeneberang River (length of 85.5 km) originates at the caldera slope of the Mt. Bawakaraeng which has an elevation of 675 m. The river has three tributaries: (i) Salo Takapala, (ii) Salo Parang, and (iii) Salo Manapa. The Jeneberang river basin upstream of Bili-Bili Dam and reservoir is divided into five major sub-basins.



### Seminar on Keys for Success in the IWRM Process in River Basins (Day 2, 10 November)

3. Water security has become a critical development issue for Asian countries. It is critically important that the IWRM process in Asia's river basins be embedded in each country's development policies, plans and investment programs to increase water security and foster sustainable development. In this seminar, the participants expanded their knowledge on IWRM by sharing and learning from case studies and from water experts. The seminar (i) explored how RBOs can facilitate the IWRM process in river basins to increase water security and generate a triple bottom line of economic, social and environmental benefits; (ii) learned the IWRM issues and solutions in the Jeneberang river basin (leaned towards structural solutions); (iii) introduced the UNESCO-NARBO IWRM Guidelines at River Basin Level with the spiral model; and (iv) discussed how RBOs can engage finance and planning leaders at central and local government levels to mainstream IWRM in development planning and implementation.

### IWRM Workshops (Day 3, 11 November)

4. On the third day, the participants exchanged experiences and learned from three workshops on IWRM: (i) Leadership, (ii) Climate Change Projection and Adaptive Management, and (iii) Water Quality.

5. **Workshop 1: Leadership for IWRM.** It takes leadership to make the IWRM process work better in river basins, and to move up the IWRM spiral. Leadership is about (i) spanning boundaries to get people to work together to achieve better results, (ii) influencing everyone around us, (iii) ensuring that the poor and vulnerable groups in society have access to water and the resources to improve their life and livelihoods, (iv) becoming a great listener and an excellent communicator, (v) appreciating local knowledge yet applying the latest technology for effective solutions on the ground where it matters, (vi) persuading others to make the right decisions, (vii) living out values and principles, and showing the way, (viii) finding win-win solutions without compromising, and (ix) working smartly for sustainable development, and balancing economic growth with building social and environmental capital. Participants in the workshop explored:

- what leadership means

- how they can become better leaders to steer the IWRM process in river basins
- how they can become integral water leaders who make a difference
- how they can span boundaries that stand between organizations working in the basin, between sectors and disciplines, between administrative jurisdictions, between people with different opinions, beliefs and mindsets
- how they can become champions for change who use vision, knowledge, skills, attitude, and passion to good effect

6. **Workshop 2: Climate Change Projection and Adaptive Management in IWRM.** Adaptive management of water resources is one of the key elements of IWRM. Climate change brings new challenges to IWRM, since a defining characteristic of climate change is uncertainty. While the outputs of general circulation models (GCMs) can be downscaled to a spatial resolution appropriate for water resources management and planning (such as river basin scale) using either statistical or dynamic downscaling techniques, such projections are still inherently uncertain, including in the underlying assumptions on (i) development and emissions pathways, (ii) sensitivity of climate to greenhouse gas concentrations, (iii) variability of results across the various GCMs, and (iv) down-scaling techniques. The presence of climate uncertainty provides a strong rationale for the use of adaptive management and development protocols for water resources. In this workshop, the participants discussed the IWRM process and adaptive management in river basins in the context of climate change, and learned (i) the current progress and limitations in climate change science with respect to basin water management, (ii) how model-generated projections of future climate can be used in IWRM/adaptive management, and (iii) how managers of river basins can best prepare for the impacts of a changing climate given the uncertainties. Participants also identified knowledge gaps and priorities for planning and action, and how NARBO can play a role in supporting this agenda.

7. **Workshop 3: Water Quality for IWRM in River Basins.** Deterioration of water quality is a common and top environmental problem in Asia. Despite the continuous efforts to improve basin management and conservation, the rapid economic growth both in urban and rural areas has resulted to the deterioration of water quality in Asia's river basins. The IWRM process -- which calls for stakeholder participation, increase public awareness, and a sound water cycle in river basins -- can contribute to solutions to this challenge; and leadership for IWRM by RBOs can be central to the success of addressing water quality challenges. The workshop (i) provided valuable information for capacity development of RBOs in water quality in river basins, (ii) identified water quality issues in river basins and enhanced participants' consciousness of these issues, and (iii) promoted water quality improvements in river basins among NARBO members. In this Workshop, participants learned 3 advanced cases on water quality management in river basin; (1) Database with information on water quality in 13 countries in monsoonal Asia (Current status, Policy, Legislative framework, Technology Information, Others), (2) Basin water quality management in Korea, (3) River basin health and water



quality in South East Queensland, Australia. 5 member organizations that have serious water quality problems reported their current situations and countermeasures for it. Participants shared the current status on water quality management in river basin and recognized that water quality was one of the main issues in IWRM. This Workshop is regarded as launching of the Thematic Workshop on Water Quality. Small fixed members will have continuous discussions in the future.

#### **NARBO General Meeting (Day 4, 12 November)**

8. **Report on Accomplishments 2008-2009.** A comprehensive report of NARBO activities for the period 2008-2009 was presented, including: (i) contribution of NARBO in formulating the IWRM Guidelines at River Basin Level; (ii) IWRM training programs and the application of the IWRM Guidelines at the 5<sup>th</sup> and 6<sup>th</sup> training programs; (iii) twinning program between Japan Water Agency (JWA) and the Mahaweli Authority of Sri Lanka; (iv) signed letter of intent between ADB and JWA to improve water security in river basins and to further promote NARBO activities; (v) update on implementation of RBO performance benchmarking in Indonesia; (vi) update on the Asia Pacific Water Forum's regional water knowledge hubs; and (vii) feedback on the survey on IWRM issues and needs among NARBO members. Suggestions from the general meeting include: (i) increase and strengthen participation from members, including in cost-sharing; (ii) improve information-sharing among members; (iii) have another evaluation of training programs and workshops for further improvement; (iv) assist the conduct of an IWRM training in LAO; (v) strengthen advocacy so that more organizations can join (particularly from India); (vi) include financial matters in NARBO reports; (vii) strengthen advocacy for twinning; (viii) continue to explore coordination and link with other partners; (ix) further review the IWRM Guidelines for improvement (eg. it follows too much the project planning cycle); (x) conduct capacity-building activities for NARBO; (xi) organize a technical session and exhibit at the 2<sup>nd</sup> Asia Pacific Water Summit which will be held in Thailand; (xii) conduct follow-up activities on the RBO performance benchmarking; (xiii) introduce a NARBO 'brand'; (xiv) have RBO poster exhibits in future NARBO general meetings in order to further share knowledge and success stories in IWRM; (xv) strengthen sharing of topics such as enforcement and compliance of water laws; (xvi) expand media for knowledge sharing (eg. CDs, videoclips, posters, YouTube); (xvii) provide more scope for a dedicated program on leadership for IWRM

9. **Action Program 2010-2012.** The work plan for 2010-2012 was proposed by the Secretariat and approved by the General Meeting. Under the three key result areas (advocacy, capacity-building, and network support), NARBO will continue the following activities among others: (i) information sharing and exchange, (ii) IWRM training program with assistance from the NARBO Technical Advisory Committee, (iii) thematic workshops, (iv) performance benchmarking of RBOs with peer review process, (v) twinning program, and (vi) knowledge networking.

10. **New Members.** 11 organizations from six countries (Viet Nam, Philippines, Lao PDR, India, Indonesia, and People's Republic of China) were welcomed as new NARBO members, as follows: (i) Ca River Basin Management Council, Viet Nam; (ii) Cau River Basin Planning Subcommittee, Viet Nam; (iii) Civil Engineering Research Institute for Cold Region, Japan; (iv) International Centre for Integrated Mountain Development, Nepal; (v) Water and Energy Commission Secretariat, Nepal; (vi) Orissa Water Planning Organization, India; (vii) HELP Davao Network, Philippines; (viii) Center for River Basin Organizations and Management (CRBOM), Indonesia; (ix) Nam Ngum River Basin Committee, Lao PDR; (x) Nam Theun-Nam Kading River Basin Committee Secretariat, Lao PDR; and (xi) Yellow River Conservancy Commission, People's Republic of China. The total number of NARBO member organizations stands at 76.

11. **NARBO Charter Revision.** The General Meeting approved revisions to the charter related to: (i) number of Vice-Chairpersons and affected sections in the Charter; (ii) NARBO invitation to qualified Senior Advisers; (iii) inclusion of CRBOM as a member of the NARBO Secretariat and affected sections in the Charter; and (iv) costs of NARBO Secretariat and constitutional body.

12. **Constitutional Body 2010-2012.** The General Meeting approved the following constitutional body for NARBO for 2010-2012:

NARBO Position	Name
Chairperson (New)	Mr. Keizrul bin Abdullah, Tenaga National University, Malaysia
Vice Chairperson (Continued)	Mr. Ivan De Silva, Ministry of Irrigation and Water Resources Management, Sri Lanka
Vice Chairperson (New)	Ms. Dolara Nepomuceno, Laguna Lake Development Authority, Philippines
Vice Chairperson (New)	Mr. Tjoek Walujo Subijanto, Perum Jasa Tirta I, Indonesia
Secretary General (New)	Mr. Katsuaki Kawano, Japan Water Agency
Vice Secretary General (Continued)	Mr. Wouter Lincklaen Arriens, Asian Development Bank
Vice Secretary General (New)	Mr. Kenji Someya, Japan Water Agency
Vice Secretary General (New)	Mr. Mr. Worapot Manupipatpong, Asian Development Bank Institute
Senior Advisor (Continued)	Mr. Basuki Hadimuljono, Ministry of Public Works, Indonesia
Senior Advisor (New)	Mr. Mochammad Amron, Ministry of Public Works, Indonesia
Senior Advisor (New)	Mr. Apichart Anukularmphai, Thailand Water Resources Association, Thailand

## **4. 3<sup>rd</sup> Technical Advisory Committee Meeting / November 2010**

### **I. Background**

1. The Network of Asian River Basin Organizations (NARBO) was established in February 2004 to promote integrated water resources management (IWRM) in the Asia monsoon region at river basin level. During the five years since its establishment, the network has organized events, including regular training on IWRM, to strengthen the capacity and effectiveness of river basin organizations (RBOs) to promote IWRM and to improve water governance.
2. Keen to continuously improve the quality and credibility of its annual training program on IWRM to the level of a prestigious regional flagship program, NARBO agreed at its 3<sup>rd</sup> General Meeting in Indonesia last February 2008 to establish the Technical Advisory Committee (TAC). The primary role of TAC is review and advises NARBO leadership and secretariat in revamping the training program, based on experience gained by NARBO over the past years and taking into account approaches and experiences by other training providers. The TAC is also expected to advice on other strategically important matters concerning NARBO activities.
3. NARBO held its 1<sup>st</sup> TAC Meeting in Singapore in April 2008, back-to-back with the meeting of the regional water knowledge hubs. Based on the result of the meeting, NARBO with support from the International WaterCentre, designed and conducted its 5<sup>th</sup> IWRM Training which was held in Hoi An, Viet Nam on 18 - 25 February 2009. 24 delegates from 6 countries have participated. The IWRM Guidelines was introduced during the training, and subsequently officially launched at the 5<sup>th</sup> World Water Forum in Istanbul last March 2009.
4. The 2<sup>nd</sup> NARBO TAC meeting was held in Singapore on 25 June 2009, and discussed: (i) to seek advises on the direction of NARBO's IWRM Training program, including on the design of NARBO's 6<sup>th</sup> IWRM Training; (ii) to share results of the 5<sup>th</sup> IWRM Training; and (iii) to introduce and promote the IWRM Guidelines. NARBO secretariat proposed to conduct trainings for middle-grade staff twice and for senior class after the completion of two trainings. Based on the result of the 2<sup>nd</sup> TAC, NARBO organized the 6<sup>th</sup> IWRM Training in Da Nang on 30 November to 7 December. 19 delegates from 7 countries have participated, and basic program of the training was consisted in the IWRM Guidelines.
5. The 3<sup>rd</sup> NARBO TAC meeting was held in Makassar, Indonesia on 12 November 2010, back-to-back with the 4<sup>th</sup> NARBO General Meeting. It aims: (i) to share results of the 6<sup>th</sup> IWRM Training; and (ii) to seek advises on the direction of NARBO's IWRM Training program, including

on the design of NARBO's 7<sup>th</sup> IWRM Training. According to the Action Plan 2010-2012 which was approved at the 4<sup>th</sup> General Meeting, 7<sup>th</sup> IWRM training will be held in the first quarter of 2011.

6. 8 experts including new NARBO's constitutional body and 2 observers have participated in this meeting. (Appendix I)

## **II. Highlights, Findings and Recommendations**

7. TAC secretariats requested Dr. Apichart Anukularmphai, President, Thailand Water Resource Association (TWRA), Thailand to be a chair of the 3<sup>rd</sup> TAC meeting. Dr. Apichart Anukularmphai accepted the request and managed the TAC meeting.

8. At first session, Mr. Koichi Takano, ADB reported the result of the 6<sup>th</sup> Training by showing the result of the evaluation of the participants. Overall evaluation of the training was excellent. It proved that result of the training such as 'Key for Success' in IWRM process were useful to the participants of the training. Recommendations by the participants were also introduced as a result of the training.

9. Mr. Tadashige Kawasaki reviewed the form of NARBO's IWRM Training which was introduced at the 2<sup>nd</sup> TAC meeting and explained the plan of the 7<sup>th</sup> training. The proposed training will be held in Japan in February 2011, and target is senior level officials of RBOs and government organizations who are in charge of water resources management. Next training will be held back-to-back the workshop on water and history which will be held in February in Tokyo, Japan.

10. Discussions to make comments and recommendations were held and useful comments were made. Specific comments are as follows.

- i) NARBO secretariat has to clarify and identify specific senior level.
- ii) What is the synergy and impact to hold NARBO training back-to-back with the workshop on water and history.
- iii) Case study approach will be useful. More case studies are needed to hold training course for leadership. In case of study visit, we should visit the venue where specific issues have actually happened and have dialogue on it.
- iv) Senior level training we have to be careful about terms.
- v) Leadership training should be focused on financing and planning perspective.
- vi) We should think why we are doing this training course and why they want to come to the training.



- vii) We need to be clear what we want and what is the output. Clear what is output & expectation to the achieve of the training
- viii) Continue to the lower level training. Middle level is regular program.
- ix) We have to think how we can implement senior people to understand better.
- x) Basin revel & leadership and need influence to senior I NARBO more member and successful case and good information we should use them. Decision makers
- xi) Top level (governor and politician) training is needed and important.
- xii) IWRM is still complicated and long term and can be strengthen other member and
- xiii) Networking after training is important.

11. Based on the discussion, NARBO secretariats have to consider i) Range four days is suitable or not, ii) Make clear the target of the training and identify the senior level and iii) Expectations to senior levels after the training. Next training will be held based on dialogue style considering the target of the training.

#### **Comments to NARBO secretariats**

12. Other specific comments to NARBO secretariats to manage NARBO were made as follows.

- 1) NARBO secretariats need to make survey to identify the demand of members.
- 2) NARBO secretariats should improve the quality of what we produce and make attractive network.
- 3) We should create our website and page for them to keep in touch with secretariat.
- 4) Case study approach is useful.
- 5) Create mechanism more actively in touch with training and events and NARBO should organize regular events.
- 6) NARBO needs to build successful stories so that other member refer and can be used techniques.

#### **III. Next Steps**

13. NARBO secretariat plans to hold the Management Meeting in Indonesia on 11-12 January 2011 to have common vision of NARBO's activities among new constitutional body which was approved at the 4<sup>th</sup> General Meeting to enhance NARBO activities and emphasize the influence of river basin management in Asia. Discussions to make the clear strategy of NARBO and IWRM trainings in the future will be made, and NARBO secretariats will propose draft program of the upcoming events in March 2010 based on the recommendation of the 3<sup>rd</sup> TAC and consultation to NARBO secretariats.

## Committee members

- NARBO Senior Advisor
  - Dr. Apichart Anukularmchai, President, Thailand Water Resource Association (TWRA), Thailand
- NARBO Chair, Vice-Chair, and Vice-Secretary Generals
  - Dr. Ir. Hj. Keizrul Bin Abdullah, Director, George Kent Berhad
  - Mr. Ivan de Silva, Secretary, Ministry of Irrigation & Water Resources Management
  - Mr. Tjeok Walujo Subijanto, President Director, PJT 1, Indonesia
  - Mr. Wouter Lincklaen Arriens, Lead Professional, Water Resources Management, Asian Development Bank (ADB)
  - Mr. Kenji Someya, Deputy Director, International Affairs Division, Japan Water Agency (JWA)
- Selected Regional Water Knowledge Hubs
  - Mr. Ir. Isnugroho, Executive Director, Center for River Basin Organizations and Management (CRBOM), Indonesia
  - Dr. Peter Oliver, Senior Lecturer (Education and Training , International WaterCentre (IWC), Australia
- Observers
  - Mr. Fahmi Hidayat, Deputy Director of Training and Dissemination, CRBOM
  - Mr. Tue Kell Nielsen, ADB Consultant
- Secretariats
  - Mr. Koichi Takano, Water Resources Specialist, ADB
  - Mr. Dennis Von Custodio, IWRM Specialist and Basin Water Coordinator, ADB
  - Ms. Machiko Hlga, NARBO-JWA Representative, Asian Development Bank Institute
  - Mr. Tadashige Kawasaki, International Affairs Division, JWA
  - Mr. Minoru Arai, International Affairs Division, JWA

## **5. 1<sup>st</sup> NARBO Management Team Meeting / January 2011**

NARBO Management Team Meeting was held in Perum Jasa Tirta I (PJT I) Head office in Malang, Indonesia on 11-13 January hosted by PJT I. Aim of the meeting is to discuss and explore how to lift NARBO performance up and achieve our goals. NARBO constitutional body, NARBO secretariat and PJT 1 staffs participated in the meeting. Program and participants of the meeting is attached herein.

On day 1 and day 2, team had four sessions on i) Exploring Strategic Direction, ii) Expanding Knowledge and Performance, iii) Developing Leadership in the IWRM Process and iv) Improving Networking and Secretariat. Intensive discussions were made, and team agreed as following points.

### **Session 1; Exploring Strategic Direction**

Discussions on “NARBO’s Niche” and core business and NARBO’s new work program were made. We agreed as following points.

- “NARBO’s Niche” is an implement of IWRM for RBOs and NARBO should combine stakeholder together.
- 2<sup>nd</sup> APWS will be good opportunity to introduce the benefit of NARBO, and NARBO makes messages/policy statement to show how IWRM is benefit to Water Security. Draft of messages will be made by the Team members. 4 case studies (PJT1, MASL, Japan and PRC) will be used for message papers by testing the indicators of “Asian Water Development Outlook 2011”.

### **Session 2; Learning from Dialogue with PJT1**

Presentations on Experiences of PJT1 were made, and we agreed that CRBOM should clarify the types of RBOs and show what we should do to organizations in Asia by showing it to the leaders.

### **Session 3; Expanding Knowledge and Performance**

We agreed as following points.

- CRBOM’s role is to be core of NARBO on IWRM Process, and to improve and disseminating benchmarking service.
- IWRM Proficiency Certification and Award Program will be introduced, and details of it will be discussed.
- NARBO facilitate workshops and trainings to address challenging issues on IWRM, and program will be offered by KnowledgeHubs.

### **Session 4; Developing Leadership in the IWRM Process**

We agreed as following points.

- NARBO IWRM Executive Retreat will be held in Tokyo May 2011 to nurture good leaders

improving IWRM.

- Retreat should be opportunity to get more case studies how we should move forward, however we should develop guidelines to organize the retreat in advance.
- Management Team also participate in the retreat to get more view on leadership in IWRM

### **Session 5; Improving Networking and Secretariat**

We agreed as following points.

- NARBO secretariats need to be more international in staffing, and should make use of the members to join secretariat and distribute its responsibility and workload.
- Benchmark against other network should be made, and NARBO secretariat should look for some challenges for moving up.
- Membership fee collection needs to be discussed for sustainable management.

### **Session 6; Wrapping up**

Team agreed as following points to move forward NARBO as summary of the meeting.

- NARBO has worked very well last seven years, and result of NARBO is successful. However we should step back and think what is core business.
- NARBO should focus on implement IWRM as core business, and KnowledgeHubs are to be the center of excellence.
- NARBO shows some commitments on IWRM by using case studies.
- NARBO secretariats have to relook the role of each secretariat, and Management team utilizes their expertise to move forward.
- NARBO should to be more influential to policy making.
- Membership fee should be imposed, and methods of it should be explored.

NARBO Management Team Meeting was successful, and intensive and honest discussions were made. It was a good opportunity to exchange each opinion to NARBO activities and get consensus on the big directions of NARBO.





## **6. 6th WEPA (Water Environmental Partnership in Asia) Annual Meeting / February, 2011**

On February 24, 2011, 6th WEPA (Water Environmental Partnership in Asia) Annual Meeting was held at Shiba-Park Hotel in Tokyo. Mr. Tadashige Kawasaki, NARBO Secretariat (JWA), made a presentation of introduction of NARBO and collaboration of NARBO and WEPA. WEPA is a partnership aiming to promote governance in water environment management through database on water environment, which consists of water environment-related government organizations in 11 countries in East Asia. NARBO and WEPA have closely cooperated as Mr. Mitsumasa Okada from WEPA (Current professor, The Open University of Japan) gave a keynote speech at water quality workshop held during NARBO General Meeting in November, 2011.

Following the presentation by NARBO Secretariat, the common awareness of promoting collaboration with NARBO was shared. Collaboration with NARBO water quality workshop was specified in 2011 Plan of Activity as well. NARBO Secretariat plans to have a discussion with WEPA Secretariat on specific collaboration for water quality workshop which will be held in 2011.



Presentation by NARBO Secretariat.

## 7. Leadership for IWRM workshop: 'Preparing our river basins for the future' / April, 2011



Leadership for IWRM workshop: 'Preparing our river basins for the future'  
Solo, Central Java, 5-6 April 2011



The workshop addressed organizational and personal leadership in support of good basin-level governance. It was organized by CRBOM in collaboration with ADB, NARBO, and PJT1. The 77 participants represented 27 Indonesian RBOs, and ADB, Deltares and Jica.

The workshop was opened by dr. Ir. Djaya Murni, Director of Water Resources Management, on behalf of the Director General of Water Resources. The first session provided concepts and suggestions on improved leadership, presented by Wouter Lincklaen Arriens (ADB); and observations on basin-level management by Hisaya Sawano (Jica) and Aart van Nes (Deltares). The programme included presentations about basin-level governance and leadership in general; specific examples from Japan, Korea and Singapore; and many examples from Indonesian river basins. Between them, the presentations and the related discussions covered leadership in support of IWRM implementation; response to new challenges and opportunities; dialogue and collaboration; and RBO performance.

One session was hosted by Balai Besar Bengawan Solo (BBWS-BS), where the participants learned about management of water-sharing and development planning, and the successful operation of the TKPSDA (Bengawan Solo Water Council).



The participants were informed about the support available from NARBO; the Dissemination Unit for Water Resources Management and Technology (DUWRMT); and CRBOM.



A concluding plenary session made observations on challenges and options related to organizational and personal leadership. The participants strongly recommended that good leadership be promoted and that leadership training be routinely provided in different ways on a continuous basis, both at junior, mid-career and senior level.



## 8. 1<sup>st</sup> NARBO Executive Retreat / June 2011

It assembled 32 participants, including RBO leaders, other IWRM executives, special guests, moderators, resource persons and organizers, with representatives from Bangladesh, China, India, Indonesia, Japan, Sri Lanka and Thailand, as well as ADB, ADB Institute, Asia-Pacific Water Forum, CRBOM, Japan Water Agency and NARBO. At the start of the programme, a partnership MoU was signed between CRBOM, PJT1 and Puslitbang SDA (Research Institute for Water Resources).

The event was opened by HE Djoko Kirmanto, Minister of Public Works, Indonesia, who shared his views on the importance and implications of good basin-level governance and leadership. Wouter Lincklaen Arriëns made a distinction between management and leadership, and introduced three aspects of IWRM leadership:

(1) between organizations; (2) within the organization; and (3) personal leadership. Ravi Narayanan explained about leadership attributes: Anticipation (vision and planning); orientation; reconciliation (internal and external); and reaction (to new needs and opportunities).

The dialogue was supported by short presentations about leadership challenges and achievements in specific river basins: Chikugo and Kizu (Japan) (including response to the recent Great East Japan Earthquake); Mahaweli (Sri Lanka); Citarum (West Java); Brantas (East Java); and Ping (Thailand). Also, the participants learned about water resources management leadership in Bangladesh, Indonesia and Karnataka (India).

During panel and plenary discussions, observations and opinions were offered, and views exchanged, about inter-agency relations; corporate culture; collaboration with civil society; the role of the academic community; newsmedia relations; and response to calamities. Many speakers used the '*spiral model*' (from the NESCO-NARBO Guidelines) to illustrate the evolving significance of basin-level IWRM, as supported by good leadership.

The participants agreed on the importance of good leadership and the value of dialogue and networking. A need was seen of better documentation of related to good leadership. Continued support from NARBO was encouraged, both at the regional level and via (existing and new) national NARBO chapters.

**Study tour to Brantas River Basin, East Java, 22 June 2011**

The event was organized and hosted by PJT1, back-to-back with the preceding NARBO Executive Retreat on Leadership in River Basins and the subsequent NARBO International Seminar on Corporate River Basin Organizations. Brantas River Basin has an area of 11,800 km<sup>2</sup> and a population of some 16 million people (2006). The participants visited the Karangkates (Sutami) dam and reservoir, which provide flood control, irrigation, hydropower and raw water for households, industries and flow maintenance.

The next stop was at the Brantas river spring (1,458 m above sea level), where a tree planting ceremony was held in the arboretum. Briefings were given about the basin and its past and ongoing development. The programme was concluded with a visit to the Selorejo Reservoir (620 m above sea level), which serves a variety

## 9. International Seminar on Corporate River Basin Organizations in Asia / June 2011

The event was organized by the NARBO Secretariat and PJT1, and was hosted by PJT1. It convened 67 participants - RBO champions, decision makers, academics, discussion leaders and resource persons - from

Bangladesh, China, India, Indonesia, Japan, Laos, Malaysia, Philippines, Spain, Sri Lanka, Thailand, Uzbekistan and Viet Nam, with institutional representatives from ADB, ADB Institute, APWF, CRBOM, ESCAP, Jica, NARBO and JWA.

The programme included presentations, panel discussions and plenary discussions. As a starting point, an indicative distinction was suggested between three types of RBOs: The council (or committee), the public RBO (under the executive branch of the state), and the corporate RBO (owned by the state, but with a certain independency regarding operation, staffing and financing). These types can exist side by side, as exemplified in Indonesia, and a given RBO can combine characteristics of the different types. All require good leadership, and in any case, a balance must exist between their tasks, authority and capacity.

On this background, examples were provided and opinions shared on

- the significance of basin-level IWRM for economic, social and environmental benefits;
- the need to prepare our river basins for the future;
- existing and new challenges to river basin prosperity and health;
- RBO leadership, corporate culture and human resources development;
- stakeholder participation and public accountability;
- roadmaps for RBO establishment and strengthening;
- the need of good, timely and accessible data and information;
- contributions from universities; and
- financing of RBOs and their development initiatives.

Encouraged by participants, RBO champions shared their 'secrets', which were typically related to confidence built by good relations with water users, decision-makers and other stakeholders.

It was broadly agreed that RBOs must learn from each other by networking and knowledge sharing, and that the context and agenda of different river basins indicate different types of RBOs.

NARBO can facilitate networking, disseminate '*best practices*', promote specific initiatives (such as RBO benchmarking, accreditation of IWRM practitioners, and twinning programmes), and support capacity-building at the regional and national level.

Closing remarks were made by Pak Basuki Hadimoeljono, the Inspector General of Ministry of PW.



## 10. The HELP Davao International Symposium on Water Resource Management and Hydro Hazards / August 2011.

### Background

While flash floods can be seasonally expected, the recent floods in Davao have been more severe and frequent than is customarily experienced. This has triggered increased interest from local decision makers for soft and hard solution to flood management. While some were quick to blame climate change for the increased severity of floods it must be first recognized that flash floods are a natural occurrence in the Davao Region. However, rapid growth, urbanization, environmental degradation, and climate change have introduced new risks to the region's water security. As a result the vulnerability of our urban communities to hydro hazards is increased – as was tragically seen in Davao City on June 29th 2011.

### Goal

*To building better understanding of how IWRM can be applied in building more resilient and productive communities.* This goal will be achieved through the following objectives

- ✓ Stakeholders experience and explore the root causes, impacts, and responses to recent flash floods in Davao City (by the end of the field trip stakeholders have a better understanding of □ Stakeholder gain understanding of theory and process for the application of IWRM
- ✓ Stakeholders gaining understanding how IWRM can leading to holistic and shared cross sectoral responses that can reduce risk and increasing the productivity of communities.
- ✓ Stakeholders and decision-makers discussion progressive options for advancing IWRM in their river basins.
- ✓ Stakeholders make concrete commitments for partnerships and actions

Key outputs from the Symposium should come in the form of a 'Davao statement or resolution.' Such a statement should focus on core limiting issues currently impeding progress of IWRM in Davao and other similar River Basins (e.g. the need for investment to customize tools and approaches).

Secondary outputs will include increased capacity of local stakeholders, and commitments from government agencies to roll out sections of the training modules.

Key outcomes will include strengthened and new partnerships focused on ensuring wise management and use of water resources in equitable and innovative ways.

(Source ; Brochure of 'International Symposium on Water Resource Management and Hydro Hazards, August 24 – 26<sup>th</sup> 2011, Davao Philippines)

## Contribution from NARBO

Mr. Tatsuo Kunieda was invited to the international symposium and joined the session on achieving IWRM. Mr. Kunieda introduced how to use 'IWRM Spiral' and 'Key for Success' of IWRM which were introduced at "IWRM Guidelines at River Basin Level" (UNESCO Guideline) as NARBO by using the case study and contributed to the discussion.

HELP Davao Network customized the UNESCO Guideline for Davao City and Regions. This is the first case of localized "IWRM Guidelines" which included local perspective for managing water resources and generally followed by UNESCO Guideline, concept of 'IWRM Spiral' was incorporated. In addition, the guideline focus on *providing contextualized descriptions of how the IWRM Process can progress within the existing structures and constrains of the Philippine setting.*<sup>2</sup> Localizing is extremely important to improve IWRM steadily on the ground level. Localization activities should be encouraged to other NARBO members, and NARBO secretariat supports it.



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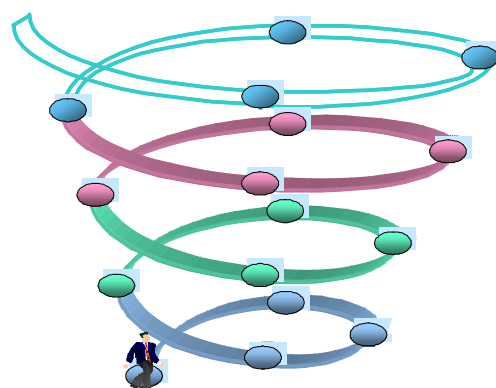
<sup>2</sup> Source ; "Customized IWRM Guidelines for Davao City and Region XI" by HELP DAVAO Network

## 11. The 3<sup>rd</sup> WEPA Workshop and the 7<sup>th</sup> Annual Meeting / September 2011

### Backgrounds

**Society needs acceptable quality of water.** Degradation of water quality is nowadays growing concerns in Asia, and presents unprecedented challenges that require the leaders to restore healthy rivers and ecosystem, that is one component of guiding vision for society to enjoy water security. Improving water security is to secure the availability of an acceptable quality and quantity of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks to people, environments and economies. What policies on water-environment management are needed? What institution is needed to implement those policies? What is needed to manage water quality as well as water security on the ground? How can both quality and quantity of water be secured? How can total pollutant load and of concentration of emission be managed? How can we adapt to global and local changes of climate change, population growth, and economic development?

**Getting the solutions!** Integrated water resource management (IWRM) can deliver the coordinated and adaptive actions of the all the people concerned for water quality as a major component of water security. It is an iterative process to adapt to changes like moving up 'spirals.' River basin is the most appropriate unit for IWRM process, because water should be managed locally based on geographical and hydrological characteristics. River Basin Organizations (RBOs) is expected to play an important role in implementation of IWRM as a group of practitioner.



### Objectives of the Workshop (21-22 September)

The workshop aimed to enhance practical knowledge on water quality management of WEPA partners through sharing experiences of WEPA countries. There are three sessions in the workshop – policy responses to attain the water quality targets; water quality management in the context of basin management; and domestic wastewater treatment.

Topic 1: presentations and discussion- Current Policy Responses to Attain National Water Quality Target and Future Challenges

Topic 2: Water quality management in the context of basin management

Topic 3: Domestic wastewater management

3-1: “Domestic wastewater management: Implementation issues in wastewater treatment”

3-2: Domestic wastewater management: Alternative options to large scale of sewerage treatment plant

**Objective of the Annual Meeting (23 September)**

The annual meeting of WEPA in 2011 aims to discuss the contents of WEPA outlook (executive summary that contains WEPA message; country profiles, thematic topics (domestic wastewater, climate change and governance) among WEPA partner countries. Draft outline or manuscript will be shared with WEPA focal points before the annual meeting for their quick review. In addition, plan of activities of WEPA at the second Asia-Pacific Water Summit held in February 2011 will be shared among the partner countries.

**Contribution from NARBO**

On the 1st day of the workshop, NARBO organized the joint session with WEPA on Water quality management in the context of basin management. As participants from NARBO, representative of PJT2, Indonesia, LLDA, Philippines and JWA joined the session and shared each experience by the context of IWRM. Interaction and discussion with NARBO and WEPA contributed to the success of the joint seminar, and result of the discussion was reported to the WEPA Annual Meeting. Based on the collaboration activities with NARBO and WEPA, agreement to enhance collaboration with WEPA and NARBO was made at the WEPA Annual Meeting.

## 12. Twinning Program/November, 2011

On Nov 21, 2011(Mon), an investigation team composed of 12 members from Ministry of Agriculture & Rural Development (MARD) of Vietnam, and IMC which is a water-management company under the jurisdiction of MARD visited the headquarters of Japan Water Agency (JWA) and made a courtesy call on the vice president of JWA “TANIMOTO Koji”. This visit was made in accordance with the exchange agreement concluded between Vietnam NARBO\* led by MARD and JWA in 2008. Nowadays in Vietnam, water demand has increased due to rapid economic growth, and the aging of water resources management facilities has become huge problem. Therefore, the improvement of technology in water resources management is required. Based on this situation, the team included not only the central government officials but the practitioners managing water resources-related facilities on site came to understand Japan’s water-related technology. They visited JWA’s facilities such as Aichi Canal, Mie Canal, Nagaragawa Estuary Barrage, Tone Canal and a couple of private companies related to these JWA facilities from Nov 16 to Nov 24. The participants in this visit expressed their deep impression on Japanese performance and technology, and their wish to make use of what they have learned from them in their future operation.



\* NARBO was established at the occasion of 3rd World Water Forum in 2004, and Vietnam NARBO is composed by members and related organizations in Vietnam



### 13. CRBOM Leadership Training for IWRM Proficiency / September 2011

Leadership training for IWRM proficiency  
22-24 November 2011, Lor In Hotel, Solo, Central Java



The training session was organized by CRBOM in collaboration with PJT1 and other partners. There were 29 participants, mostly from river basin organizations all over Indonesia.

Facilitation was provided by Dr. Hastaning Sakti and professor S. Budi Prayitno, both from Diponegoro University. The sessions were chaired by Ir. Isnugroho, Executive Director, CRBOM, and Ir. Hermono S. Budinetrio, Deputy Director, CRBOM.



The participants were welcomed by Ir. Isnugroho, followed by a keynote speech by Mr. Abdul Hanan Akhmad, Head of the Hydrology Sub-directorate of Directorate-General of Water Resources. The programme featured lectures on leadership and leadership challenges by Dr. Hastaning Sakti, Ir. Tjoek Walujo Subijanto, President Director of PJT1; Mr. Hisaya Sawano, JICA Expert; Ir. Raymond Valiant, Manager of Water Services Division V, PJT1; professor S. Budi Prayitno, Mr. Supardiyono Sobirin, Member, Observer Board on Forestry and Environment of West Java (and retired Director of Research Centre for Human Settlements and Research Centre for Water Resources); Mrs. A. Wuriyati, Section Chief of Data Collection, Balai Sungai; and Dr. Tue Kell Nielsen, Senior Adviser, ADB RETA 6470. Case studies were presented and discussed of 'Communication and negotiation' and 'Conflict resolution and community empowerment'. Each presentation was followed by a discussion. There were also small exercises, opinion surveys and tests, conducted in groups or individually, and including several light-hearted moments.



In one exercise, the participants were divided into 4 groups (representing river basin organizations; farmers; industries; and drinking water for households), which were challenged to agree on the sharing of a less-than-adequate amount of water.

The participants learned about the importance of good leadership, leadership styles and attributes, transformational leadership, and leadership skills required for various purposes.





## 14. Workshop on Performance Benchmarking of River Basin Organizations in Asia / September 2011 ?

**Background.** NARBO's performance benchmarking service for RBOs with peer review process<sup>3</sup> was designed as a tool for RBOs in the region to improve their performance. The service was developed by NARBO in 2004 with support from ADB and the International Water Management Institute. It has since been implemented by several RBOs in the region, with pilot implementation in Indonesia (Perum Jasa Tirta 1 and 2 public corporations and others), Philippines (Laguna Lake Development Authority), Sri Lanka (Mahaweli Authority of Sri Lanka) and Viet Nam (Red River Basin Organization).

The results from the implementation of the service have been positive to date. In Indonesia, the initiative has been streamlined and mainstreamed in several RBOs by the Ministry of Public Works, with support from PJT1 and NARBO Indonesia. To date, 9 RBOs in Indonesia (i.e. PJT1, PJT2, BBWS Mesuji-Sekampung, Balai PSDA Way Sekampung - Way Seputih, BBWS Cidanau-Ciujung-Cidurian, Balai PSDA Cidanau-Ciujung, BBWS–Brantas, BBWS-Bengawan Solo, and BBWS–Citarum) have implemented the benchmarking service.

Several Asian RBOs have expressed interest in NARBO's RBO performance benchmarking service with support from NARBO. There is scope for its further promotion in river basins in Asia building on the positive experience achieved, and aiming at broader application with consideration of how leadership for IWRM can play a role.

**Objectives.** The workshop is expected to broaden the awareness of the benefits of RBO performance benchmarking, and to disseminate the good results and experience from benchmarked RBOs in the region. The results are expected to provide a stronger basis for the further implementation of the benchmarking service in RBOs. Specifically, the workshop will

- share and compile results and lessons learned from the implementation of performance benchmarking service in several RBOs in the region;

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<sup>3</sup> The methodology is based on a balanced score card with 14 performance indicators under five key performance areas, each with criteria for scoring 1–4, and implemented in four steps: (i) self-assessment of present status; (ii) setting targets of future situation; (iii) formulating plan to reach the targets; and (iv) peer review involving external comparison and advice from external partners. Steps (i)-(iii) are done through an internal process by the RBO doing the benchmarking exercise. Step (iv) is a review or verification by external water professionals (from other RBOs or line organizations) of the self-assessment, and is essentially an enhancement of the internal process of steps (i)–(iii). The aim is to facilitate improvement, not a competition between RBOs.

- discuss the scope to further promote and implement the benchmarking service in other RBOs in the region, building on the positive experience achieved and considering how leadership can play a role
- develop an action plan
- discuss possible improvements on the 14 benchmarking indicators and ratings based on comments received (OPTIONAL)

The workshop is also expected to provide an opportunity to exchange observations and suggestions, and to facilitate networking among water professionals.

**Outputs.** Expected outputs include:

- results and lessons learned from the implementation of performance benchmarking service in several RBOs in the region shared and compiled
- an action plan to further promote and implement the benchmarking service in other RBOs in the region prepared
- benchmarking indicators and ratings improved (OPTIONAL)

**Organizers.** The seminar will be organized and hosted by the Center for River Basin Organizations and Management (CRBOM) and Perum Jasa Tirta 1 Public Corporation (CRBOM serves as the regional knowledge hub; and PJT 1 serves as the RBO for the Brantas and Solo River Basins), in coordination with the NARBO Secretariat, Bengawan Solo Water Council, Research Center for Water Resources of the Ministry of Public Works of Indonesia.

**Participants.** The workshop targets 30-50 water professionals from benchmarked RBOs to date (including those RBOs interested to undertake the NARBO performance benchmarking); NARBO-certified RBO peer advisers; and interested water professionals from RBOs, government agencies, academe, and knowledge partners with at least middle-management level and with excellent command of the English language.

**Program.** The program includes a study visit to the Solo river basin on 21 September<sup>4</sup> (optional) followed by a 2-day workshop on 22-23 September 2011

Day 1, 21 September

- Study Visit to Solo river basin (optional)

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<sup>4</sup> Some participants are also invited to the Regional Seminar on Certification of IWRM Proficiency for Leadership in River Basins which will be held in the same venue on 19-21 September.

Day 2, 22 September

- Opening Ceremony
- Seminar sessions
  - Learning from benchmarked RBOs in the region

Day 3, 23 September

- Seminar sessions:
  - Scoping the promotion and implementation of the benchmarking service in other RBOs in the region
  - Preparing an Action Plan
- Closing Ceremony

**Methodology.** A technical paper on NARBO's performance benchmarking service will be prepared, discussed, and moderated by senior water experts. Participants are invited to prepare a small case study (a few slides and a synopsis) related to the results of the benchmarking service in their own river basins. Participants are encouraged to share experience, suggestions and thoughts through presentations or during the panel and plenary discussions.



## **14. ADB Water Learning Week (Gathering of NARBO Members at the ADB Water Learning Week) / November 2011**

NARBO members gathered at a reception held at ADB HQ last 10 November 2011. The side event to the ADB Water Learning Week provided the opportunity for NARBO to inform members of its activities; and for members and interested participants to network and share their views and experience on river basin work. Japan Water Agency hosted the reception.

More than 30 participants from 11 countries participated (Australia, Cambodia, India, Indonesia, Lao PDR, Malaysia, Nepal, People's Republic of China, Philippines, Sri Lanka and Thailand) including ADB staff and interested organizations who contributed during the knowledge sharing session.

Mr. Kenji Someya, NARBO Vice-Secretary General and Japan Water Agency Director of International Affairs, gave the opening remarks and welcomed the NARBO members, ADB staff, and interested organizations. He provided an update on current JWA officials working for NARBO. He mentioned that the JWA management team changed in October 2011; and that the new management team is very supportive to NARBO work and expects further expansion of the network. He added that the new JWA President, Mr. Kenyu Komura is very keen on flood prevention and would like to share his thoughts which may be helpful to floods in Asia, especially to Thailand, Viet Nam and Sri Lanka. He believed it was a good opportunity for NARBO members to get together during this side event of the Water Learning Week.

The reception kicked off with ADB's Mr. Koichi Takano's presentation. He shared the activities of NARBO since the 4<sup>th</sup> NARBO general meeting, in Makassar, Indonesia, in November 2010. In frank, open and warm atmosphere, participants shared his view on knowledge sharing, networking, sharing good examples and lessons, expectations to and the way forward for NARBO, and the 2<sup>nd</sup> Asia-Pacific Water Summit.

Mr. Chanthanet Boualapha, Director General, Nam Ngum River Basin Committee Secretariat, Lao PDR, shared his commitment to NARBO that they are happy to share knowledge among members. Mr. Iswar Singh Thapa, Joint Secretary, Water and Energy Commission Secretariat, Nepal expressed his thank to NARBO as a member for the opportunity to learn IWRM. He observed that communication and networking for future collaboration is important with sharing lessons and good as well as bad practices, and technology transport. He shared his commitment: "We will do it to move it forward and work for the betterment of the world. If we make it together, we can make it forward and right."

Mr. Apichart Anukularmphai, NARBO Senior Advise and organizer of technical session, the 2<sup>nd</sup> Asia-Pacific Water Summit, laid out his expectation that NARBO should take some recommendations to leaders in the three technical sessions which NARBO will convene. They can be circulated among leaders for their consideration. Prof. Torkil Jonch Clausen emphasized that there are many good examples in Asia through NARBO, and that NARBO really stands out in the global context: “When I go back to Europe, I will be using NARBO’s experience.”

Mr. Bulathsinhala Arachchige Sunil Shantha Perera, Ministry of Irrigation & Water Management, Sri Lanka, set out NARBO’s target: “Our work is to control and deliver the best service to Asia.” He also mentioned that all the persons need to leverage to establish confirm foundation to move forward, and that land, water and human capitals can bring together and can develop marvelous development in Asia.

Ms. Astria Nugrahany, Jasa Tirta 1 Public Corporation which is one of preceding RBOs in Asia, shared her expectation to NARBO that training course for younger/junior staff is needed in addition to the course for mid-level staff. Mr. Watt Botkosol, Chair of Cambodia National Mekong Committee, shared his experience that suggestion from NARBO to have pilot river basin organization lead to the significant progress in 4P river basin. The river basin organization will be approved by prime minister. Ms. Fiona Chandler, International WaterCentre, invited gentlemen and said that it is nice to have role of networking across generation. She introduced the River Symposium in Melbourne in October 2012 which will be good opportunity for networking. Ms. Xin Dong, Tsinghua University and newly launched Asia-Pacific Center for Water Security based in Beijing, People’s Republic of China, recognized the importance of knowledge sharing from different countries through NARBO and shared her commitment that the center would become a new NARBO member. Mr. Binaya Raj Shivakoti, Institute for Global Environmental Strategies (IGES), also shared the importance of knowledge sharing and introduced Water Environment Partnership in Asia (WEPA) which is a network for governments, aiming to promote good governance in water environment management.

In the end, Mr. Keizrul bun Abdullah, NARBO Chairperson, thanked the participants, and recommended interested non-member organizations to consider joining NARBO.



## 15. Online Course on River Basin Management for NARBO - A Success



### Online Training Course on River Basin Management

10 October – 18 December 2011

Dennis Von C. Custodio  
IWRM Specialist and RETA 6470<sup>1</sup> Coordinator (Consultant)  
Asian Development Bank

Four river basin professionals from NARBO's government and RBO member organizations from Malaysia, Indonesia, Philippines, and Thailand completed with good ratings the online training course on river basin management, which was offered from 10 October to 18 December 2011.

NARBO's participation in the online training course was one of the concrete outputs of NARBO's basin study visit to Madrid and Zaragoza in Spain in May 2010. The study visit exchanged knowledge and experience between river basin management professionals in Asia and Spain on critical challenges in improving water security in river basins. It linked Spain's river basin expertise with NARBO members and ADB's clients in Asia. The online course offered by the Government of Spain to NARBO was a follow-up bridge-building work for river basin management collaboration between Asia and Spain.



NARBO Study Visit to the Tajo River Basin Commission Office in Madrid, Spain

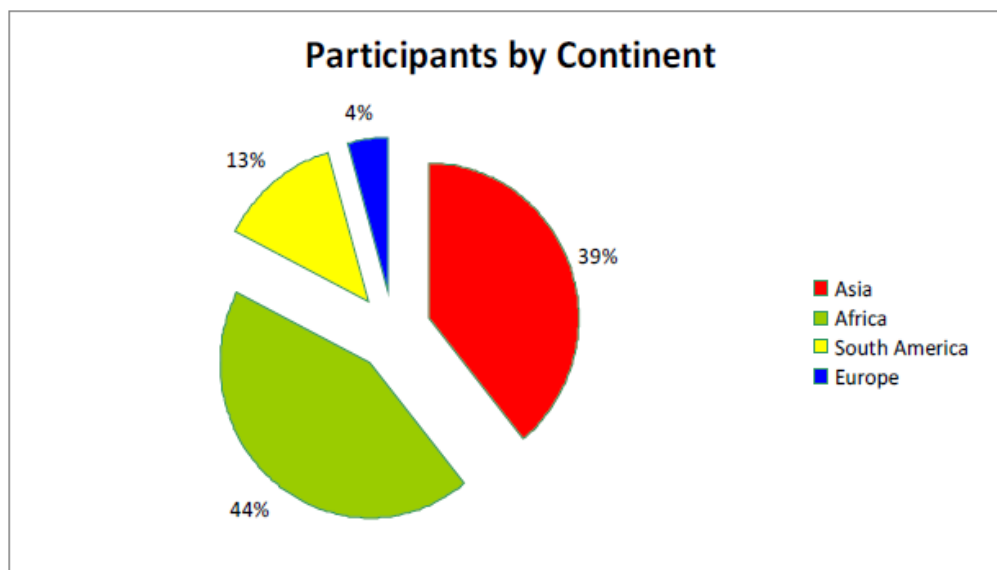
The four basin professionals<sup>2</sup> who received diploma on river basin management were:

- (i) Ms. Bidasari Binti Bahashim from *Selangor Water Management Authority* (Malaysia),
- (ii) Mr. Herry Rachmadyanto from *Perum Jasa Tirta 2* (Indonesia),
- (iii) Mr. Brando Angeles from *Laguna Lake Development Authority* (Philippines), and
- (iv) Mr. Boonchai Ngamvitroj from *Department of Water Resources* (Thailand).

<sup>1</sup> Regional Technical Assistance on Managing Water in Asia's River Basins – Charting Progress and Facilitating Investment

<sup>2</sup> The 4 water professionals were selected by NARBO from a total of 22 who signified interest, based on the following criteria: (i) experience in river basin management; (ii) expected contribution to own organization and to NARBO; (iii) education, and (iv) relevance of the course to participant's river basin work.

The online course trained 23 water professionals from Asia, Africa, South America, and Europe. The breakdown of participants per continent is below figure.



The course was offered for free on a pilot basis by the Government of Spain through CEDDET Foundation, in collaboration with the Environment, Water and Agriculture Ministry of Spain through Ebro River Basin Management Organization in Spain and the Laguna Lake Development Authority (LLDA) in Philippines.

NARBO Vice-Chairperson Dolora Nepomuceno of LLDA was a member of the training team who co-produced and co-tutored the online course, together with CEDDET.

Designed from interdisciplinary and policy-oriented perspectives, the eight module-online course (see modules below) provided the professionals with a “must-have toolbox” on the basic elements of river basin management. It provided a better understanding of the IWRM process as implemented by basin organizations in the region.

Module 1: Use of the Online platform
Module 2: Principles of Integrated Management for a Water Basin / Pillars of Integrated Management for River Basin Organizations / Water Basin Administration Bodies
Module 3: Water Basin Administration Bodies Management
Module 4: Aquatic Environment Administrative Management Models
Module 5: Monitoring, Controlling and Protection of the Aquatic Environment
Module 6: Water Management
Module 7: Planning/Construction of Water Infrastructures
Module 8: Learning from experience: Laguna Lake Development Authority
Final Forum



The experience of each participant was essential for the enrichment of the course. Each module thus not only presented worldwide management practices in river basins but also incorporated the participant's sharing of information and experiences on river basin management.

The four basin professionals from NARBO member organizations felt that the online course was successful in terms of achieving its objectives; was relevant to their work; was of high value; had sufficient depth of coverage; and was of high quality. However, they also felt there is scope to improve future online courses by: (i) having more active participation in the forum; (ii) utilizing web cams with audio for improved interactions; (iii) conducting study tours in different study sites; and (iv) allowing more time to complete the exercises.

*'There is need to for participants to continue to communicate with other participants for further learning and training'*, Mr. Angeles, the participant from LLDA/Philippines, added.



## **16. International Workshop on Water and History / December 2011**

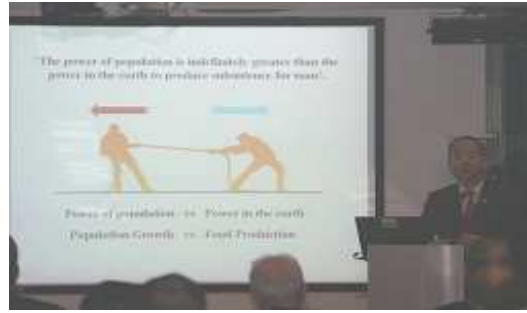
Japan Water Agency, NARBO and Asian Development Bank Institute (ADBI) cooperated with each other to organize the International Workshop on Water and History. The International Workshop on Water and History was organized by Government of Japan, World Bank Tokyo Office, UNESCO and UNSGAB on December 13-14, 2011 in Tokyo.

The workshop was organized to learn from history in order to build better relations between people and water in the future, leading to sustainable economic and social development. High-level speakers from government, academia and international organizations who are involved in water-related matters were invited to share knowledge and lessons learned on relations between water and history. We are proud to have welcomed His Imperial Highness, the Crown prince of Japan and Honorary President of the United Nations Secretary General's Advisory Board on Water and Sanitation (UNSGAB) to the workshop on the 1st day. Around 100 delegates participated in the workshop and plenary discussion.

Discussion among experts helped participants to explore ways for sustainable regional development through water by sharing success and lessons from history. The workshop provided participants with the opportunity to revisit our relations with water to build a brighter and more sustainable future, which leads to a solution of global challenges such as poverty and climate change.

Dr. Keizrul kindly participated in the workshop as one of the panelists and made a presentation, 'The Historical Development of Water Management in Asia'. In his presentation, Dr. Keizrul talked about relationship between human activities and water, and stressed that we should learn from the case of Easter Island as an example of ultimate failure. Dr. Keizrul concluded the presentation by saying that *'Our Earth is but a very small Island in the vast Ocean of the Universe.'*

At the end of the workshop, we agreed on the necessity of disseminating the relationship between water and history which have been built over the long human history and lessons learned for sustainable development, to the people, especially to the people on the outside.



## **17. GEO-UNESCO IWRM Joint Workshop in Kenya /January 2012**

### **1. Brief Description of the joint workshop**

There are many difficulties in implementation of IWRM, and we have much issue to be overcome on engineering, information, institutional framework, budget, human resources and stakeholder participation. In Africa, ratio of the people who can access safe drinking water is still low. In addition, they have frequent extreme hydrological events such as serious flood and drought due to climate change. These events became additional threaten of water-food-energy security.

Based on these backgrounds, Group on Earth Observation (GEO) and UNESCO organized the workshop on IWRM in Africa to make use of the information of water resources management by satellite for enhancing regional cooperation and social benefit. The workshop was held at the United Nations Office at Nairobi on 12-16 January, 2012. Around 70 participants from RBOs, government organizations, UN, space agencies and international donor organizations in charge of water joined, and intensive discussions were made during the workshop.

### **2. Discussion for Implementation Planning of African Water Cycle Coordination Initiative (AfWCCI) Demonstration Projects**

On 12-14 January, Discussion for Implementation Planning of Africa Water Cycle Coordination Initiative (AfWCCI) Demonstration Projects was organized by GEO. In this discussion, report and challenge of RBOs in 10 African river basins, current situation of study of water cycle observed by satellite and analysis of its data from researchers and donor organizations were also reported. Many RBOs said that they are lack of human resources and budget for analyzing the data and in difficulties of getting data from transboundary river basin.

Prof. Toshio Koike, University of Tokyo insisted that we will be able to solve any issues on water by enhancing the cooperation by using and sharing the data which was obtained by hydrologic data from satellite, establishment of model by using in-situ data and result of analysis.

As a summary of discussions, tentative future approach to sharing information, enhance capacity development and implementation plan by RBOs were agreed.

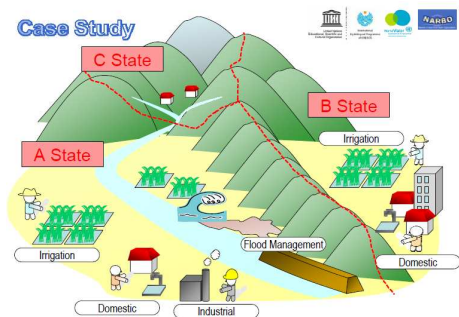
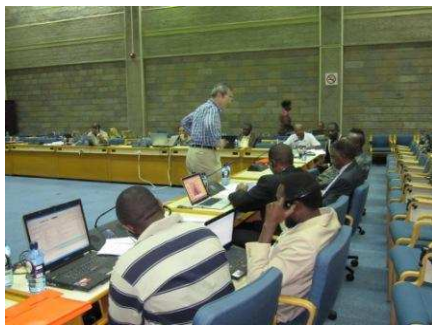


### 3. Capacity Development for IWRM (Integrated Water Resources Management)

Workshop on IWRM was organized by UNESCO on 14-16 January as a latter half of the joint workshop. Purpose of the workshop is to i ; share the experience of IWRM in Africa and Asia, ii ; consider 'Key for Success' of IWRM through case studies of "IWRM Guidelines at river basin level" and iii ; capacity development for improving IWRM by using "IWRM Guidelines at river basin level".

At first, Prof. Soontak Lee, UNESCO-IHP told the necessity of IWRM, and consensus and confidence in implementation of IWRM as opening remarks.

At the workshop sessions, Mr. Shinsuke Ota, Chairperson, The Japanese Society of Rural Development Engineers moderated the sessions by interacting participants and tried to let participant recognize that IWRM is the process and is achieved by common sense. Mr. Ota advocated 'Gross Basin Happiness' as an ultimate goal of IWRM.



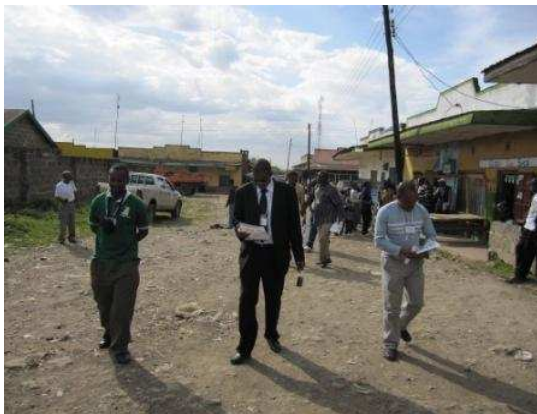
Workshops on IWRM and example of material

Mr. Tadashige Kawasaki, NARBO secretariat offered lectures on IWRM such as 'Sectors perspective of IWRM' and 'Stakeholders in river basin' and 'Key for Success of IWRM' and reported the survey of situations of RBOs in Africa. On 15 January, Mr. Kawasaki organized the drill of IWRM by thinking together with all participants and speakers to 6 questions. Intensive discussions were made at the drill, and some innovative ideas and interesting ideas by the view point of Africa were suggested. Mr. Kawasaki introduced the case of NARBO and NARBO activities to interact experience of Asia and Africa. As a result of the sessions on IWRM, basic concept of IWRM and 'IWRM Spiral' were well received among participants, and we agreed to draw 'IWRM Spiral' of each river basin and report it at next workshop. We're convinced that we could achieve the expectations and goals of the workshop through 3 days workshop to improve IWRM in Africa.

#### 4. Field Visit

In the afternoon on 16 January, we visited the watershed area of the Lake Naivasha where is located approximately 90km far from Nairobi. At first, we visited the upper reach of the river and shared the opinions of watershed management with water resource user's association who conserves watershed area by planting trees by local residents. In these areas, degradation of watershed area caused by deforestation and abandonment of cultivation is the issues.

After that, we visited the Lake Naivasha and see the situation of water usage around the lake. In this area, agriculture for flowers and ornamental plants is the major industry, and it caused the issues on water quality of the lake. To cope with these issues around the Lake Naivasha, international organizations such as the World Water Foundation (WWF) is supporting the residents by conducting the activities of capacity development and so on.



*Field visit of the Lake Naivasha*

#### 5. Summary

The joint workshop was very much successful, and 'IWRM Spiral' was well understood among participants to improve IWRM in Africa. There are many differences on situation of water and water resources between Asia and Africa such as issues on transboundary aquifers and climate. However, we can see many similar issues on water resources management between regions. I'm convinced that it is necessary for us to share each experience and challenge on IWRM to improve IWRM and enhance inter regional cooperation.



## 18. 6<sup>th</sup> World Water Forum / March 2012

NARBO members actively participated in the 6th World Water Forum in Marseille, France. Dr. Keizrul Bin Abdullah, the Chairperson of NARBO served as chair for “Strengthen River Basin Organizations in the Asia-Pacific to Accelerate IWRM”, and Mr. Sudharma Elakanda from Mahaweli Authority of Sri Lanka also participated in this as a speaker. (14 March, Session AP5-2)

With the word, “This session is intended to explore ‘How we can strengthen the governance of River Basin Organizations, and ‘How we can involve stakeholders’” spoken by the chair, the session started. Mr. Naoyoshi Sato, Vice-Minister for Engineering Affairs of Japan's Ministry of Land, Infrastructure, Transport and Tourism, Japan made his opening remarks. He expressed his expectation that the result of this session would accelerate the initiative of IWRM in Asia-Pacific region which plays a central role with its growing population and economy.

Mr. Elakanda made a presentation titled “IWRM Solutions with Spiral Model –Experience from NARBO & Mahaweli Authority of Sri Lanka”. At first, he introduced NARBO's outline. Following this, he made a summarized report of the situation in Sri Lanka. For instance, the annual rainfall ranging from 900 to over 5500mm, the fact that the country has 103 river basins, and so on. He showed examples of the conflicts in Sri Lanka, and explained about how Mahaweli Authority has approached these conflicts. Using IWRM spiral model effectively, his explanation led participants to understand how Mahaweli Authority had gone up the spiral effectively.

Dr. Keizrul summarized recommendations of this session, and we agreed following points.

- A good institutional framework is a pre-requisite for good governance at the river basin.
- There is a need to enhance the capacity of RBOs to accelerate IWRM at the basin level.
- NARBO and UNESCO should look into increasing capacity building efforts on the Spiral Model and on inter-regional cooperation.
- Empowerment of stakeholders can enhance the IWRM process.
- Science and research is key to understanding the impacts of climate change.
- Good data is crucial for reliable model results and such information should be shared readily.

The day before this session, “Launching of the Asia-Pacific Water Museum” was held at Japan Pavilion on March 13. Dr. Pichai Sonchaeng, President of National Science Museum, Thailand made an introduction of the Museum. Dr. Keizrul gave a speech and he emphasized the importance of sharing information and experience through such a museum.

In addition to this session, Dr. Mochammad Amron, Senior Advisor of NARBO and Mr. Tadashige Kawasaki, NARBO secretariat in Japan Water Agency introduced NARBO activities and shared the views on IWRM in Asia.





Besides sessions, JWA set up a booth of NARBO at Japan Pavilion. As one of the secretariats of NARBO, JWA displayed presentation materials about NARBO and presentation materials from NARBO members on TV and distributed the latest leaflets.



Session AP-5.2



NARBO/JWA Booth & Side Event Session



Dr. Mochammad Amron at Session on flood risk management

## **19. NARBO RETA IWRM workshop in Nepal, May 2012**

### **Background and Target of the Training**

CDTA7547 “Supporting Investment on Water Security in River Basins” primarily aims at supporting River Basin Organizations (RBOs) in the Asian river basins which are implementing Integrated Water Resources Management (IWRM). The TA is conducted by Japan Water Agency (JWA) and Asian Development Bank (ADB) targeting three river basins: i) Solo River, Indonesia, ii) Bagmati River, Nepal and iii) Syrdarya River, Uzbekistan. Network of Asian River Basin Organizations (NARBO) is partially collaborating with this TA in the capacity development portion.

As a part of many activities of TA, one training course for concerned staff of Nepal was organized to promote IWRM in the Bagmati River basin and to share the experiences with NARBO members, using the “IWRM Guidelines at River Basin Level” published by UNESCO in 2009.

There are too many issues in the Bagmati River basin such as lack of domestic water, deteriorated water quality, uncontrolled land use, haphazard and rapid urbanization, overextraction of groundwater causing land subsidence, lack of electricity, fragmented responsibilities regarding water management, and so on. Participants of the training were expected to consider sustainable Bagmati river environment as well as water resources development focusing on effective participatory approach and good water governance. Developing ‘IWRM Spiral’ in Bagmati River basin and finding out ‘Keys to Success’ to solve the above mentioned issues were programmed.

### **What happened at Nagarkot?**

The training was held at the Club Himalaya Resort in Nagarkot, which is located around 20km from Kathmandu, on May 31st and June 1st, 2012. Experts from Japan Water Agency and Perum Jasa Tirta II (PJT II), Indonesia and participants from Nepal exchanged each other's experiences on IWRM. Intensive discussions on how to improve current situation of the Bagmati River were made among experts and participants. PJT II was established in line with Gov. Reg. No 94/ 1999 and manages the Citarum river in West Java near Jakarta. PJT II provides public services and simultaneously gains profit based on the company management principles.

On the 1st day of the training, Mr. Herman Idrus, Director, JPT II shared his experiences on IWRM in the Citarum River by focusing on the improvement of river basin environment. He explained water quality management in the Citarum River and introduced the following ‘Keys to Success: Appropriate human resources are important to carry out proper operational works and also to have a vision on managing water quality management system as a whole. Comprehensive and customized database and information system are supporting tools for good decision making. Collaboration and mutual coordination with other agencies are a must to make an integrated plan, to put the plan into action, and to utilize monitoring result for law enforcement. At the end of his presentation, he stressed that rivers with complex problems should be managed by multi-sectoral approach.

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Intensive group discussions on 2 June, 2012

Mr. Kawasaki also explained concept of 'IWRM Spiral' and 'Keys to Success' in implementation of IWRM by introducing some case studies. At the end of his presentation, he stated that the importance of i) thinking about the differences of characteristic of basins, ii) perspective of IWRM, iii) each sector's perspective, and iv) added value. After his presentation, 'Keys to Success' in the Bagmati River was explored and discussed among all participants and experts. We identified potential 'Key for Successes' on each phase of 'IWRM Spiral' on the Bagmati River.

At the end of the training, Mr. Shishir Koirala, Water and Energy Commission Secretariat (WECS), Nepal summarized the training as follows, and concluded his remarks by praising successful conclusion of the training.

- i) We learnt new insights on IWRM through the training, and concept of IWRM is new to Nepal.
- ii) However, how to apply IWRM process into the Bagmati River in the future is the issue.
- iii) By using the knowledge, better and happy river for the people will be realized in the future.

## Outcome of Training

Participants of the training had already recognized the existence of many stakeholders in the basin and necessity of functioning institutional framework. After the conclusion of the training, importance of each sector's perspective was well understood. 'IWRM Spiral' and 'Keys to Success' of the Bagmati River contributed to the preparation of roadmap of investment plan for the Bagmati River. Recommendations for going up 'IWRM Spiral' and discussed 'Keys to Success' of the Bagmati River will contribute to the improvement of IWRM in their river basin. Result of the training is expected to contribute to the management of the future IWRM related projects.

## Way Forward

The training provided by experts from JWA and PJTII for participants from Nepal and had great success with capacity building. Experiences of the Bagmati River will be shared among NARBO for improving

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IWRM. In addition, NARBO has many good case studies of IWRM and various types of RBOs. More case studies should be shared with colleagues in Nepal for assisting them to establish appropriate types of RBOs.



Photo of the participant

## **20. International Seminar on River Basin Organization and the Bagmati River/ June 2012**

### **Backgrounds**

Nepal has been introducing integrated water resources management (IWRM) process, with recognition that integrated planning, development, and management of water, land, and related natural resources is critical in maximizing the development potential and reducing water-induced disasters, while sustaining water quality and ecosystems and their cultural values. As a major step to provide sound policy and institutional bases for introducing IWRM, the Water Resources Strategy (WRS) was adopted in 2002, which set out the sector goals, short- to long-term (up to 25 years) objectives, principles, and institutional framework for IWRM on the basis of river basins. On the basis of WRS, the National Water Plan (NWP) was adopted in 2005, as a means to put WRS into operation, with specific action plans for 10 subsectors or agendas categorized into water security, water use, and institutional mechanisms. With a reasonable framework to operationalize IWRM provided by WRS and NWP, the Government of Nepal is piloting IWRM process at the first phase, led by the Water and Energy Commission Secretariat (WECS), the Government of Nepal. The Asian Development Bank (ADB) and the Japan Water Agency (JWA) have been supporting the Bagmati River basin through regional-capacity development technical assistance for Supporting Investments in Water Security in River Basins (TA7547), with partnership to improve water security through the Network of Asian River Basin Organizations (NARBO).

### **Objective**

To provide an opportunity for water related government officers and civil societies in Nepal to think about practical IWRM approach by introducing a couple of actual RBO types which is an outcome from the NARBO RBO Seminar, and by learning experiences in other countries.

Date: 5 June 2012

Venue: Everest Hotel, Kathmandu, NEPAL

Participants: Representatives from Government, NGOs, IWMI, NARBO and civil group

### **Brief report of the seminar**

The session was Chaired by Mr.B.P.Pandit, Secretary,Water and Energy Commission Secretariat (WECS), and welcome remark was offered by Mr. Lacoul, Joint Secretary of WECS. Mr. Hisashi Mitsuhashi, ADB offered opening remarks by introducing ADB's Water Policy (Water for All & Water Operational Plan 2011–2020) and ADB's support to NARBO.

Dr. Keizul bin Abdullah made keynote speech and talked about managing river basin through RBO and how NARBO helps RBOs. Then, Prof. Slamet Budi Prayitno, Diponegoro University, Indonesia talked about stakeholder's participation approach on IWRM by introducing i ; Case Study of Solo River, ii ; Background of the establishment of Basin Council, iii; Structure of Basin Council and basin stakeholders

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and iv ; Coordination scheme and Public participation approach.

After the speeches, panel discussion Dr. Keizrul bin Abdullah chaired the session, and panelist talked following points.

i) Mr. Lacoul, WECS

- ✓ Issues and Countermeasure Strategy in the Bagmati River

ii) Mr. Hisashi Mitsuhashi, ADB

- ✓ RBO project in ADB by the viewpoint from Sustainable Infrastructure Division (RSID), ADB

iii) Dr. Slamet Budi Prayitno, Diponegoro University

- ✓ Participatory approach of water resources management in Solo Rier

iv) Dr. Takeyoshi Sadahiro, JWA

- ✓ TA Project in 3 countries. Importance of legal frame and RBO. Introduction of Indonesia`s case

Result of the seminar contributed to improve IWRM in the Bagmati river and TA7547 supported by NARBO.





## 21. A Seminar on Corporate RBOs

Dennis Von C. Custodio  
IWRM Specialist and RETA 6470<sup>1</sup> Coordinator (Consultant)  
Asian Development Bank

NARBO member organizations from Indonesia and Philippines shared their experience and lessons on corporatization of river basin organizations (RBOs), and how these can be applied in Asia during a seminar held at ADB Headquarters, Manila, Philippines last 8 February 2012.

The seminar was a follow-up activity to the seminar on the same topic held in Malang, Indonesia the year before. It aimed to answer the question 'Is Asia Ready for Corporate RBOs' by drawing lessons from the corporatization experience of strategic RBOs from Indonesia and Philippines; and to help ADB to catalyze the implementation of its then recently approved Water Operational Plan 2011-2020 which aims, among others, to accelerate the IWRM process in river basins facilitated by RBOs.

The NARBO member organizations from Indonesia comprised (i) Perum Jasa Tirta 1 (PJT1) which manages the Brantas and Solo river basins; and (ii) Perum Jasa Tirta 2 (PJT2) which manages the Citarum river basin. The NARBO member organization from Philippines was represented by the Laguna Lake Development Authority (LLDA) which manages the Laguna Lake basin. These three organizations are recognized to be rising to the

challenges on water to prepare their river basins for the future as corporate and quasi-corporate RBOs, ably supported by their respective governments.



NARBO Vice-Chairpersons Tjoek Walujo Subijanto (left) and Dolora Nepomucento (middle), together with Eddie Djajadiredja (right), shared experience and lessons from their respective organization as corporate RBOs.

PJT1 was represented by NARBO Vice-Chairperson Mr. Tjoek Walujo Subijanto (PJT1's ex-President Director); together with PJT1 corporate officials: Mr. Didih Hernawan, Mrs. Lussy Maritha Hernawan, Mr. Syamsul Bachri, and Mr. Rentjana Sembiring. PJT2 was represented by Mr. Eddie Adywarman Djajadiredja (PJT2's ex-President Director); together with PJT2 corporate officials: Mr. Endarta Dwi P. and Mr. M. Syamsul Rizal. LLDA was represented by NARBO Vice-Chair, and LLDA Asst. General Manager Ms. Dolora Nepomuceno.

ADB's water community of practice and project clients participated in the event.

### **Is Asia ready of corporate RBOs?**

Clearly, some countries are ready; and they are already moving in that direction.

The seminar concludes that there is scope to replicate the corporatization model for river basin management in Asia's river basins. The panelists and speakers have generally been moderately successful in moving the audience towards considering corporate RBOs as potential models for river basin management. There is need however to ensure that interventions are tailor-fitted to the real situation on the ground. There are many river basins, organizations, and countries where corporate RBOs are just not ready. But there are also many where the principles of corporate management and corporate RBOs can be applied.

Lessons from the corporate model of PJT1, PJT2, and LLDA are consistent with basic corporatization principles; and these can be drawn in establishing corporate RBOs:

- continuous improvement is the "heart" for a dynamic and sustainable institution
- business transformation should be in parallel with corporate culture transformation
- inherent characteristics and advantages for faster and better services include
  - responsiveness: customer-focused and quick response to new challenges and opportunities
  - flexibility: flexible mobilization, utilization and optimization of resources
  - accountability: fair and transparent fund use
  - independence: self capacity and human resource development, salaries and benefits, employing and laying off staff, financial management including buy and sell and retaining revenues; and other management systems
  - earmarked fund: financing O&M of infrastructure facilities from revenues from water services (user fees - beneficiaries pay principle)
  - stakeholders' support from the owners, regulators, users and public
  - shorter way from decision to implementation: promotion and implementation by in-house capacity rather than by a line agency (less need of inter-agency synchronization); direct financing that is separate from a lengthy public investment planning procedure
  - multi-stakeholder engagement for IWRM investment planning and decision making given multiplicity of actors and interests in a given watershed
  - legislated charter
  - fiscal autonomy: mobilization and leveraging of funds to catalyze investments in IWRM including environmental and water-related infrastructure projects
  - innovative financing mechanisms and market-based incentives adopted for IWRM





A quote from Karnataka State's Mr. Satyamurty, who thinks corporatization is an appropriate model for river basin management for Asia's water governance, reads: *'We already have three corporations in the water resources sector. For the last 10-12 years they have been functioning quite effectively. Therefore, 'corporate' is an effective, appropriate, and working model.'*

Some advantages of the model include flexibility and ability for the organization to respond with speed to emerging challenges; to bypass bureaucratic systems and channels; and to be more efficient and effective in undertaking activities. The flexibility is high for these organizations to act, in contrast to a full government setting which necessitates going through the bureaucratic channels and decision-making processes covering all areas from budgeting to implementation. The model also allows the organization to operate independently, and to develop ideas and mechanisms. The model also allows for revenue-generating opportunities.

## 22. CRBOM Activities on RBO-Performance Benchmarking 2010-2012

Directorate of Water Resources Management, Directorate General of Water Resources, Ministry of Public Work, the Republic of Indonesia in collaboration with Center for River Basin Organizations and Management conducted the River Basin Organization Performance Benchmarking (RBO-PBM) to the Indonesian RBOs. RBO-PBM is carried-out based on 14 NARBO RBO-PBMs Key Performance Indicators.

RBO-PBM implemented with the following steps:

1. Self-Assessment and Peer Reviewer Training held in Yogyakarta (2011) and Malang (2012)
2. Self-Assessment in each RBOs
3. Peer-Review
4. Reporting
5. Action Plan Evaluation

Progress of RBO-PBM in Indonesia:

2010 : 9 RBOs  
 2011 : 6 RBOs  
 2012 : 10 RBOs



## 23. Twinning Program/September 2012

12 delegates from Ministry of Agriculture and Rural Development (MARD) and MARD-related organizations in Viet Nam visited Japan Water Agency (JWA) from 14 to 21 September 2012 to take part in Twinning Program, which has been conducted between Viet Nam NARBO and JWA since April 2008 for the purpose of enhancing the capacity of water resources management.

They studied how JWA has implemented water management by visiting Tone-river basin, which is the largest river basin in Japan.

At first, they saw downstream of Tone river, then went upstream, and finally visited midstream. They observed whole Tone river basin directly.

The schedule was quite busy. Despite a long trip, delegates took a serious look at Japanese water-related facilities, asked JWA staff sharp questions to grasp how Japan has developed and managed water resource facilities. Besides, they seemed to have enjoyed Japanese food and culture.

On the last day, they made a courtesy call to JWA headquarters. It was a good opportunity for both organizations to deepen the relationship and exchange knowledge and experience between Vietnam and Japan.



At Gumma Canal displaying a banner for 60<sup>th</sup> anniversary



Courtesy call to JWA headquarters



Observe state of the art technology, the shielding machine



Operate monitoring and security cameras at Naramata dam



## **24. The 5th GEOSS AP Symposium: AWCI parallel session / September 2012**

The 5th GEOSS Asia-Pacific Symposium was successfully held from 2 to 4 April 2012 in Tokyo, Japan. Approximately 280 participants from 21 countries and 4 international organizations attended the symposium. The Symposium aimed further strengthening international networking within the region and share the Asia-Pacific's experiences with the world. Each country will report on the progress it has made in implementing GEOSS since the last Asia-Pacific Symposium in Indonesia. To focus the discussions, we are organizing parallel sessions on the following topics;

- ♦ Asian Water Cycle Initiative (AWCI)
- ♦ Asia-Pacific Biodiversity Observation Network (AP-BON)
- ♦ Forest Carbon Tracking (FCT)
- ♦ Ocean Observation and Society; and
- ♦ Agriculture and Food Security.

The Symposium also demonstrated the benefits of Earth observation applications to end users in developing countries, particularly in the fields of Water, Biodiversity, Forests, Ocean and Agriculture in the Asia-Pacific region.

On the second day of the symposium at AWCI session, Mr. Tadashige Kawasaki introduced the activities of NARBO and exchange opinions about IWRM with participants. In addition, discussion about possibility of collaboration with AWCI and NARBO was made after the discussion. As a summary of the session, we agreed that AWCI will conduct i) Framework for collaboration, ii) Project base collaboration and iii) Sub-Regional collaboration.



Mr. Kawasaki at AWCI session



At the end of the symposium, 'Tokyo Statement' was launched as follows.

*The participants of the 5th Global Earth Observation System of Systems (GEOSS) Asia-Pacific Symposium, hosted by the Group on Earth Observations (GEO), call upon the United Nations Rio + 20 Conference on Sustainable Development to recognize the critical role of Earth observations for informing an economy based on Green Growth. In particular Earth observations can accelerate the transition to a green economy that promotes sustainable growth and improves human well-being by jointly pursuing economic growth and the environment with proper stewardship of natural assets and benefits of ecosystem services.*

*Earthquakes and tsunamis, floods and droughts, ecosystem degradation and biodiversity loss in freshwater, coastal and forest environments, and climate change impacts endanger the security of water, food, energy, health and ecosystem services across the Asia-Pacific region today. Comprehensive, coordinated and sustained Earth observations and information are needed as a basis for sound decision making. Earth observations also form an integral part of regional cooperation to strengthen resilience to natural disasters and global climate change, harmonize society with nature, promote energy-security and establish a low-carbon society.*

*The effective use of wide-ranging knowledge and experience obtained through sharing data and information can support the transition to a green economy. Such data sharing will lead to the informed allocation of land and water use, the proper valuation and preservation of ecosystem services, and the reconciliation of environmental sustainability and economic development.*

*The Group on Earth Observations (GEO) has been advancing the Asian Water Cycle Initiative (AWCI) and the Asia-Pacific Biodiversity Observation Network (AP-BON), and is promoting regional cooperation under the GEO Global Agriculture Monitoring initiative (GEO GLAM) and the Global Forest Observation Initiative (GFOI). Discussions on data integration in jurisdictional waters of multiple countries have just begun including supports to/from the Intergovernmental Oceanographic Commission Sub-Commission for the Western Pacific (IOC/WESTPAC) and Regional Global Ocean Observing Systems in Asia-Pacific region. These projects and activities demonstrate the value of Earth observations and information and will serve as a model for regional cooperation, enabling scientists, practitioners, decision-makers, citizens and other stakeholders to work together towards achieving sustainable development.*

Source ; [http://www.restec.or.jp/geoss\\_ap5/index.html](http://www.restec.or.jp/geoss_ap5/index.html)

## 25. “Workshop on Meta-Guidelines for Water and Climate Change Adaptation” / Oct 2012

“Workshop on Meta-Guidelines for Water and Climate Change Adaptation” was held in the University of Tokyo, from October 1st to 2nd, 2012. This workshop aimed to review key issues and determine the basic direction for the establishment of guidelines, which help the practitioners to utilize climate change projection methodologies, tools for vulnerability and impact assessment, and project screening. The guidelines also provide instruction to them about adaptation strategies and activities.

As one of the key water-related organizations in the Asia-Pacific region, NARBO was invited to this workshop. The Vice-Chairperson, Mr. Tjoek Walujo Subijanto, the senior advisor, Dr. Apichart Anukularmphai, the Vice Secretary General, Mr. Kenji Someya, and one of the IWRM practitioners from Thailand, Ms. Janya Trairat from Department of Water Resources of Thailand participated in the workshop.

Mr. Kenji Someya, Japan Water Agency gave his opening remarks. He introduced the contribution of NARBO, especially the publication of IWRM guideline in cooperation with UNESCO. He also explained about NARBO activities relating to the climate change. In conclusion, he said that NARBO would continue to promote its activities in cooperation with APWF, AWCI and other organizations.

At the Session, “**How to Bridge the gap of usable knowledge**” chaired by Mr. Wouter Lincklaen Arriens from ADB, who also serves as the Vice Secretary General of NARBO, Ms. Janya Trairat, Department of Water Resources, Thailand, one of the panelists, gave a presentation and provided details on the massive flood which hit Bangkok in 2011, as well as the situation of water resources in Thailand. At the end of the session, active exchanges of views among all participants were promoted by Mr. Wouter, ADB

At the session titled “**How to synergize adaptation and IWRM**”, Mr. Shinsuke Ota, a former vice president of Japan Water Agency, Mr. Tjoek Subojanto from Perum Jasa Tirta 1, Indonesia, vice chairperson of NARBO, and Dr. Apichart Anukularmphai, from Thailand Water Resources Association and Senior Advisor of NARBO made a contribution of the success of it. Mr. Tjoek exemplified precipitation tendency of Brantas River Basin and also illustrated the relationship between IWRM and Climate Change Adaptation. Dr. Apichart showed the reason why IWRM and Climate Change Adaptation should be synergized each other and presented applicability, financial situation, and the promotion of IWRM,

At the end of the session, Mr. Tjoek and Dr. Apichart joined as panelists the discussion where all participants could conduct lively exchange of information and opinions. It was a great opportunity for all participants to realize the importance of synergy between IWRM and Climate Change Adaptation and IWRM is a very important tool for climate change adaptation.

*Photo of NARBO colleagues*



## 26. Saitama-City Waterworks International Seminar / October 2012

Saitama-city convened the International Seminar on Water Works on 24 October, 2012 in Saitama, Japan. The purpose of the seminar is held based on the agreement of the enhancement of collaboration on waterworks with Saitama-city and Vientiane-city, and the Vice Mayor of Vientiane-city and Director General of waterworks authority of Vientiane were invited to the seminar.

In the seminar, 12 presentations on water resources management, waterworks administration, experience of waterworks and public sewerage system in Japan and Lao PDR were made from representative of each field in both countries. Japan Water Agency (JWA) introduced NARBO activities on behalf of NARBO secretariat and insisted the necessity of IWRM in river basin level. To contribute to the discussion at the seminar and enhance IWRM in Lao PDR, JWA invited representative of the Nam Ngum River Basin Committee and Ministry of Natural Resources and Environment as members of NARBO to the seminar and requested to make presentation on IWRM in Lao PDR. Mr. Phonechaleun Nonthaxay introduced current situation of IWRM in Lao PER, especially Nam Ngum river basin and shared the lessons learnt. Mr. Nonthaxay emphasized that the necessity of the strong political support from high level officials and awareness among key stakeholders to improve IWRM, especially capacity development for them to achieve it. In addition to the seminar, poster session was held and 25 organizations including private sectors exhibited their latest engineering materials on water and introduced.

On 25 October, guest of the seminar visited the Takizawa Dam managed and operated by JWA, and JWA introduced the engineering and operation of the dam for them. It was a very good opportunity to exchange views on water issues in upper reach of the river.

The seminar was successful and contributed to enhance collaboration with Lao PDR and NARBO.



Waterworks International Seminar



Field Visit to the Takizawa Dam (JWA)



## 27. 7<sup>th</sup> IWRM Training / November 2012

### **1. Report of the 7th NARBO IWRM training**

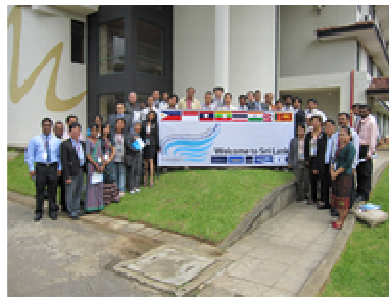
#### **1.1 Background of the IWRM training**

From 2004, NARBO holds its training on IWRM (Integrated Water Resources Management) almost every year as a capacity building program for river basin organizations (RBOs) and government agencies. The objective of the IWRM training is to assist mid-level RBO managers and practitioners of water resources management to better apply IWRM approaches at basin-scale. Through a mix of disciplinary studies and case studies, the IWRM training helps participants develop their capacity to understand, introduce, implement and improve IWRM in their respective river basins.

The 7<sup>th</sup> IWRM training was held in Sri Lanka in the Mahaweli River basin. As Sri Lanka had experienced floods in 2011 and serious drought in 2012, participants was expected to learn water-related disaster risk management from Sri Lankan experiences.

#### **1.2 Outline of the 7<sup>th</sup> IWRM training**

The 7<sup>th</sup> IWRM training was held from Nov.2<sup>nd</sup> to 9<sup>th</sup> 2012 at MAS Fabric Park in Thulhiriya, which is located around 65km northeast of Colombo in Sri Lanka. 26 participants, who work for RBOs or governments, came from 8 countries (India, Indonesia, Lao PDR, Myanmar, Nepal, Philippines, Sri Lanka, and Thailand), expecting to study and enhance their knowledge about IWRM through Mahaweli River basin experiences. Total 8 days' training including 2days' field visit (4<sup>th</sup> & 5<sup>th</sup> day) was carried out hosted by MASL (Mahaweli Authority of Sri Lanka).



Participants

Experts from MASL and other relevant institutes, and NARBO members gave lectures not only on IWRM-related matters using "IWRM Guidelines at River Basin Level", but Mahaweli river basin's wide variety of subjects such as history of MASL, hydropower, irrigation, data collection, climate change adaptation, food security, domestic water issues, as case studies. During lectures, participants were very eager to learn and actively asked a lot of questions. They also actively expressed their views on these subjects so that they could enhance their comprehension.

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Participants were also well prepared to have brought Posters, which they had been asked to make about their RBOs and activities. They introduced their Posters one by one on the 2<sup>nd</sup> & 3<sup>rd</sup> day of the training.



Lectures



Poster session

What the hardest but the most important parts of the training might be some group works. The subject was about IWRM progress of their own countries or basins as a final session of the training on the 8<sup>th</sup> day. After presentations, participants including NARBO chairperson, NARBO vice-chairpersons, NARBO senior advisors and NARBO secretariat discussed how to embed IWRM on their countries or basins.



Group works

After the last lecture of each day, NARBO secretariat wrapped up the seminar by using clicker system to get frank but severe evaluation about all the lectures and the training including accommodations. Overall the course was assessed as satisfactory (96% rated the course as good or very good) and had met the participants' learning objectives satisfactorily (100%).



Wrap-up



Break time

On the last day of the training, all the participants received a certification from NARBO chairperson "Dr. Keizrul bin Abdullah" and vice-chairperson "Mr. K.W. Ivan de Silva".

## **1.3 Study Visit**

On the first day, participants visited Anuradapura (World Heritage ancient city), Nachchaduwa and Kelawewa. At Nachchaduwa tank and the NAQDA center in Kelawewa, they met with stakeholders, who engage in farming, and exchanged their views each other. Hearing real voice from them must be helpful for participants to find a clue to solve the issues on water management.



Nachchaduwa tank



Discussions with stakeholders

On the second day, they visited Dambulla (famous city for rock temple), Victoria Dam, Polgolla, and Kandy. Participants observed both inside and outside of Victoria Dam and felt its hugeness at first hand. According to the questionnaire, 40% of the participants selected Victoria Dam as the place by which they learned most.



Victoria Dam



Polgolla Barrage

## **1.4 Conclusion**

As IWRM has been introduced well in the Asian region, now it is time to embed it in the river basin. But RBOs are facing challenges to start with and IWRM is not yet working effectively. NARBO secretariat believes good examples or case studies in other basins help RBOs embed IWRM to their basins, and there are many good examples in this region. Moreover, it is necessary to help RBOs understand “terms and conditions” of good examples to customize them for their specific challenges. NARBO secretariat expects that the IWRM training is good opportunity to start with IWRM and participants of the training get the momentum to move IWRM process forward.

The next step, NARBO secretariat is going to seek for how NARBO can follow up the participants to improve the effect of the training and to maintain the strong network.

Thanks to everyone related to this training, the training was successfully finished without any problem. Especially, thanks to MASL and course directors, almost all the lectures went on punctually.

## **2. Report on Participants' Evaluation of the 7th NARBO IWRM training**

Participants' evaluation of the training can help to determine areas for improvement thus help to guide NARBO in improving similar future events. Participants' evaluation of the training was obtained using two methodologies.

### **2.1 Participants' Evaluation by multiple choice questions.**

The first methodology was through a daily polling exercise whereby participants applied the 'clicker tool' to select their answer(s) to multiple-choice questions. The following basic questions were asked at the end of each day's sessions: (i) did you learn anything new today?; (ii) where did you learn the most; and (iii) what is your overall rating of today's technical sessions? Below are results of the daily polling exercise. On the last day, participants were asked about their overall evaluation of the training, again through a polling exercise using the 'clicker tool'.

Daily evaluation

Day	Did you learn anything new today?	Where did you learn the most? (top 3 answers)	What is your overall rating of the session?
Day 1	Yes – 96%; No – 4%	1. Water security – 72% 2. IWRM Guidelines – 8% 3. Keys for Success – 8%	Poor – 0% Fair - 12% Good – 64% Very Good – 24%
Day 2	Yes – 96%; No – 4%	1. Demand / supply management – 22% 2. Cascade village tank culture – 19% 3. History of MASL and basin's IWRM spiral – 13%	Poor – 0% Fair - 8% Good – 72% Very Good – 20%
Day 3	Yes – 100%; No – 0%	1. Data collection and importance of irrigation systems – 24% 2. Flood/drought management – 21% 3. Hydropower – 17%	Poor – 0% Fair - 4% Good – 80% Very Good – 16%
Days 4 & 5	Yes – 100%; No – 0%	1. Victoria Dam – 40% 2. Ancient city reservoirs – 28% 3. Kalawewa reservoir and dialogue with farmers – 28%	Poor – 4% Fair - 4% Good – 54% Very Good – 38%
Day 6	Yes – 100%; No – 0%	1. Basin roadmap and investment program – 28% 2. Ground water use – 23% 3. Domestic water – 22%	Poor – 0% Fair - 12% Good – 80%



			Very Good – 8%
Day 7	Yes – 100%; No – 0%	1. Japan Experience in IWRM - 40% 2. Environmental Flow – 28% 3. Institutional Imperatives for IWRM – 20%	Poor – 4% Fair - 8% Good – 64% Very Good – 24%
Day 8	Yes – 100%; No – 0%	1. Learning from Floods: Lessons from Thailand – 46% 2. Leadership on IWRM – 33% 3. Keys for Success in Laguna Lake – 17%	Poor – 0% Fair - 4% Good – 72% Very Good – 24%

## Overall evaluation

Training Aspect	Response
Relevance to work	No – 0% Fair – 0% Moderate – 52% Highly – 48%
Sufficient details of topics	No – 0% Fair – 8% Moderate – 79% Fully – 13%
Venue – food, seating, sound, facilities	Poor-0% Fair-8% Good – 50% Very Good – 42%
Room accommodation	Poor-0% Fair-16% Good – 42% Very Good – 42%
Transport arrangements	Poor-0% Fair-24% Good – 48% Very Good – 28%
Administrative arrangements	Poor-0% Fair-9% Good – 58% Very Good – 33%
Technical materials	Poor-0%

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	Fair-4% Good – 58% Very Good – 38%
Area needing most improvement	Study visit – 27% Quality of presentations – 23% Depth of coverage – 17% Venue – 12% Technical materials – 10%
Achieved learning objectives?	Yes – 100%; No-0%
Overall Rating	Poor-0%; Fair-4%; Good – 67% Very Good – 29%

## **2.2 Participants' Evaluation by a survey form**

The second methodology was through a survey form whereby participants provided further suggestions and comments on the training, including: (i) what they think as the most interesting topic of the training; (ii) any interesting topic not covered by the training but should have been covered; (iii) how to improve future NARBO training courses; and (iv) other comments.

(1) **Overall Impression.** Of the 19 respondents:

- 15 (79%) found the training as '*valuable*' (*gained knowledge; made new contacts, and will take immediate and specific follow-up actions*).
- 4 (21%) found the training as '*interesting*' (*increased the knowledge about the subject, made new contacts which will help in current work*).

(2) **Most interesting topic.** The respondents were asked about the most interesting topic. The individual responses were as follows:

- water security (4x)
- IWRM process (spiral) and how to implement it in own river basin (4x)
- demand and supply management for efficient water use (decision-making of RBO) (2x)
- benchmarking and peer review process in MASL and RBOs (2x)
- leadership (2x)
- spiral model (2x)
- study visit
- water resource management
- data collection and importance of irrigation system in Sri Lanka

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- Dr. Apichart's presentation
- all topics on how Sri Lanka has successfully achieved its water security and sustainability
- information system in Mahaweli river basin

(3) **Interesting topic that should have been covered by the study visit.** The respondents were asked what they think is an interesting topic that was not covered by the training but should otherwise be covered. The individual responses were as follows:

- groundwater management for agriculture
- none – but should have more time for sharing experience in IWRM process
- none
- technical presentation should be accompanied with relevant video footages
- micro-irrigation
- modern vs. traditional irrigation
- conflict solving process in river basins
- financing in promoting IWRM
- environmental flow
- negotiation
- water safety plan
- best practices, new developments
- Japan experience
- communication skills
- new softwares to IWRM process
- optimization (software on lessons)
- field issues during implementation process and how they were solved or managed
- experience of field works sharing among participants

(4) **How to improve future training courses.** The respondents were asked how to improve future training courses. The individual responses were as follows:

- straight 8-day training without 1-day break is quite tiring – trainee needs a break to refresh the mind and absorb more input information
- cooperation on water resources management (conjunctive uses)
- more interaction among the participants
- more focus-group discussions
- gather all the graduates to showcase best river basin experiences
- go beyond Asia network
- more examples and success stories
- more experiences in resource person presentations
- assign case study on group discussion

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- increase field visit days (2x)
- have more case study presentations
- share experience from African countries
- have more best practices and new developments
- have more pictorial presentations of Dr. Apichart
- consider flight schedules against the program
- consider food differences of participants
- have rules clearly defined during start of training
- more specific materials
- duration is not long
- accommodation should not be far from training venue
- have better presenters
- have clear-cut materials
- arrange more study visits
- include topic on how to optimize solutions
- have more participatory training with hands-on-exercises
- have lessons on learning from the past – inclusion of other related topics on IWRM

(5) **Other Comments.** The respondents were asked what other comments they have on the training, and the individual responses were as follows:

- I enjoyed and learned a lot from this training, so I don't have any comments
- I really got many experience from this training which is very useful for my work
- I like this training very much and I'll never forget the times, learning experiences, and all participants
- I am impressed with this training since we are in the process of IWRM, and would like to share experience among the NARBO countries
- This is very good opportunity for me to know about Asian river basin systems and to be aware of different nationals and how to work with different nationals and it is nice to have good connections
- Case study approach as same as this training is good
- All management parts of this training are very well
- The clicker evaluation is a good tool
- If you can organize the training every year, that would be very nice
- Try to hold the training continuously every year
- NARBO training course should be continued
- NARBO is in the right direction to help river basins face water challenges – thank you
- It was very nice – thank you
- It was satisfactory
- No comments
- The next training can be brought to Davao, Philippines. The Davao river basin experience can provide valuable

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lessons that can be shared to other river basins

- Next training can be in Thailand
- I would like the next training to be in Thailand
- Logistics arrangements can be improved
- More information can be provided to participants regarding what basic items they need to bring and what will be arranged for

## **28. 2<sup>nd</sup> NARBO Management Team Meeting / November 2012**

### **Background**

The 4th NARBO General Meeting has set several directions for expanding our NARBO work. We agreed to explore leadership roles for each member and realized the necessity of upgrading our activities, including the improvement of secretariat work and database of NARBO members. To address these matters, the Secretariat set up the 'Management Team' consists of Chairperson, Vice-Chairpersons, Senior Advisers, Secretary General and Vice-Secretary Generals in early 2011, and organized the 1<sup>st</sup> NARBO Management Team Meeting. In the meeting, team discussed i) Exploring Strategic Direction, ii) Expanding Knowledge and Performance, iii) Developing Leadership in the IWRM Process, and iv) Improving Networking and Secretariat. Based on the result of the discussion and recommendations, NARBO achieved measurable progress. However, for enhancing the influence of NARBO in Asia and quality of NARBO activities, reviewing past two years activities and having strategic plan are needed. Toward the 5<sup>th</sup> General Meeting which will be held in February 2013, Management Team Meeting will be convened to discuss above mentioned matters, especially focusing on making draft two year's action program of NARBO.

### **Purpose**

NARBO Management Team will discuss NARBO next two year's action program by reviewing past activities.

### **Outcome**

Strategic direction of future NARBO activities which should be reflected to NARBO next two year's action program.

### **Brief Summary**

I ; Reviewing past two year's activities of NARBO / Session 1

NARBO secretariat introduced the progress of NARBO after the 1<sup>st</sup> Management Team Meeting in January, 2011. Compared with past Action Program, numbers of events have increased, and NARBO increased influence on IWRM in Asia. To expand, improve the quality of NARBO activities and add value to NARBO, we agreed to consider i ; expanding category of member such as water sectors, ii ; enhance ownership by members and encourage them to share their experiences and to make in-kind contributions to NARBO events and products (membership fee) and iii ; action in the international field. In addition, many useful recommendations to be noted to NARBO secretariat to offered by Management Team members..

## II ; Discussions for the strategy of NARBO and the next three years action program /Session2

In the session 2, Management Team discussed the directions of future activities of NARBO based on the discussion of the session 1 for considering the 5<sup>th</sup> General Meeting and the 2<sup>nd</sup> Asia-Pacific Water Summit which will be held in May, 2013 in Thailand. We agreed to extend the terms of Action Plan from 2 to 3 years to make good results and enhance i ; benchmarking activities by using the result of past activities and ii ; introducing 'Local Chapters' to share the experience of NARBO to staff level in each member organization to improve IWRM more local level.

NARBO secretariat started preparation for the 5<sup>th</sup> NARBO General Meeting by considering the recommendations of Management Team members to add value and increase influence of NARBO.



2<sup>nd</sup> NARBO Management Team meeting in Sri Lanka on November, 2012



## 29. RBO Visit to India / December 2012

NARBO secretariat in Japan Water Agency visited India from 8th to 15th December 2012 in order to investigate circumstances surrounding water in India, and exchanged views on IWRM with central / state government, and an institute of India.

At first, we observed UASB-DHS (Upflow Anaerobic Sludge Blanket – Down-flow Hanging Sponge) wastewater treatment facility which is being experimented by Tohoku University and installed in Karnal, north of Delhi.

In terms of energy consumption, this system can save electricity by using potential energy. Wastewater treatment is crucial for sustainable water management. However, in general, developing countries have difficulties to cope

with this issue because of financial problem and low environmental awareness. We saw how that system works, and to what extent the system purifies wastewater, and identified the issues which this system has.



Next, we visited Central Water Commission of India where we provided a brief introduction of NARBO activities to the staff there. In India, there are no RBOs of which the government of India is considering the establishment. .

We were informed from the staff of the Commission explained that 'National Water Policy' was amended, and is waiting for the approval. We also heard with pleasure that they promised to consider joining NARBO.

Following that, we went to TERI: the Technology and Resources Institute where we introduced NARBO and exchanged opinions about water-related issues.

Various topics were discussed between TERI researchers and secretariat members. TERI researchers mentioned that one of the most important challenges of IWRM in India is water pollution problems. We were also informed by them that water tariff is determined by the government, without considering running

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cost. We could have a fruitful discussion, which we could gain a wealth of information on water issues in India from TERI researchers who are familiar with water-related matters in many aspects.

Finally, we visited Odisha. Mr. Sahoo and Mr. Mohapatra, who participated in 7th IWRM training, kindly provided us a tour of the government office of Orissa. Mr. Rath, who also participated in NARBO RBO Seminar in 2011, welcomed us and held a meeting for an exchange of opinions. After the discussion, we made a courtesy visit to the Principal Secretary of Government. On the second day of the visit, we went on a field trip. Government of Odisha kindly arranged a meeting with farmer's association. It was meaningful for us that we could hear opinions from the organization. In addition, we observed IWRM spiral in Odisha.



Government of Odisha and Field Visit

In this visit, we realized that India is a great country as Indian people say with pride. At the same time, we keenly sensed that solving water issues is imperative in India. In this sense, we believe that NARBO activities must be useful for India, while the development of Indian IWRM can lead to the development of NARBO. We hope to keep in touch with friends in India and continue a cordial relationship.

### **30. WEPA Annual Meeting and Seminar in Cambodia / February 2013**

WEPA, Water Environmental Partnership in Asia, aims to promote good governance in water environment management by providing necessary information and knowledge of water environment management in the region through databases. NARBO, as a Network of RBO, considers water environment management is one of the important areas under the IWRM umbrella. Therefore NARBO keeps connection with WEPA.

This time, WEPA 4<sup>th</sup> International workshop was held in Siem Reap, Cambodia, from 22 to 23 February 2013. It focused on "on-site water treatment". WEPA partners introduced their country's situation. According to the presentation from WEPA, the settlement of water treatment facilities remains relatively low in many countries in Asia, such as Cambodia, Vietnam, Sri Lanka, Indonesia, and so on. Therefore, the importance of on-site treatment system was stressed. One of speakers from Japan introduced Japanese on-site domestic wastewater treatment system, Johkasou. He emphasized the effective of Johkasou system, and also mentioned the importance of governmental support as well as periodical monitoring. By using this opportunity, secretariat of NARBO introduced NARBO activities as well as an experiment of wastewater treatment executed in Nepal.



WEPA annual meeting was followed the workshop. Speakers from Cambodia said that IWRM approach is considered to cope with water pollutant. In this meeting, secretariat of WEPA introduced the industrial wastewater management as a next topic of WEPA activities. Lastly, road map of the 3<sup>rd</sup> phase was shown to WEPA members. Secretariat of WEPA asked members to be more active on WEPA activities.



At the last day of this workshop and meeting, Study visit was held. Many members observed wastewater treatment system in Siem Reap.



Wastewater treatment is also one of the big challenges for IWRM practitioner. Sharing and exchanging experience and knowledge is crucial for achieving good water environment and society. As one of IWRM practitioner Network, NARBO will keep relationship with WEPA, and hopefully hold joint-event with WEPA in near future.

## **31. Side Event of the United Nation Special Thematic Session on Water and Disasters / March 2013**

### **Objective**

Prior to the **UN Special Thematic Session on Water and Disasters** will be organized as **Secretary-General's special event on March 6th, 2013**, technical discussion on key topics on water and disasters will be conducted as Side Event of the Special Thematic Session on March 5th, 2013. The Side Event is expected to facilitate common understanding and shared vision on key topics on water and disasters, leading to enhanced awareness and deepened discussion in the Special Thematic Session.

The following topics will be addressed in each of segments of the Side Event

- From relief to preparedness – enhancing leadership, governance and coordination system for effective mitigation of mega-water-disasters (1.5 hours)
- Addressing Water and Disasters in the context of Post-MDG and Post-Hyogo Process (1.5 hours)
- Integrated Water Resources and Flood Management in the context of International Water Resources Management and Water Cooperation (1.5 hours)

Chair of Side Event is expected to share output of the discussion in the Special Thematic Session next day.

### **Organizer**

Friends of Side Event of UN Special Thematic Session on Water and Disasters (HLEP/UNSGAB, UN-ISDR, WMO, UNESCO, International Flood Initiative, ICHARM, US Army Corps of Engineers, Japan Water Agency, NARBO, GWP, WWC, World Bank/GFDRR and others

### **Speakers and participants**

Around 100 high level experts, national/international experts, civil society and private sector representatives from 30 countries joined and intensive discussions were made.

### **Brief Summary**

Side events consisted of 3 sessions such as i ; 'From relief to preparedness' –lessons learnt of hurricane Sandy by US Army Corps of Engineers, ii ; Addressing Water and Disasters in the context of Post-MDG and Post-Hyogo Process by ICHARM and iii ; Integrated Water Resources and Flood Management in the context of International Water Resources Management and Water Cooperation by NARBO.



Through intensive discussions, we agreed following matters as common understanding to be addressed.

- ✓ Water-related disasters have strong linkage with economic growth and poverty issues.
- ✓ To achieve sustainable development goals (SDGs) under the increasing of serious hydrological events and population we need to prepare for water-related disasters immediately.
- ✓ Issues on water-related disasters need to be addressed at not only for national and local level but also internationally, because water-related disasters influence beyond the boarder in the current globally close economy and society.

Panelists stressed that the necessity of recognition of risks and enhancement of communication by capacity development and sharing information through education and training especially in local level. In addition, necessity of wholistic approach to cope with complicated issues on water and disaster. Wholistic approach should includes and introduce with the recognition of preparedness to disaster and best mix of structural and non-structural measures and needs the combination of effective relief from disaster and strategic recovery plan.

As recommendations to the Special Thematic Session on Water and Disasters, following points were summarized and reported to the Special Thematic Session.

- ✓ Regular dialogue process about water-related disaster should be established by the United Nations
- ✓ Visible and measurable target of disaster risk reduction with international consensus should be prepared some part of Post-MDGs.
- ✓ International and regional cooperation to enhance knowledge and experience of disaster risk management and offer the coordination mechanism of disaster relief operation need to be enhanced. The United Nations and other regional organizations have a highly important role on it.
- ✓ Continuous effort to implement the action program proposed by High-Level Expert Panel on Water and Disasters is needed.

## **NARBO's Session**

Dr. Keizrul Bin Abdullah, Chairperson of NARBO chaired the session, and 8 panelists introduced their views by focusing on IWRM and water-related disaster. List of the panelist is as follows.

- Mr. Kuntoro Mangkusubroto, Head of Presidential Work Unit , Indonesia
- HE Mr. Sirodjidin Aslov, Ambassador, Permanent Representative of the Republic of Tajikistan to the United Nations
- Dr. Ania Grobicki, Executive Secretary of Global Water Partnership
- Mr. Steven L. Stockton, Director of Civil Works, USACE
- Mr. Kenyu Komura, President of Japan Water Agency

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- Mr. Sami Areikat, Department of Economic and Social Affairs, United Nations
- Mr. Sering Jallow, Director, Water & Sanitation Department and African Water Facility, African Development Bank
- Mr. Woochong Um, Deputy Director General, Regional and Sustainable Development Department, Asian Development Bank

As a result of the discussion, Dr. Abdullah summarized the session as follows, and participants agreed on it.

- ✓ There are issues on too much water, too little water and too dirty water in the world.
- ✓ Coordination among different level of government organizations dealing water is necessary.
- ✓ Transition from top down approach to bottom up approach is needed to introduce participatory method about water governance.
- ✓ Cooperation and development tools are needed.
- ✓ Investment to water is necessary.
- ✓ Role of infrastructure to minimize the negative impact and affect of extreme event is needed. In addition, best mix of combination of structural and non-structural methods is also needed.

Summary of the side event was distributed at the Special Thematic Session on 6 March, and speakers of the special session quoted the discussion at the side event. In this way, discussion of the side event contributed to the discussion at the special session and achieved the expected results. Through the side event, NARBO introduced the issues on water as a representative of Asia and contributed to the discussion on issues on water and disasters. Further more, value of NARBO has been added by organizing the side event with other international organizations in the United Nations.



Side Event of the Special Thematic Session on Water and Disasters in the UN on 5 March, 2013

## United Nations Special Session on Water and Disasters

### Objective

*Water is life. But water is also a threat to life. During the past decade, water-related disasters have not only struck more frequently but have also been more severe, hampering sustainable development by causing political, social, and economic shocks in many countries. Disaster risk levels are driven by factors such as climate variability, poverty, poor land-use planning and management, as well as ecosystem degradation, and are increasing as more people and assets locate in areas of high risk. For example, over the past 30 years, the proportion of people living in flood-prone river basins increased by 114 percent and on cyclone-exposed coastlines by 192 percent.*

*While the mortality risk associated with major weather-related hazards is now declining globally, the economic loss risk associated with floods and tropical cyclones is increasing in all regions. While disasters affect all, the poor suffer the most. Low income countries, including the Least Developed Countries (LDCs) and Small Island Developing States (SIDS), have less capacity to absorb and recover from economic losses caused by disasters due to their social and economic situations.*

*Global changes including climate change, increased population pressure, declining ecosystems, and unplanned urbanization are drastically increasing the risks of water-related disasters. Green growth will not materialize without adequately addressing water-related disasters. As highlighted during the current discourse in the Rio+20 process, integrated approaches to water resource management are critical for building the social, economic, and environmental pillars of sustainable development.*

*Having these in mind, the Special Session on Water and Disasters, an initiative of Secretary-General, will be held at the United Nations to raise awareness, share experiences and good practices, and discuss ways forward towards global actions on water and disasters.*

Venue: ECOSOC Chamber, United Nations, New York

Date: March 6<sup>th</sup>, 2013 9:30-18:00

Organizers: Secretary-General, Secretary-General's Advisory Board on Water and Sanitation (UNSGAB),  
High Level Expert Panel on Water and Disasters (HLEP/UNSGAB)

Chair: H.E. Mr. BAN Ki-moon, Secretary-General

Co-chair: H.E. Dr. Han Seung-soo, Founding Chair of HLEP/UNSGAB

Around 500 delegates participated in the special session.



## **Special Thematic Session and NARBO**

Dr. Keizrul Bin Abdullah, Chairperson of NARBO see the Crown Prince of Japan at the reception on 5 March and exchanged the views on water and introduced NARBO. Dr. Abdullah also invited to the luncheon meeting organized by Mr. BAN Ki-moon, Secretary-General of the United States on 6 March and exchanged views with water experts around the world. Dr. Abdullah highly contributed to add value of NARBO in the world.



The Crown Prince of Japan and Dr. Abdullah at reception on 5 March, 2013.

Mr. Tadashige Kawasaki, NARBO Secretariat and Japan Water Agency served as one of the temporary secretariat of the UNSGAB (United Nations Secretary General's Advisory Board on Water and Sanitation) and engaged in the preparation work of the special session, especially side event and luncheon meetings. These experiences should be contributed to future NARBO activities.