

# Programs & Newsletters

**The NARBO 6<sup>th</sup> IWRM Training**  
**Da Nang, Viet Nam**  
**30 November - 7 December 2009**

Organized by Network of Asian River Basin Organization (NARBO) in cooperation with Vu Gia - Thu Bon River Basin Organizations

Course directed by International WaterCentre (IWC) and NARBO Secretariat

**Training Program**

Date & Time	Agenda	Speakers
<b>Day 0 29 November 2009 (Sunday)</b>		
9:00 -12:00	Secretariat Meeting	
PM	Participants arrival	
Evening	Secretariat Meeting (If necessary)	
<b>Day 1 30 November 2009 (Monday)</b>		
08:30 - 09:00	Registration	
Session 1:	Opening Ceremony	
09:00 - 09:10	[1-1] Opening remarks (1)	Mr. Dao Xuan Hoc, Vice Minister of MARD
09:10 - 09:20	[1-2] Opening remarks (2)	[Name of Speaker] Director general of MARD
09:20 - 09:35	[1-3] Opening remarks (3)	[TBD] People's Committee of Da Nang City
09:35 - 09:40	[1-4] Introduction of NARBO	Mr. Toshiyuki Yoshioka, Vice Secretary General of NARBO
09:40 - 09:50	[1-5] Group Photo	NARBO Secretariat

Date & Time	Agenda	Speakers
09:50 - 10:10	Coffee Break	
Session 2: Introduction of the Training and Overview		
10:10 - 10:20	[2-1] Introduction of the training	Mr. Tadashige Kawasaki, ADBI
10:20 - 11:00	[2-2] Overview (1)	Dr. Peter Oliver, IWC
11:00 - 11:10	Short Break	
11:20 - 12:00	[2-2] Overview (2)	Dr. Peter Oliver, IWC
12:00 - 13:00	Lunch Break	
Session 3: Introduction of IWRM Guidelines at River Basin Level		
13:00 - 13:20	[3-1] Introduction of IWRM Guidelines at River Basin Level and Part I	Mr. Koichi Takano, ADB
13:20 - 14:00	[3-2] IWRM Process and Spiral in implementing IWRM	Mr. Koichi Takano, ADB and Mr. Toshiyuki Yoshioka, JWA
14:00 - 14:10	Short Break	
Session 4: Basin Profile of the Vu Gia -Thu Bon River		
14:10 - 15:30	[4-1] Basin Profile of the Vu Gia -Thu Bon River	Mr. Huynh Van Thang, DARD, Da Nang City, [TBD], DARD, Quang Nam Province, Mr. Toshiyuki Yoshioka, JWA and Mr. Koichi Takano, ADB
15:30 - 16:00	Coffee Break	
Session 5: Sectoral Perspective in IWRM		
16:00 - 16:40	[5-1] Sectoral Perspective	Mr. Toshiyuki Yoshioka, JWA and Mr. Koichi Takano, ADB
Wrap up of the Day 1		

Date & Time	Agenda	Speakers
16:40 - 17:00	Wrap up of the Day 1	Dr. Peter Oliver, IWC, Mr. Toshiyuki Yoshioka, JWA and Mr. Koichi Takano, ADB
18:00 - 19:30	Welcome Dinner	
Day2 1 December 2009 (Tuesday)		
08:20 - 08:30	Registration	
Session 5: Sectoral Perspective in IWRM (Continued)		
08:30 - 09:10	[5-2] Domestic	Mr. Le Duy Vong, DARD, Da Nang City
09:10 - 09:20	Short Break	
09:20 - 10:00	[5-3] Irrigation	[TBD], DARD, Quang Nam Province
10:00 - 10:30	Coffee Break	
10:30 - 11:10	[5-4] Hydropower	[TBD], DONRE, Quang Nam Province
11:10 - 11:20	Short Break	
11:20 - 12:00	[5-5] Flood Management	[TBD], DARD, Quang Nam Province
12:00 - 13:00	Lunch Break	
13:00 - 13:40	[5-6] Water Quality Management	Mr. Dang Quang Vinh, DONRE, Da Nang City
13:40 - 14:20	[5-7] Coastal Management	Dr. Chu Manh Trinh
14:20 - 14:30	Short Break	
14:10 - 14:50	[5-8] Environment	[TBD], WWF, Greater Mekong

Date & Time	Agenda	Speakers
14:50 - 15:20	Coffee Break	
15:20 - 16:00	[5-9] Natural Flow	Ms. Ruth Mathews, WWF Greater Mekong
16:00 - 16:40	[5-11] Strategic Environment Assessment and Intact River	[TBD], DARD, Quang Nam Province
Wrap up of the Day 2		
16:40 - 17:00	Wrap up of the Day 2	Dr. Peter Oliver, IWC, Mr. Toshiyuki Yoshioka and Mr. Tatsuo Kunieda, JWA
Poster Session		
18:00 - 19:00	Poster Session with drink	IWC
19:00 -	Dinner	
Day3 2 December 2009 (Wednesday)		
08:20 - 08:30	Registration	
Session 5: Sectoral Perspective in IWRM (Continued)		
08:30 -09:10	[5-12] Benefit Sharing	Dr. Tim McGrath, IES
09:10 - 09:20	Short Break	
Session 6: Key for Success and Case Study		
09:20 - 10:00	[6-1] Key for Success (1)	Mr. Koichi Takano, ADB and Mr. Toshiyuki Yoshioka, JWA
10:00 - 10:30	Coffee Break	
10:30 - 11:00	[6-1] Key for Success (2)	Mr. Toshiyuki Yoshioka, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB

Date & Time	Agenda	Speakers
11:00 - 12:00	[6-2] Case Study of IWRM (1) <ul style="list-style-type: none"> <li>• Tone River Basin, Japan</li> <li>• Red River Basin, Viet Nam</li> </ul>	Mr. Tatsuo Kunieda, JWA Ms. Hang of RRBO
12:00 - 13:00	Lunch Break	
13:00 - 13:20	[6-2] Explanation of Study Visit	IWC, NARBO Secretariat and Host organization
13:20 - 13:30	Short Break	
Session 7: Roadmaps for Investment Programs		
13:30 - 14:10	[7-1] Roadmaps for Investment Programs (lecture 1)	Dr. Tue Kell Nielsen and Dr. Slamet Budi Prayitno
14:10 - 14:40	Coffee Break	
14:40 - 15:20	[7-2] Roadmaps for Investment Programs (lecture 2)	Dr. Tue Kell Nielsen and Dr. Slamet Budi Prayitno
15:20 - 15:30	Short Break	
15:30 -16:00	[7-3] Roadmaps for Investment Programs (Group work)	Dr. Tue Kell Nielsen and Dr. Slamet Budi Prayitno
16:00 - 16:10	Short Break	
16:10 - 16:40	[7-4] Roadmaps for Investment Programs (Plenary Discussion)	Dr. Tue Kell Nielsen and Dr. Slamet Budi Prayitno
Wrap up of the Day 3		
16:40 - 17:00	Wrap up of the Day 3	Dr. Peter Oliver, IWC, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB
18:30 -	Dinner	
Day4 3 December 2009 (Thursday) Study Visit (Day1)		
	Registration	

Date & Time	Agenda	Speakers
	Leave Hotel	
	River mouth of Vu Gia River	
	Cau Do Water Plant	
	An Trach Weir	
	Lunch	
	Dai Cuong Break Water(Quang Nam Province)	
	Hoi An	
	Arrive at Hotel	
17:00 - 17:30	Debriefing of Study Visit	
18:30 -	Dinner	
Day5 4 December 2009 (Friday) Study Visit (Day2)		
08:20 - 08:30	Registration	
08:30 -	Leave Hotel	
10:00 - 11:00	Song Tang Nature Reserve Office	
	Lunch	
14:00 - 15:00	Group 1 ; A Vung Dam lead by Dr. Tim Group2 ; Dak Mi 4 Dam lead by Dr. Trinh	
	Arrive at Hotel	
17:00 - 17:30	Debriefing of Study Visit	
18:30 -	Dinner	
Day6 5 December 2009 (Saturday)		
AM	Reflection and Preparation for presentation	

Date & Time	Agenda	Speakers
12:00 - 13:00	Lunch Break	
Session 8 Latest Technologies on IWRM		
13:00 - 13:45	[8-1] River and Environment (1)	Dr. Peter Oliver and Dr. Eva Abal, IWC
13:45 - 13:55	Short Break	
13:55 - 14:40	[8-1] River and Environment (2)	Dr. Peter Oliver and Dr. Eva Abal, IWC
14:40 - 15:10	Short Break	
15:10 - 15:50	[8-2] [TBD, Irrigation Management in Viet Nam?]	Mr. Shigeo Karimata, JICA
15:50 - 16:00	Coffee Break	
16:00 - 16:40	[8-3] Concept Modeller of IWRM	Ms. Lien, IWC
Wrap up of the Day 6		
16:40 - 17:00	Wrap up of the Day 6	Dr. Peter Oliver, IWC, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB
18:30 -	Dinner	
Day7 6 December 2009 (Sunday)		
08:20 - 08:30	Registration	
Lecture 8: Latest Technologies on IWRM (Continued)		
08:30 - 09:10	[8-4] Community Disaster Mitigation in Central Viet Nam	Mr. Hirohisa Miura, JICA
09:10 - 09:20	Short Break	
09:20 - 10:00	[8-5] Case study in PRC	Mr. Yaozhou Zhou, ADB

Date & Time	Agenda	Speakers
10:00 -10:30	Coffee Break	
10:30 - 11:10	[8-6] [TBD]	[TBD]
11:10 - 11:20	Short Break	
Session 9: NARBO Performance Benchmarking Service		
11:20 - 12:00	[9-1] NARBO Performance Benchmarking Service (1)	ADB/PJT 1
12:00 - 13:00	Lunch Break	
13:00 - 13:40	[9-1] NARBO Performance Benchmarking Service (2)	ADB/PJT 1
Session 10: Applying Spiral Model of IWRM in the VGTB		
13:40 - 14:30	[10-1] Presentation; Spiral Model of IWRM in VGTB (1)	Dr. Peter Oliver, IWC, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB
14:30 - 15:00	Coffee Break	
15:00 - 15:50	[10-1] Presentation; Spiral Model of IWRM in VGTB (1)	Dr. Peter Oliver, IWC, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB
15:50 - 16:00	Short Break	
Session 11; What can be applied to your basin?		
16:00 - 16:20	[11-1] Introduction of group work	Dr. Peter Oliver, IWC, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB
16:20 - 16:40	[11-2] Group work	Dr. Peter Oliver, IWC, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB
Wrap up of the Day 7		

Date & Time	Agenda	Speakers
16:40 - 17:00	Wrap up of the Day 7	Dr. Peter Oliver, IWC, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB
18:30 -	Dinner	
Day8 7 December 2009 (Monday)		
08:20 - 08:30	Registration	
Session 11; What can be applied to your basin? (Continued)		
08:30 - 10:00	[11-3] Group work	Dr. Peter Oliver, IWC, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB
10:00 - 10:30	Coffee Break	
10:30 - 12:00	[11-4] Presentation (1)	Dr. Peter Oliver, IWC, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB
12:00 - 13:00	Lunch Break	
13:00 - 15:00	[11-4] Presentation (2)	Dr. Peter Oliver, IWC, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB
15:00 - 15:30	Coffee Break	
Wrap up & Evaluation		
15:30 - 16:10	Wrap up & Evaluation	Dr. Peter Oliver, IWC, Mr. Tadashige Kawasaki, ADBI, Mr. Tatsuo Kunieda, JWA and Mr. Koichi Takano, ADB
16:10 - 16:30	Closing Remarks	[TBD]
18:00 -	Farewell Dinner and Awarding Ceremony	
Day9 8 December 2009 (Tuesday)		

Date & Time	Agenda	Speakers
9:00 - 12:00	Secretariat Meeting	
AM	Participants departure	
PM	Secretariat departure	

## PROGRAM

### NARBO Case Study Workshop

<b>Thursday, 25 February 2010</b>		
8:00 – 8:30	Registration	
8:30 – 8:40	Welcoming remarks	DWR
8:40 – 8:50	Opening remarks	MLIT
8:50 – 9:10	Outline of the Workshop	JWA
<b><i>Session 1 –Special presentation</i></b>		
9:10 – 9:50	Overview of Japanese Water resources management	MLIT
9:50 – 10:50	Recapitulation of IWRM Guidelines including wrapping up of the 6th NARBO IWRM Training and Introduction of ADB-IUCN-NARBO collaboration	ADB & JWA
10:50 – 11:10	Coffee break	
<b><i>Session 2 –Case study</i></b>		
11:10 – 11:40	Presentation 1: Vu Gia - Thu Bon River Basin , Q & A	MARD
11:40 – 12:10	Presentation 2: Red – Thai Binh River Basin , Q & A	RRBO
12:10 – 13:30	Lunch	
13:30 – 14:00	Presentation 3: Mahaweli River Basin -1, Q & A	MASL
14:00 – 14:30	Presentation 4: Mahaweli River Basin -2, Q & A	MASL
14:30 – 15:00	Coffee break	
15:00 – 15:30	Presentation 5: Laguna de Bay Region, Q & A	LLDA
15:30 – 16:00	Presentation 6: Lower Brantas River Basin, Q & A	PJT1
16:00 – 16:30	Presentation 7: The Citarum river basin, Q & A	PJT2
16:30 – 17:00	Presentation 8: Integrated Water Resources Management in Thailand, Q & A	DWR
	Welcome dinner	All participants
<b>Friday, 26 February 2010</b>		
9:00 – 9:30	How to build the IWRM spiral in your basins?	ADB & JWA
9:30 – 12:00	Based upon the discussion in the 1 <sup>st</sup> day of the workshop, prepare a presentation for the solution	
12:00 – 13:00	Lunch	

13:00 – 13:30	Yom	
13:30 – 14:00	Bang Pakon	ADB
<b><i>Session 3 – Focusing on possible solution of Case Study</i></b>		
14:00 – 14:20	Presentation 1: VU GIA - THU BON RIVER BASIN - solution, Q & A	MARD
14:20 – 14:40	Presentation 2: RED – THAI BINH RIVER BASIN - solution, Q & A	RRBO
14:40 – 15:00	Presentation 3: Mahaweli River Basin -1 – solution, Q & A	MASL
15:00 – 15:20	Coffee break	
15:20 – 15:40	Presentation 4: Mahaweli River Basin -2 – solution, Q & A	MASL
15:40 – 16:00	Presentation 5: Laguna de Bay Region - solution, Q & A	LLDA
16:00 – 16:20	Presentation 6: LOWER BRANTAS RIVER BASIN - solution, Q & A	PJT1
16:20 – 16:40	Presentation 7: The Citarum river basin - solution, Q & A	PJT2
16:40 – 17:00	Presentation 8: Integrated Water Resources Management in Thailand - solution, Q & A	DWR
17:00 – 17:10	Wrap up	JWA

## Schedule of Twinning Program with Sri Lanka NARBO

Date		Morning		Lunch		Afternoon		Lecture room	Material	Remark
		9:15~10:45	10:45~12:15	12:15~	13:00~14:30	14:30~16:00	16:00~17:30			
May 10th	Sun	7:25Arrival at Narita(SQ632), To Saitama Shintoshin (Transport :by highway bus)	Information on accomodation & Orientation for life in Japan (Intl. Affairs Div., Mr. Sugiura)							
May 11th	Mon	Sharing information about the detailed agenda (Intl. Affairs Div.)			Courtesy call (13:15-13:45) (President, Vice-president ,Executive Director)	JWA's Operation (Intl. Affairs Div., Mr. Sugiura)	Exchange opinions, discussion (Intl. Affairs Div.)	Rm. 1003		
May 12th	Tue	Presentation of country report of Sri Lanka (facilitated by, Intl. Affairs Div., Mr. Yoshioka)			Mid-term Goals of JWA ( Management and Planning Div.)	full-plan ( Management and Planning Div.)	On final report's contents (Intl. Affairs Div.)	Rm. 1003		
May 13th	Wed	(Transport :Departure from Saitama-shintoshin Arrive at Kasumigaseki)	Draft Water Resources Management in Japan (MLIT)		Draft Description of the Water irrigation projects by MAFF (MAFF)	Exchange opinions, discussion (Intl. Affairs Div.)	(Transport :Departure from Kasumigaseki Arrive at Saitama-shintoshin)	Rm. 606		
May 14th	Thu	Future prospect of dam project & engieerning skills of Japan (Dam Engineering Div.)	Exchange opinions, discussion (Intl. Affairs Div.)		Inspection of dam's condition for safety(at Research and Training Center) (Examination and Analysis Group)			Rm. 606		
May 15th	Fri	Dam management and coordination of water uses in droughts (Administration, Operation and Maintenance Department)	Works in Technology Management Division in JWA (Genaral Engineering Affairs Dep.)		Water rights (Management Div.)	Land Compensation System (Land Dep.)	Exchange opinions, discussion (Intl. Affairs Div.)	Rm. 606		
May 16th	Sat									

Date		Morning		Lunch		Afternoon		Lecture room	Material	Remark
		9:15~10:45	10:45~12:15	12:15~	13:00~14:30	14:30~16:00	16:00~17:30			
May 17th	Sun									
May 18th	Mon	(Transport :Departure from Saitama Shintoshin Arrive at toyohashi)			Brief report of MASL (Toyokawa Canal Comprehensive Operation and Maintenance)	Visit to operation room and facilities (Toyokawa Canal Comprehensive Operation and Maintenance Office:) (visit to Mechanical)				
May 19th	Tue	Visit to Operation Room and facilities (Toyokawa Canal Comprehensive Operation and Maintenance Office:) (visit to Mechanical facilities, in take facility) (attended by, Intl. Affairs Div., Mr. Fujioka)				(Transport :Departure from Toyohashi Arrive at Nagoya)				
May 20th	Wed	Water secure and Management and Water Distributions in Kiso River Sytem (Branch of the	Visit to Operation Room and facilities (Kaneyama Intake~Inuyama Intake~Kisogawa flood gate~ Yatomi pump facility~ Nagara weir) (visit to Management operation room, in take facility) (attended by,Intl. Affairs Div.,Mr.Fujioka)				(Transport :Departure from Kuwana Arrive at Osaka)			
May 21th	Thu	The Outline of Yodo River System and Yodo River Basin Committee (Kansai branch Office)	Flexible dam operation, and sediment (Kansai branch Office)	(Transport :Departure from Tanimachi 4 chome Arrive at Nabari)		Visit to Operation Room and facilities (Shourenji Dam)				
May 22th	Fri	(Transport :Departure from Nabari Arrive at Yokkaichi)		Visit to Mimuro Water Maintenance Office,Mitake Intake facility ,Yunoyama hot spring		(Transport :Departure from Yokkaichi Arrive at Saitama-shintoshin accomodation)				
May 23th	Sat									
May 24th	Sun									
May 25th	Mon	Canal Management (Administration, Operation and Maintenance Department)			Future prospect of canal project and canal engineering (Canal Engineering Div.)	(Transport :Departure from Saitama-shintoshin Arrive at Kasumigaseki)	Draft River Administration System Management in Japan (MLIT)	Rm. 1003		

Date		Morning		Lunch	Afternoon			Lecture room	Material	Remark
		9:15~10:45	10:45~12:15	12:15~	13:00~14:30	14:30~16:00	16:00~17:30			
May 26th	Tue		(Transport :Departure from Saitama Shintoshin Arrive at Hukiage)		Brief report of MASL (Tone Canal Comprehensive Operation and Maintenance Office)	Visit to Operation Room and facilities (Tone Canal Comprehensive Operation and Maintenance	(Transport :Departure from Hukiage Arrive at Saitama Shintoshin) 17:30-18:00	Rm. 1003		
May 27th	Wed	(Transport :Departure from Saitama Shintoshin Arrive at Shinjyuku)		WaterWorks Department Daily business	(Transport :Departure from Shinjyuku Arrive at Saitama Shintoshin )			Rm. 606		
May 28th	Thu	Meeting for Presentation of final report			preparation of final reports			Rm. 1004		
May 29th	Fri	Courtesy call (10:00-10:30) (President, Vice-president , Executive Director)			Presentation of final report (facilitated by, Intl. Affairs Div., Mr. Yoshioka)		Packing Luggage	Rm. 1004		
May 30th	Sat	(Transport :by highway bus)	11:30Departure from Narita (SQ637)							

## Twinning Program in Viet Nam, 02-07, November 2009

Date		A. M					lunch		P. M			Hotel	Flight	Kunieda	Fujioka	Takano (ADB)	Kawasaki (ADB1)	Remarks
		9:15~10:45	10:45~12:15	12:15~	13:00~14:30	14:30~16:00	16:00~17:30											
2-Nov	M	Visit Nui Coc Reservoir or Xa Huong Reservoir									Hotel at Ha Noi	by car						
3-Nov	T	Move to Dien Bien province									otel at Dien Bie	by car						
4-Nov	W	Vsit PaKhoang Reservoir									otel at Dien Bie	by car						
5-Nov	T	Back to Ha Noi																
6-Nov	F	Courtesy call to director general of DWR								Farewell								
7-Nov	T	To Noi bai airport by taxi																

# Personnel Exchange Programme on Twinning Program between JWA and VN NARBO

Date		A. M		lunch		P. M		Study room/place to stay	Materials	Remarks
		9:15~10:45	10:45~12:15	12:15~	13:00~14:30	14:30~16:00	16:00~17:30			
9-Nov	M	Arrive at Narita 6:40 VN954	To Saitama-Shintoshin by highway bus		Courtesy call to President, vice president, executive director	Information on accomodation & Orientation for Twinning and life in Japan (Intl Div. Isayama, Higa)				
10-Nov	T	Self-study	Outline of JWA (Intl Div, Ochii)		Discussion on final output (Intl Div, Sugiura)		Information Exchange (Intl Div)	Room 1005, HQ	Outline of JWA	Welcome party
11-Nov	W	IWRM in Japan, Case study in Tone river and others			Self-study	Presentation of Country Report (Intl Div Ochii)		Room 1005, HQ		
12-Nov	T	To Tone-gawa	Field visit to Tonegawa barrage (Intl. Div Yamashita)				Back to Saitama			Jointly organized with Korean guests
13-Nov	F	Management of Water and Water Channel (O&M Dep, Hosoyamada)			Current and future prospect of Irrigation Channel projedct (Canal Dep)	Dam management and coordination of water uses in droughts (O&M Dep)	Information Exchange (Intl Div)	Room 1005, HQ		
14-Nov	S									
15-Nov	S									
	M	To Ena city			Field visit to Agigawa dam (Flood control & Reservoir mgmt) (Intl Div, Ochii)		from Ena to Nagoya	Nagoya		

Date		A. M		lunch		P. M		Study room/place to stay	Materials	Remarks
		9:15~10:45	10:45~12:15	12:15~	13:00~14:30	14:30~16:00	16:00~17:30			
17-Nov	T	Aichi Canal mgmt office & Presentation of Viet Nam country report (Information exchange) (Operation room) (Intl Div, Ochii)				from Nagoya to Toyohashi city		Toyohashi		
18-Nov	W	Toyokawa Canal mgmt office & Presentation of Viet Nam country report (Information exchange) (Intl Div, Ochii)					Back to Saitama			
19-Nov	T	Mid-term goals of JWA (Mgmt & Planning Div)	Employee training in JWA (Engineering Affairs Div)		Environmental Protection -Water quality- (Environment Div)	Environmental Protection -Wild life- (Environment Div)	Compensation system in Japan (Land Dep)	Room 606, HQ		
20-Nov	F	Current and future prospect of Dam construction (Dam Dep)			Water rights (Mgmt Div)	Public relations (Public Relation Div)	Self-study	Room 606, HQ		
21-Nov	S									
22-Nov	S									
23-Nov	M	Self-study			Self-study			Room 1005, HQ		National Holiday (Labor Thanksgiving day)
24-Nov	T	Q&A session, preparation of final reports			Q&A session, preparation of final reports					
25-Nov	W	Q&A session, preparation of final reports	Courtesy call to President, vise president, executive director		Presentation of Final Report (Intl Div)		Packing luggage			Farewell party
26-Nov	T	To Narita airport by highway bus	11:00 Depart from Narita VN955							

## NARBO 2<sup>ND</sup> TWINING PROGRAMME IN SRI LANKA, 04-16 , FEBRUARY 2010.

Participant : 1.Shigeyuki Miyauchi  
2.Susumu Fujioka

Date	Time	Program	Action by
<b>4 February 2010</b>	23.55 hrs	Arrival of Participants to KIA ( Flight CX 703 ) Picking up by Renuka Hotel, Colombo. ( Mr. Dhanuka - Telephone : 0112573598)	Eng. Rajeev Ruparathna Mobile : 0772619656
<b>5 February 2010</b>	09.00 hrs.	Arrival NARBO Participants to DSWRP Project Office, 2 <sup>nd</sup> Floor, Mahaweli Authority of Sri Lanka Building	Eng. Ananda Sellaheewa, Procurement Specialist, DSWRPP
	09.30 hrs.	Welcome meeting at Operations Room, Mahaweli Authority of Sri Lanka (MASL)	
	09.40 hrs.	Welcome Speech : Director General/MASL	
	09.45 hrs.	Introduction of the participants	
	09.55 hrs.	Overview of Mahaweli Programme – Presented by Mr.C.Wellappili, Director (PMU)/MASL	Eng. Rajeev Ruparathna Mobile : 0772619656
	10.30 hrs.	<b>TEA -Refreshments</b>	
	10.45 hrs.	Presentation on MASL Contribution to NARBO - Presented by Eng. Ananda Sellaheewa, Procurement Specialist, DSWRPP	
	11.00 hrs.	Pressing issues in promoting IWRM in system H- Presented by Eng. Padmasiri Premakumara, Regional Director, Dambulla.	
	11.30 noon	Discussion	
	12.00 noon	Finalizing the field programme.	
	12.15 hrs	<b>End of the Morning Session</b>	
	12.30 hrs.	<b>Lunch</b>	

	01:30 hrs.	Water Allocation and Management Practices in Sri Lanka & role of MASL - Eng Nimal Wickramaratna, Director, Water Management Secretariat, 2 <sup>nd</sup> Floor, MASL Building	
	15:00 hrs.	<b>TEA BREAK</b>	Eng. Rajeev Ruparathna/ Eng. Miss Rasangi Aluthgama
	15:15 hrs.	Dam Safety & Water Resource Planning Project 8 <sup>th</sup> Floor , MASL Building	
	17:00 hrs.	Leave for the Hotel  Night at Renuka Hotel, Colombo	
<b>6 February 2010</b>	Holiday	Colombo City Tour	Eng. Rajeev Ruparathna Mobile : 0772619656
	16.00 hrs	Meet Eng.Sudharma Elakanada, Project Director, DSWRPP at Renuka Hotel.  Night at Renuka Hotel, Colombo	
<b>7 February 2010</b>		<b>Field Visit</b>	Eng. Rajeev Ruparathna
	7:00 hrs.	Leaving Colombo to Kotmale Via Avissawella	
	11:00 noon	Inspection Kotmale Dam & Reservoir, Power House in the River with Engineer-in-charge Kotmale	Eng.W.M.J.Weerasekara Engineer in Charge, Kothmale
	13:00 hrs.	<b>Lunch at Circuit Bungalow - Kothmale</b>	
	15:00 hrs.	Leaving for Polgolla Dam & Reservoir	Eng. B.M.W.Senevirathna Banda Engineer in Charge Polgolla
	16.00 hrs	Inspection of Polgolla Dam & Reservoir	
	17.30 hrs	End of the Programme  Night at Hotel Suisse, Kandy (Tel: 081 22 33024)	
	08.00 hrs.	Leave for Digana HAO&M Unit form Hotel Suisse, Kandy	

<b>8 February 2010</b>	09:00 hrs.	Meeting with Director Headwork's Administration Operation & Maintenance (MASL) and Staff at Digana	Eng. G.S.S.Jayaweera/ Director HAO&M
	10:30 hrs.	Inspection Victoria Dam & Reservoir and River & River Section with MASL & CEB Staff	Eng. S.R.K. Aruppola Engineer in Charge/Victoria
	12:00 noon.	<b>LUNCH at Victoria Dam Site</b>	
	13:00 hrs.	Inspection Power House Discussion with MASL & CEB Staff	
	14:30 hrs.	Leave for Randenigala	Eng. H.M.Kalubanda Engineer in Charge Randenigala/Rantambe
	15.30 hrs	Inspection Randenigala & Rantambe reservoirs Discussion with MASL & CEB Staff	
	17:00 hrs.	End of Program  Night at Randenigala Circuit Bungalow	
<b>9 February 2010</b>	08:00 hrs.	Leave for System C	
	09:30 hrs.	Meet farmers at system C project	Eng. Chandra Senerath Resident Project Manager System C
	12:30 hrs.	Lunch at MASL Circuit Bungalow	
	13:30 hrs.	Inspection of right bank & left bank of Mahaweli ganga (System C and Minipe Yoda Ela )	
	17:00 hrs.	End of program	
	19.00 hrs	Night at Hotel Sudu Araliya, Polonnaruwa.	
	08:30 hrs.	Leaving for river mouth of Mahaweli river via route A 11 & A 15.	Eng. K.Wijerathna DRPM/System B
	12.00 noon	<b>LUNCH at Circuit Bungalow - Trincomalee</b>	

<b>10 February 2010</b>	13:30 hrs.	Leaving for Moragahakanda Via route A 06 ( Via Laggala, Dehiattakandaiya & Bakamuna)  Night at Circuit Bungalow – Moragahakanda	
<b>11 February 2010</b>	08:00 hrs.  12:00 noon  13:30 hrs.  16:30 hrs.  17:30 hrs.	Meet Project Director Moragahakanda, Kaluganga Development Project & visit Kaluganga Proposed Project Site  Lunch at Circuit Bungalow - Moragahakanda  Inspection Moragahakanda Dam Site & Kaluganga New Small Tanks Discussion with PD & Staff, Moragahakanda  End of the Programme  Night at Circuit Bungalow - Moragahakanda	Eng. R.B.Tennakoon Project Director, Moragahakanda, Kaluganga Development Project  Eng. D.B.Wijeratne Chief Enginner Moragahakanda, Kaluganga Development Project
<b>12 February 2010</b>	08:00 hrs.  10:30 hrs.  12:30 noon  13:30 hrs.  16:00 hrs.  17:00 hrs.	Leave for Thambutthgama visiting Dambuluoya & Kandalama Reservoirs  Meet Resident Project Manager (RPM) – System H , MASL & Staff  <b>LUNCH at Circuit Bungalow - Thambuttegama</b>  Inspection of Downstream Development of System H  Inspect Kalawewa Dam & Reservoir  End of the Programme  Night at Kalawewa Circuit Bungalow	Mr. M.M.Asanka Gunathilaka RPM/System H  Eng. K.D.J.Premalal DRPM/System H
	08:30 A.M.  12:00 noon	Leave for Anuradhapura & visit the Ancient City  <b>LUNCH at Anuradhapura</b>	

<b>13 February 2010</b>	13:00 hrs.	Leave for Colombo  Night at Renuka Hotel, Colombo	Mr. R.I.B.R.Ratnamalala
<b>14 February 2010</b>	Holiday	Preparation of Documents by the Participants at Renuka Hotel, Colombo.	
<b>15 February 2010</b>	09:00 hrs.	Meet with DG/MASL - Present the findings	Eng. Sudharma Elakanda PD/DSWRPP  Eng. Rajeev Ruparathna
	10.30 hrs.	Discussion	
	11:00 hrs.	Leaving to Renuka Hotel	
	12:00 noon	<b>LUNCH</b>	
	13:00 hrs.	Meeting with JICA Staff, Colombo	
	14:00 hrs.	Leaving to Renuka Hotel	
	18:00 hrs.	Checkout & leaving to KIA	
	00:05 hrs.	Departure – CX 0710	

## NARBO Newsletter

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

### Topics

#### NEWS

- IWRM Guidelines at River Basin Level launched at the 5th World Water Forum
- NARBO Members' Activities at the 5th World Water Forum
- Study Meeting on Water-Related Disaster in Hoi An, Viet Nam, February 17-21, 2009
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#### Insight

- Translation of IWRM Principles into Practical Application  
- IWRM Guidelines at River Basin Level
- The 5th IWRM Training in Hoi An, Viet Nam, February 18-25, 2009

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- NARBO New Members: ICIMOD and CERl

#### From Secretariat

- Submission Deadline of Member's Annual Report 2008
- New Members of NARBO Secretariat
- NARBO seeks your Articles!!

## NEWS

### IWRM Guidelines at River Basin Level launched

Japan Water Agency, NARBO Secretariat

#### Dawn of New Era in implementing IWRM for NARBO members

The United Nations Educational Scientific and Cultural Organization (UNESCO) launched IWRM Guidelines at River Basin Level at the 5th World Water Forum in Istanbul, 16th March, 2009.

His Highness the Crown Prince of Japan, Honorary President of United Nations Secretary General's Advisory Board on Water and Sanitation (UNSGAB) attended the launching ceremony and was handed over the Guidelines by Mr. Koichiro Matsuura, Director-General of UNESCO. The Guidelines provide for necessary information to help practitioners implement IWRM under their own circumstances. They consist of the fundamental concepts of IWRM as well as perspectives of



various stakeholders with regard to water issues, key for success for overcoming problems, and good examples where such keys for success were applied. ([>>See more](#))

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## **NARBO Members' Activities at the 5<sup>th</sup> World Water Forum**

**Japan Water Agency, NARBO Secretariat**

NARBO members actively participated in the 5th World Water Forum in Istanbul. Dr. Mochammad Amron, chairperson of NARBO attended a lot of events at the Forum such as IWRM Guidelines at River Basin Level Launching Ceremony and session 3.1.2.

Other members also contributed to the events at the Forum. K-water and JWA held an exhibition at the World Water Expo from 16-22 March, 2009 in the venue of the Forum. NARBO member organizations visited the booths and exchanged information about their activities and so on. ([>>See more](#))



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## **Study Meeting on Water-Related Disaster in Hoi An, Viet Nam, February 17-21, 2009**

**Michio Ota, Japan Water Agency, Vice Secretary General of NARBO**

Natural disasters (e.g. floods, droughts, landslides, volcanic eruptions, earthquakes, tsunamis, typhoons, cyclones and other extreme weather phenomena) often hit Monsoon Asia. These disasters have inflicted catastrophic losses of human lives and the economies of countries which NARBO member organizations belong to. Conducting thematic workshops was considered at the 2nd NARBO General Meeting in Indonesia in February 2006 as one of the important activities of NARBO. Based on the NARBO Action Plan 2006-2007, NARBO has carried out a series of workshops on the theme of Water-Related Disaster and its Management in Asian Countries since 2007. This activity was incorporated in the subsequent the NARBO Action Plan 2008-2009 and has been continued. ([>>See more](#))



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## **NARBO Meeting held in Istanbul, 17th March, 2009**

**Toshiyuki Yoshioka, Japan Water Agency, NARBO Secretariat**

NARBO meeting was held on 17th March 2009, at the 5th World Water Forum venue. Dr. Mochammad Amron, NARBO chairperson participated in the meeting. Participants from member organization were Mekong River Commission, K-water and World Wildlife Foundation (WWF) International. Mr. Masaru Kubota, Secretary General of NARBO, Mr. Wouter Lincklaen Arriens, Vice Secretary General also attended the meeting. So did NARBO Secretariat staffs from ADB and JWA. ([>>See more](#))



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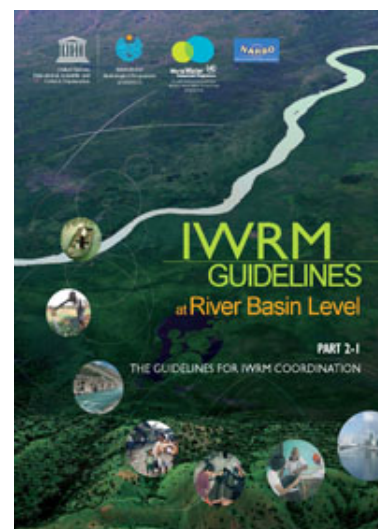
## Translation of IWRM Principles into Practical Application

### - IWRM Guidelines at River Basin Level

Koichi Takano, Japan Water Agency, NARBO Secretariat

IWRM Guidelines at River Basin Level Project started in November 2007, based on the recognition that there was a need for a mechanism to translate the IWRM principles into practical application. The principles of concepts of IWRM have been widely recognized, but the implementation of IWRM is not satisfactorily progressing in many basins. This is, perhaps, because the practitioners responsible for water resources management at the basin level encounter difficulties in understanding where and how to begin, or advantages of applying IWRM with respect to their actual situation may not be apparent enough. Therefore, it is desired that practitioners absorb the ideas and needs of IWRM and understand the effectiveness of applying these within a basin-wide approach. These Guidelines for IWRM at River Basin Level are intended to be used for that purpose, as a tool to fill that 'gap'.

([>>See more](#))



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## The 5th IWRM Training in Hoi An, Viet Nam, February 18-25, 2009

Tadaaki Kawasaki, Asian Development Bank Institute, NARBO Secretariat

NARBO secretariat (ADB, ADBI and JWA) conducted the 5th Integrated Water Resources Management (IWRM) Training in Hoi An, Quang Nam Province, Viet Nam from 18th to 25th of February. This training was held as a major part of NARBO activities based on the NARBO Action Plan 2008-2009. This training was hosted by the Vu Gia - Thu Bon (VGTB) river basin committee which consists of Department of Natural Resources and Environment (DONRE) of Quang Nam Province and Da Nang City. 24 participants from 6 countries attended. At the same time, JWA conducted the study meeting on Water-Related Disaster Management and 5 participants who attended the study meeting also participated in this training as observers. ([>>See more](#))



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## Announcement

### NARBO New Members

Japan Water Agency, NARBO Secretariat

We are very pleased to announce that new members have joined to NARBO as interregional knowledge partners!

The new NARBO members are as follows;

- The International Centre for Integrated Mountain Development (**ICIMOD**) is a regional knowledge development and learning centre based in Katmandu, Nepal, serving the eight regional member countries of the Hindu Kush-Himalayas. ICIMOD aims to assist local residents to cope with changes by globalization and climate change while addressing upstream-downstream issues.
- Civil Engineering Research Institute for Cold Region, PWRI (**CERI**), together with Tsukuba central



NARBO Member Organization Map [PDF]

research institute and ICHARM, is one of the three components of Incorporated Administrative Agency Public Works Research Institute Japan (PWRI). CERI makes surveys, experiments and studies on civil engineering technologies, shows technical guidance and disseminates the results.

We expect that NARBO will be enhanced with the new members.

▶▶▶NARBO Member Organization Map including new members are now available. (>>See the map)

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## From the secretariat

### Submission deadline of Member's Annual Report 2008

The final [deadline](#) for the submission of the NARBO member's Annual Report 2008 is **Apr 30**. Every RBO member has an obligation to submit the report according to [NARBO Charter](#).

The Secretariat has prepared the [simple form](#) of the annual report 2008 on NARBO website. Please kindly find the format from the website and submit the annual report no later than Apr 30.

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### New Members of NARBO Secretariat

NARBO secretariat is glad to introduce new secretariat staffs, Koichi Takano, Susumu Fujioka and Machiko Higa. They are staffs of JWA and they would like to keep close relationship with NARBO members more than ever. (>>See more)

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### NARBO seeks your Articles!!

NARBO Newsletter aims to be a tool for sharing good practices, lessons learned from IWRM-related activities, etc. Therefore, we highly welcome reports about your activities relevant to IWRM. Such articles as voices from young staff members and essays on IWRM activities are also appreciated. Your actions will contribute to enhancement of IWRM as well as strengthen networking in NARBO members!

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#### Network of Asian River Basin Organizations

Headquarters of the secretariat: International Affairs Division, Japan Water Agency (JWA)  
Land Axis Tower, 11-2 Shintoshin, Chuo-ku, Saitama City, 330-6008, Japan TEL: +81-48-600-6553 / FAX: +81-48-600-6509 E-mail: [narbo@water.jp](mailto:narbo@water.jp)

NARBO Newsletter is produced by the Narbo Secretariat to provide current information about NARBO activities to readers who are interested in IWRM issues specifically in Monsoon ASIA.  
For comment/information/inquiry, please contact [narbo@water.jp](mailto:narbo@water.jp) Thank you for your cooperation!

## TIWRM Guidelines at River Basin Level launched

Dawn of New Era in implementing IWRM for NARBO members

The United Nations Educational Scientific and Cultural Organization (UNESCO) launched IWRM Guidelines at River Basin Level at the 5th World Water Forum in Istanbul, 16th March, 2009.

The Launching Ceremony "IWRM Guidelines at River Basin Level" took place on March 16, 2009 at Ayvansaray Hall, Stülüce Congress and Cultural Center, Istanbul, Turkey, as a side event of the 5th World Water Forum. It was convened by UNESCO and Ministry of Land, Infrastructure, Transport and Tourism, Japan (MLIT). HIH the Crowne Prince of Japan, Honorary President of United Nations Secretary General's Advisory Board on Water and Sanitation (UNSGAB) attended the launching ceremony and was handed over of the Guidelines by Mr. Koïchiro Matsuura, Director-General of UNESCO.



UNESCO led this project and NARBO has cooperated together with some other organizations such as MLIT and Japan Water Agency (JWA). Dr. Mochammad Amron, Chairperson of NARBO and Mr. Wouter Lincklaen Arriens, 'Vice Secretary General of NARBO' participated in the project as Steering Committee Members of the Guidelines. In addition, Mr. Shinsuke Ota, former Executive Vice President of JWA took a role as Co-chair of the committee.



The Guidelines provide with necessary information to help practitioners implement IWRM under their own circumstances. They consist of the fundamental concepts of IWRM as well as perspectives of various stakeholders with regard to water issues, key for success for overcoming problems, and good examples where such keys for success were applied.

Mr. Shinsuke Ota made a presentation about introduction of the Guidelines. He mentioned in his presentation that NARBO has already started using these materials in NARBO's 5th IWRM training held in Hoi An, Viet Nam, 18-25 February, 2009.

An Open Workshop was also held at the 5th World Water Forum, 20 March, 2009 and further improvement of the Guidelines was discussed. Details on the introduction of the Guidelines and direct link to download the full document of the Guidelines are provided in "Translation of IWRM Principles into Practical Application - IWRM Guidelines at River Basin Level" (NARBO) and UNESCO Water Portal Bi-monthly Newsletter No.214.

## NARBO Members' Activities at the 5th World Water Forum

Japan Water Agency, NARBO Secretariat

NARBO members actively participated in the 5th World Water Forum in Istanbul. Dr. Mochammad Amron, chairperson of NARBO attended a lot of events at the Forum such as IWRM Guidelines at River Basin Level Launching Ceremony and session 3.1.2.

Dr. Mochammad Amron, chairperson of NARBO, attended session 3.1.2 "How can stakeholder be involved in basin management and Transboundary water cooperation?" Conveners invited him to the session as a chairperson of NARBO. He made a presentation on stakeholder involvement in Indonesia. Other members also contributed to the events at the Forum. K-water and JWA held an exhibition at the World Water Expo from 16-22 March, 2009 in the venue of the Forum. NARBO member organizations visited the booths and exchanged information about their activities and so on.



Beside the launch event of IWRM Guidelines, JWA held an exhibition at the World Water Expo. The theme of the exhibition was 'IWRM - NARBO'. "Ensuring Adequate Water Resources Development and Management (Quantity and Quality) for Sustainable Development." And JWA became a convener with DSI of the session 3.2.1

They displayed posters regarding NARBO member map, NARBO activities and Introduction of IWRM Guidelines at River Basin Level. They also distributed NARBO leaflet and NARBO Annual Report at their exhibition booth. Hundreds of visitors were so interested in NARBO that they took NARBO Annual Report CDs. This proved uniqueness of NARBO and its activities.





## Study Meeting on IWRM including Water-Related Disaster and its Management

Date of Meeting : February 17–21, 2009

Venue of Meeting : Palm Garden Resort, Hoi An, Viet Nam

Host Organization : Vu Gia – Thu Bon River Basin Organization

Natural disasters (e.g. floods, droughts, landslides, volcanic eruptions, earthquakes, tsunamis, typhoons, cyclones and other extreme weather phenomena) often hit Monsoon Asia. These disasters have inflicted catastrophic losses of human lives and the economies of countries which NARBO member organizations belong to.

Conducting thematic workshops was considered at the 2nd NARBO General Meeting in Indonesia in February 2006 as one of the important activities of NARBO. Based on the NARBO Action Plan 2006-2007, NARBO has carried out a series of workshops on the theme of Water-Related Disaster and its Management in Asian Countries since 2007. This activity was incorporated in the subsequent the NARBO Action Plan 2008-2009 and has been continued.

This serial workshop on Water-Related Disaster and its Management in Asian Countries was held two times during 2007-2008 in Indonesia and Philippines. Several delegates from Asian countries including Bangladesh, Indonesia, Lao PDR, Malaysia, Pakistan, Philippines, Sri Lanka, Thailand and Viet Nam have participated in this serial workshop. This workshop gave definitely a good opportunity for the participants to learn each other about water-related disaster and its management.

The study meeting was held jointly with IWRM training in 2009 in Viet Nam as a follow-up workshop for preparing an interim report on the theme. Participants who came from Indonesia, Philippines, Sri Lanka, Thailand and Viet Nam worked hard on preparing an interim report. The contents of it were primary action plans of each participating country. It is desirable that their primary action plans should be further reviewed and enhanced on the next stages.



### Participants & their primary action plans

No	Name	Country	Organization	Primary Action Plan for
1	Mr. Elakanda Sudharma	Sri Lanka	Mahaweli Authority of Sri Lanka (MASL)	Minimizing the water related disasters & the impacts of disasters
2	Ms. Srisunee Wuthiwongyothin	Thailand	Policy and Planning Bureau, Department of Water Resources	Minimizing the losses of human life and properties, the damage of natural
3	Ms. Alicia E. Bongco	Philippines	Laguna Lake Development Authority (LLDA)	Significant reduction of disaster losses in the quality of human life and the ecosystems.
4	Mr. Herman Idrus	Indonesia	Jasa Tirta II Public Corporation (PJT II)	Improved structural and other measures for flood, (man-made) water pollution and drought disaster management
5	Ms. Le Thi Huyen	Viet Nam	Water Resources Department – General Office for River Basin Management	Reduction of flood loss including land slide and flash flood loss



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

By Isnugroho, Executive Director of CRBOM and Fahmi Hidayat,  
Deputy Director of Training and Dissemination of CRBOM

### About CRBOM

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

- Assist clients in establishing river basin organizations and river basin management systems that integrate up-to-date quality management systems;
- Conduct applied research and development on river environments, hydrology, hydraulic structures and geotechnical engineering, river engineering, sediment management (sabo technology), coastal areas and swamps, and irrigation;
- Prepare norms, standards, procedures, guidelines, and manuals for optimal river basin organization and management;
- Train personnel from universities and other institutions in river basin organization and management, and create educational materials for wider distribution;
- Instruct water sector personnel in the use of ISO 9001 standards for the design, operation, and

maintenance of water resources and infrastructure;

- Educate clients in dam safety and the use of remote sensing and geographic information system (GIS) in water resources management;
- Advise clients on the provision of permits for the preparation, allocation, use, and exploitation of water resources in river basins;
- Act as an information clearinghouse by conducting seminars and workshops, publishing a journal on river basin organizations and management, and facilitating the face-to-face and electronic exchange of river basin-related information; and
- Provide consulting services to river basin organizations in the areas of technology, policies, and management.

NARBO meeting was held on 17th March 2009, at the 5th World Water Forum venue. Dr. Mochammad Amron, NARBO chairperson participated in the meeting. Participants from member organization were Mekong River Commission, K-water and World Wildlife Foundation (WWF) International. Mr. Masaru Kubota, Secretary General of NARBO, Mr. Wouter Lincklaen Arriens, Vice Secretary General also attended the meeting. So did NARBO Secretariat staffs from ADB and JWA.



Mr. Kubota made a speech on his assumption of the Secretary General in the meeting. Dr. Mochammad Amron made a comment regarding coming NARBO General Meeting. He mentioned that venue of the General Meeting may be discussed unless it is held in the Chairperson's country in principle in the NARBO charter. Other topics discussed in the meeting were the latest activities such as 5th NARBO IWRM training and so on.

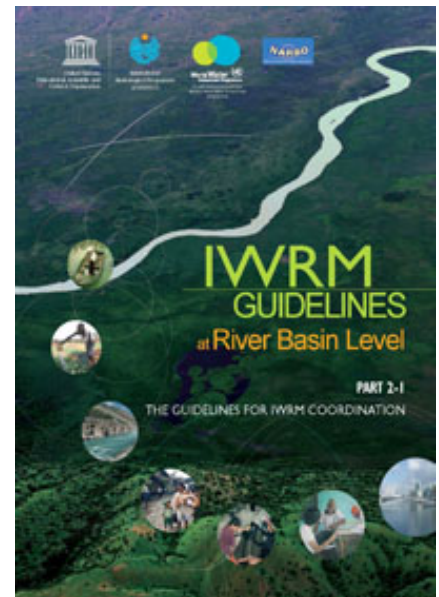


## Translation of IWRM Principles into Practical Application - IWRM Guidelines at River Basin Level

Koichi Takano, Japan Water Agency, NARBO Secretariat

### Introduction - Recognition of Necessity

IWRM Guidelines at River Basin Level Project started in November 2007, based on the recognition that there was a need for a mechanism to translate the IWRM principles into practical application. The principles of concepts of IWRM have been widely recognized, but the implementation of IWRM is not satisfactorily progressing in many basins. This is, perhaps, because the practitioners responsible for water resources management at the basin level encounter difficulties in understanding where and how to begin, or advantages of applying IWRM with respect to their actual situation may not be apparent enough. Therefore, it is desired that practitioners absorb the ideas and needs of IWRM and understand the effectiveness of applying these within a basin-wide approach. These Guidelines for IWRM at River Basin Level are intended to be used for that purpose, as a tool to fill that 'gap'.



In these circumstances, UNESCO organized the steering committee of the Guidelines. The committee is composed of 2 Co-chairs and 12 members. Co-chairs are Dr. Eugene Z. Stakhiv (International Center for Integrated Water Resources Management, ICIWaRM) and Mr. Shinsuke Ota (Japan Water Agency, JWA). The committee members include Dr. Mochammad Amron as a chairperson of NARBO, Mr. Kenzo Hiroki (Ministry of Land, Infrastructure, Transport and Tourism, MLIT) and Mr. Wouter Linklaen Arriens (Asian Development Bank, ADB), also Vice Secretary General of NARBO. Mr. Ota, Mr. Hiroki and Mr. Arriens are also assigned as the committee members. It is not only by their excellent previous achievement but also by the reason that these Guidelines are intended to be applied in Asia Monsoonal Region.

I worked as a Japanese taskforce member of the Guidelines which was composed of staffs of Ministry of Land, Infrastructure, Transport and Tourism, Japan Water Agency and Japanese consultants. Therefore, I would like to report on what has been discussed in the Japanese Taskforce in order to translate IWRM principle into application especially in Asia Monsoonal Region.

### Structure of the Guidelines

The Guidelines consist of two parts.

- Part 1 deals with Overarching Principles of IWRM at River Basin Level

- Part 2 deals with practical examples intended for use by practitioner of IWRM

Part 1 provides basic principles of IWRM mainly targeting policy-makers, and explains the benefits of IWRM at river basin level and the need to promote it at the policy level. It also proposes a spiral model of IWRM, which illustrates the evolving and dynamic nature of IWRM process.

The spiral model is originally intended to practitioner of IWRM for the explanation of the concept of IWRM, rather than the fact that it is explained in Part 1. Practitioners often feel the dilemma that they tried to do at once all the thing that they want to do while coordination for it doesn't proceed. It is important to set priorities and to define the extent of issues to be addressed at a particular stage based on time and financial constraints. In other words, it is important to 'give up' something in order to implement IWRM. But it should be noted that setting a priority does not mean giving up on solving specific problems. These can be addressed in a phased manner. For these reasons, 'Spiral Model' is the concept for practitioners in the sense of practical implementation IWRM.



Part 2 consists of these sub parts:

- - Part 2-1 The Guidelines for IWRM Coordination
- - Part 2-2 The Guidelines for Flood Management
- - Part 2-3 Invitation to IWRM for Irrigation Practitioners

Part 2-1 and 2-2 are compiled from the point of view of comprehensive coordination of IWRM at the basin level. Part 2-3 is prepared from the perspective of irrigation practitioners as representatives of water users. This document invites them to actively participate in IWRM. IWRM should be implemented by gradually uniting stakeholders and involving them in planning and decision-making processes. So they should be 'invited' to IWRM. Hence, the documents is entitled 'Invitation to IWRM'.

### Translation of IWRM principles into Practical Application

Two main features of the Guidelines are the Sector Perspectives and the 'Key for Success'. Sector Perspectives provides insights on what individual sectors are typical thinking. What is described in this section may not be complete, but the important thing is to know how other sectors perceive water management and how they are related to IWRM.

The core of Part 2 is the 'Key for Success', which can be used in practice to help IWRM succeed at the basin level. Some of the keys for success are extracted from good examples of IWRM implementation in several different river basins worldwide.



The components of Part 2 are the matters what was most discussed by Japanese Taskforce members. It was because they were mostly interested in the aspect what is most useful to practitioners of IWRM. They reached to a result that the Sector Perspective and 'Key for Success' were the what the practitioner needed. They also recognized necessity of typical process of IWRM with the concept of 'Spiral Model'. Therefore, 'IWRM Process' are prepared in Part 2 and every 'Key for Success' is linked to the process.

The taskforce also discussed what is the best way for the practitioners to use the Guidelines. They came to the result that it is not necessary to read the entire document. The set of Guidelines should be designed to enable readers to skip to specific sections depending on their needs. They also discussed

the Guidelines should be used as a textbook at the IWRM training and should be up-dated continuously in response to trainees so as to increase and retain its utility for the practitioners.

### [For more understanding and download](#)

More detailed introduction of the Guidelines is provided in the presentation "IWRM Guidelines at River Basin Level" made by Mr. Shinsuke Ota, Co-chair of the Guidelines and former Executive Vice President of JWA, on 16th March 2009, at The Launching Ceremony of the Guidelines, the 5th World Water Forum, Istanbul.

-  Presentation by Mr. Shinsuke Ota 'IWRM Guidelines at River Basin Level' ([NARBO](#))  
Direct link to download the full document of the Guidelines is provided UNESCO Water Portal Bimonthly Newsletter No.214.
-  Download IWRM Guidelines at River Basin Level ([UNESCO](#))

UNESCO acknowledges that GWP/INBO is also producing an IWRM handbook focused on basins. UNESCO and GWP/INBO have been actively coordinating their efforts so that the Guidelines and GWP/INBO handbook complement each other. The Handbook highlights the creation of an 'enabling' institutional framework that promotes key IWRM principles through policy guidance, legislation and a well functioning regulatory framework. These Guidelines, on the other hand, describe an approach to introducing IWRM at the river basin level that begins with implementing currently available measures in the context of existing institutions and resources, and as capacity grows, evolving towards a fully integrated approach towards the provision of multi-sectoral water services.



## Summary of the 5th IWRM Training in Hoi An, Viet Nam (2009) (Viet Nam)

### Introduction

- 1. NARBO secretariat (ADB, ADBI and JWA) conducted the 5th Integrated Water Resources Management (IWRM) Training in Hoi An, Quang Nam Province, Viet Nam from 18th to 25th of February. This training was held as a major part of NARBO activities based on the NARBO Action Plan 2008-2009. This training was hosted by the Vu Gia – Thu Bon (VGTB) river basin committee which consists of Department of Natural Resources and Environment (DONRE) of Quang Nam Province and Da Nang City. 24 participants from 6 countries attended. At the same time, JWA conducted the study meeting on Water-Related Disaster Management and 5 participants who attended the study meeting also participated in this training as observers.
- 2. This training's goal is to develop capacity of NARBO member staff in understanding and implementing IWRM in their respective river basins by (1) lectures of IWRM concepts and case studies; (2) group work of IWRM; and (3) sharing country challenges and strategies.
- 3. Based on the outcome of Technical Advisory Committee (TAC), we started preparing for this training, and we had the preparation meeting at Hoi An, Viet Nam in November 2008.
- 4. This time we had many opportunities to discuss among the participants and made them think by using the case studies and the lecture materials. And we asked the International Water Center which is one of the NARBO's knowledge partner to lead this training based on their experience on trainings, and they handled the training competently and provided strong leadership.

### Highlight of the IWRM Training

- 5. This training consisted of class sessions, study visits and workshops. We had lecture about the concept of IWRM, "IWRM Guidelines", case studies of the VGTB river basin and so on. And we also had poster session and opportunity to introduce "Keys for Success (KfS)" which was found by each participant at their river basins.
- 6. As study visit, we went to the upper stream area and the down stream area of the VGTB river basin and saw what was happening and how they confront the issues.
- 7. At workshop session, participants were divided into 5 groups and discussed to find out the issues and recommendation for solution. At the end of this training, the representatives of each group presented their analysis and recommendations about the KfS in the VGTB river basin. They commonly recommended the needs of the institutional and regal framework, the master plan of the VGTB river basin, monitoring, introduction of the latest technology, capacity building

and funding. Especially, as a practical recommendation, they paid attention to “Benefit Sharing” which was recently introduced at the VGTB river basin. “Benefit Sharing” is a framework to compensate the people who lived around the reservoir of hydro-power in a long time. In a short, some part of the benefit which is generated by selling the electricity of the hydro-power is distributed to the people who live in the related area of hydro-power. By doing this, people can maintain their livelihood, and they can conserve the environment of upstream area. And they pointed it out as KfS in the VGTB river basin.

- 8. At the end of this training, all of the participants were given the certification of participation, and some participants were commended for superior result and participation.

## **Conclusions**

- 9. There were some excellent presentations which perfectly reflected the whole ideas of this training course. In this point, we can say we could get excellent results of the training.

## **Lectures on Current Status and Ongoing Initiatives (Appendix 4)**

- 10. Through this training, the participants confirmed the concept of IWRM and learned the technique to implement IWRM at each dimension. Especially, we think it was fruitful for them to know the importance of participation of stakeholders. By obtaining above knowledge, we are convinced they could recognize by themselves what was needed for their river basins.  
And by exchanging the information which was introduced by participants' presentation, they noticed that they had similar issues such as water allocation and lack of coordination mechanism on promoting IWRM. We think it was good for them to be able to cope with promotion of IWRM by having unity among the participants.
- 11. WIt is said that IWRM is a process and it is difficult to implement IWRM immediately. But we think it is important for all practitioners to recognize where they are standing and work by considering the concept of IWRM.
- 12. According to the evaluation by the participants, participants had excellent impression on this training. So, we can say this training was successful. But they recommended some improvements about contents of training.

Based on the result of this training and lessons learned, we'd like to conduct the 6th NARBO's IWRM Training in the future.

# NARBO

## Network of Asian River Basin Organizations



### NARBO Member Organizations

- 25 Bangladesh Water Development Board (BWDB)
- 26 Local Government Engineering Department (LEGD)
- 27 Ministry of Water Resources and Meteorology (MOWRAM)
- 28 Department of Hydrology and River Works (DHRW)
- 29 Directorate General of Water Resources (DGWR)
- 30 Water Resources Development, West Nusa Tenggara Province
- 32 Water Resources Department, Land and Water Bureau, Ministry of Land, Infrastructure, Transport and Tourism
- 32 Water Resources Department (Former WRCC, LaoPDR)
- 33 Department of Irrigation and Drainage (DID Malaysia)
- 34 National Water Resources Board (NWRB)
- 35 Department of Environment and Natural Resources (DENR)
- 36 National Water Resources Authority (NwRA)
- 37 Department of Water Resources, Ministry of Natural Resources and Environment (DWR, MoNRE)
- 38 Department of Water Resources Management, Ministry of Natural Resources and Environment (MoNRE)
- 39 General Office for RBOs in Viet Nam (GO-RBO)
- 40 Southern Institute for Water Resources Planning (SIWRP)
- 41 Department of Natural Resources and Environment of Dong Nai Province
- 42 Global Water Partnership (GWP) SEA RWP
- 43 Global Water Partnership (GWP) SAS RWP
- 44 South Asia Network of River Basin Organization (SASNET-RBO)
- 45 The Capacity Building Network for Integrated Water Resources Management South Asia (CapNet SA)
- 46 Institute of Water Modeling (IWM)
- 47 Indonesia Water Partnership (InaWP)
- 48 Foundation on Water Affairs ADHI EKA
- 49 Faculty of Engineering, Brawijaya University
- 50 Research Centre for Water Resources (RCWR)
- 51 Center for Environment & Civil Engineering Research
- 52 Post Graduate Study on Water Resources Management Faculty of Engineering Gadjah Mada University
- 53 SEMBRANI foundation
- 54 JAWA - Japan Water Resources Association
- 55 Japan River Restoration Network (JRRN)
- 56 Graduate School of Management, Kyoto University
- 57 National Hydraulic Research Institute of Malaysia (NAHRIM)
- 58 Thailand Water Resources Association (TWRA)
- 59 The International Centre for Integrated Mountain Development (ICIMOD)
- 60 Civil Engineering Research Institute for Cold Region, PWRI
- 61 Asian Development Bank Institute (ADBI)
- 62 Asia Pacific Association of Hydrology and Water Resources
- 63 International Centre for Water Hazard and Risk Management
- 64 International Research and Training Center on Erosion and Sedimentation (IRTCES)
- 65 IUCN - The World Conservation Union
- 66 International Water Centre (IWC)
- 67 International Water Management Institute (IWMI)
- 68 The World Wildlife Fund International (WWF International)
- 69 Asian Development Bank (ADB)

### NARBO Member Organizations

- 1 Jasa Tirta I Public Corporation (PJT I)
- 2 Jasa Tirta II Public Corporation (PJT II)
- 3 Bengawan Solo Basin Water National Management Unit
- 4 Pompengan Jeneberang Basin Water National Management Unit
- 5 Jragung-Tuntang Basin Water Management Unit
- 6 Pekalan Sampelan Basin Water Management Unit
- 7 Ciujung-Ciliman Basin Water Management Unit
- 8 Citarum Basin Water Management Unit
- 9 Sermo Basin Water Management Unit
- 10 Japan Water Agency (JWA)
- 11 Korea Water Resources Corporation (K water)
- 12 Nam Ngum River Basin Development Sector Project
- 13 Selangor Water Management Authority (SWMA)
- 14 Indus River System Authority (IRSA)
- 15 Laguna Lake Development Authority (LLDA)
- 16 Mahaweli Authority of Sri Lanka (MASL)
- 17 Bang Pakong River Basin Committee (BPRBC)
- 18 Cuu Long & Dong Nai River Basin Organization
- 19 Red River Basin Organization (RRBO)
- 20 Day River Basin Organization
- 21 Vu Gia Thubon River Basin Organization
- 22 Ca River Basin Management Council
- 23 Cau River Basin Planning Subcommittee
- 24 Mekong River Commission Secretariat (MRC)

● River Basin Organizations (RBO)

- Government Organizations (GOV)
- Regional Knowledge Partners (RKP)
- Inter Regional Knowledge Partners (IRKP)
- Development Cooperation Agencies (DCA)

## New Members of NARBO Secretariat

NARBO secretariat is glad to introduce new secretariat staffs, Koichi Takano, Susumu Fujioka and Machiko Higa. They are staffs of JWA and they would like to keep close relationship with NARBO members more than ever.



### Koichi TAKANO (Mr.)

I have worked as a Japanese Taskforce member of 'IWRM Guidelines at River Basin Level' since last July. I also had an opportunity to work with NARBO members through my obligation such as making a presentation at the 5th NARBO IWRM training held in Hoi An, Viet Nam. I am very glad to work as a NARBO secretariat and keep working with NARBO members for enhancing IWRM. Please keep in touch with me. Thank you.



### Susumu FUJIOKA (Mr.)

My name is Susumu FUJIOKA, from Japan Water Agency. I feel so lucky to have an opportunity to get involved with the NARBO activities as a staff of the secretariat of NARBO. Thank you very much to all the NARBO members and supporters.



### Machiko HIGA (Ms.)

I am proud and pleasure to get involved in NARBO secretariat, which is to help achievement of IWRM in Asia and is also to help capacity building for the people of the area. I look forward to meet you on the occasion of any NARBO activities in the near future.

NARBO Newsletter 18th Issue

August 2009

## NARBO Newsletter

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

### Topics

#### Insight

- Special Topic; Coming NARBO IWRM Training will be announced soon!

#### NEWS

- BBWS Brantas has joined NARBO!
- "Regional Launch Workshop of the Center for River Basin Organizations and Management (CRBOM)"
- Report of the 2nd Technical Advisory Committee Meeting
- IRTCES Silver Jubilee Celebration and International Advanced Training Workshop on IRBM
- Twinning Program between JWA and MASL- 2009

#### Announcement

- Annual Report 2008 has been issued!

#### From Secretariat

- New Comer

### Insight

#### Special Topic; Coming NARBO IWRM Training will be announced soon!

**NARBO secretariat is now preparing for the details of the 6th NARBO IWRM Training.**  
 Tasashige Kawasaki, NARBO Secretariat, Asian Development Bank Institute

NARBO Secretariat is now actively preparing for the coming IWRM Training. The 6th NARBO IWRM Training is now planned to be held in November. Based on the evaluation of the 5th training at the Technical Advisory Committee held on June 25, 2009, at PUB, Singapore, preparation work for the training is now undertaken within NARBO Secretariat and details of the training will be announced soon.

(>>See more)

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## BBWS Brantas has joined NARBO!

We are very pleased to inform all the NARBO colleagues new member. The new our colleague is Balai Besar Wilayah Sungai (BBWS) Brantas. BBWS Brantas was established by Ministry of Public Works, Indonesia ( in Indonesian) and expect to improve the knowledge especially for the employee through NARBO activities. 600 staff members manage Brantas river basin by such means as planning and implementation of IWRM including utilization, operation and maintenance of water resources in Brantas river basin.(>>See more)

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

By Isnugroho, Executive Director of CRBOM and  
Fahmi Hidayat, Deputy Director of Training and Dissemination of CRBOM

The Asia-Pacific Water Forum (APWF) launched its network of regional water knowledge hubs in 2008 to improve water security in the Asia-Pacific region by generating and sharing knowledge in more than a dozen water knowledge domains. Called KnowledgeHubs, the network has 13 confirmed regional hubs to date, among them Indonesia's Center for River Basin Organizations and Management (CRBOM). (>>See more)



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## Report of the 2nd Technical Advisory Committee Meeting

Tasashige Kawasaki, NARBO Secretariat, Asian Development Bank Institute

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



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## IRTCS Silver Jubilee Celebration and International Advanced Training Workshop on IRBM

**NARBO/JWA held a session on IWRM Guidelines at River Basin Level in the workshop**  
Koichi TAKANO, NARBO Secretariat, Japan Water Agency

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

Management from July 27 to August 3, 2009. IRTCES was jointly set up by the Government of PR China and UNESCO in 1984 and is UNESCO water-related Category II center, and it is a NARBO member (as Inter Regional Knowledge Partner). IRTCES Silver Jubilee Ceremony was held with the presence of Mr. Chen Lei, Minister of Water Resources of PR China and Mr. W. R. Erderen, Assistant Director General of UNESCO ([IRTCES website](#)). In the Seminar on Integrated River Basin management, keynote lectures were provided. Mr. Erderen was also a lecturer and introduced 'IWRM Guideline at River Basin Level' in his lecture. He also mentioned that the Guideline project was conducted with support from NARBO. International Advanced Training Workshop on Integrated River Basin Management was held as a back to back event of IRTCES Silver Jubilee Celebration. 52 participants (includes 28 international participants) attended both the Silver Jubilee Celebration and International Advanced Training Workshop. Japan Water Agency (JWA), as a NARBO Secretariat, dispatched 4 experts to held a session on IWRM Guidelines at River Level in the Training Workshop.(>>[See more](#))



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## Twinning Program between JWA and MASL- 2009

### Brief Report on Twinning Program

Chandrapala W.A, Mahawelli Authority of Sri Lanka

Twinning Program is one of the key activity of the NARBO action plan. To implement this program, an Agreement and MOU were signed between Japan Water Agency (JWA) and [Mahaweli Authority of Sri Lanka \(MASL\)](#) in April 2008, to exchange of personnel for the Twinning Program. The main objective of this program is to share the experiences, especially in the Water Resources Management sector and good practices etc. between two countries. Also, for sharing experience between both parties, to develop best integrated Water Resources Management (IWRM) practice. To develop good relationship between Sri Lanka NARBO and JWA is also one of the purposes of this program. We feel that, this kind of program gave us ample opportunity to share experiences in very friendly and simple manner. (>>[See more](#))



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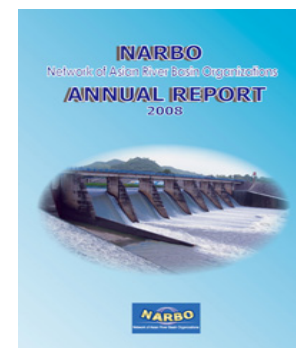
## Announcement

### Annual Report 2008 has been issued!

We are very pleased to inform you that NARBO Annual Report 2008 has been published with NARBO's activities and member's report in mainly year of 2008.

We would like to express our deepest appreciation for your cooperation and help in compilation of the NARBO Annual Report 2008.

The Annual Report is available on NARBO website  
(>>[See detail](#))



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## From the secretariat

### New comer

NARBO secretariat is glad to introduce new secretariat staff, Yoshihiro Yamashita and Tatsuo Kunieda. They are staff of JWA and they would like to keep close relationship with NARBO members more than ever.

(>>See more)

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## Network of Asian River Basin Organizations

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NARBO Newsletter is produced by the Narbo Secretariat to provide current information about NARBO activities to readers who are interested in IWRM issues specifically in Monsoon ASIA.

For comment/information/inquiry, please contact [narbo@water.jp](mailto:narbo@water.jp) Thank you for your cooperation!

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## Special Topic; Coming NARBO IWRM Training will be announced soon! NARBO secretariat is now preparing for the details of the 6th NARBO IWRM Training.

by Tadashige Kawasaki, NARBO Secretariat, Asian Development Bank Institute

NARBO Secretariat is now actively preparing for the coming IWRM Training. The 6th NARBO IWRM Training is now planned to be held in November. Based on the evaluation of the 5th training at the Technical Advisory Committee held on June 25, 2009, at PUB, Singapore, preparation work for the training is now undertaken within NARBO Secretariat and details of the training will be announced soon.

According to the charter of NARBO, the goal of NARBO will be help to achieve IWRM in river basins throughout Asia. NARBO's objective will be to strengthen the capacity and effectiveness of RBOs in promoting IWRM and improving water governance, through training and the exchange of information and experience among RBOs and their associated water sector agencies and knowledge partner organizations in Asia and to advise on the establishment of NARBO's in Asia.

Based on above mentioned background, NARBO's IWRM Training is a flagship event of NARBO and 5 training courses were conducted as shown in the following table.

No	Date	Venue	Host Organization	Theme	Number of participants
1 <sup>st</sup>	26 July - 6 August, 2004	Thailand	Thailand Water Resources Association (TWRA)	Integrated Water Resources Management(IWRM)	22
2 <sup>nd</sup>	25-29 April, 2005	Sri Lanka	International Water Management Institute (IWMI)	River Basin Management and Organization	27
3 <sup>rd</sup>	14-18 November, 2005	Korea	Korea Water Resources Corporation (KOWAKO)	Technology for IWRM– River Basin Approach	18
4 <sup>th</sup>	6-10 November, 2006	Sri Lanka	Mahaweli Authority of Sri Lanka (MASL)	Water for All— Lessons Learned and Meeting Future Challenges	14
5 <sup>th</sup>	18-25 February, 2009	Viet Nam	Vu Gia-Thu Bon River Basin Organization	Keys for Success with IWRM	24

Distinctive features of the coming IWRM training is 'IWRM Guidelines at River Basin Level'. The 2nd TAC also recommends the guidelines as a textbook and NARBO secretariat is now preparing the detailed sessions in which the guidelines will be utilized. The training with the guidelines will enhance your capacity and make you become confident in implementing IWRM in your basin.

Through NARBO's IWRM Training, we believe that participants can obtain not only the useful knowledge and techniques of promoting IWRM but also the networking among the participants.

NARBO's IWRM training will contribute to improving IWRM in your RBO/basin!

Report on the 5th IWRM training is provided at [NARBO website](#) and discussion in the 2nd TAC is summerized in [the NARBO Newsletter No.18](#).

Detailed information on IWRM Guidelines and their relation to NARBO is provided in [the report at Website](#). And the Guidelines can be downloaded from [UNESCO Water Portal Bi-monthly Newsletter No.214](#)



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## BBWS Brantas has joined NARBO!

We are very pleased to inform all the NARBO colleagues new member.

The new our colleague is Balai Besar Wilayah Sungai (BBWS) Brantas and is in a category of River Basin Organizations (RBOs). BBWS Brantas was established by [Ministry of Public Works, Indonesia \(in Indonesian\)](#) and expect to improve the knowledge especially for the employee through NARBO activities. 600 staff members manage Brantas river basin by such means as planning and implementation of IWRM including utilization, operation and maintenance of water resources in Brantas river basin.

Brantas river basin which has catchment area about 11,800 km<sup>2</sup> and its main stream runs about 320 km long. The organization covers 15 regencies / municipalities. The annual average surface water is approximately 12 billions m<sup>3</sup>, and only 2.6 – 3 billions or 25% of total water surface is available to use every year.



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

By Isnugroho, Executive Director of CRBOM and  
Fahmi Hidayat, Deputy Director of Training and Dissemination of  
CRBOM

### About CRBOM

The Asia-Pacific Water Forum (APWF) launched its network of regional water knowledge hubs in 2008 to improve water security in the Asia-Pacific region by generating and sharing knowledge in more than a dozen water knowledge domains. Called KnowledgeHubs, the network has 13 confirmed regional hubs to date, among them Indonesia's [Center for River Basin Organizations and Management \(CRBOM\)](#).

CRBOM is a newly created alliance of agencies belongs to the Government of Indonesia, composed of the Ministry of Public Works' Directorate General of Water Resources (DGWR), the Ministry's Research and Development Agency, and two corporate-type river basin organizations - Jasa Tirta I and II Public Corporations in collaboration with NARBO Secretariat partners - Japan Water Agency (JWA), Asian Development Bank (ADB), and ADB Institute. The entities of the Government of Indonesia within CRBOM have decades of experience establishing and operating public utility-type and corporate-type river basin organizations; planning and developing water resource use and conservation; managing technical, financial, and management issues associated with river basin organizations and management; operating and maintaining water resource infrastructure; managing watersheds and river environments; and conducting research and development in hydrology, hydraulic structures and geotechnical engineering, river engineering, and sediment management. CRBOM aims to provide local, regional, and national-level government agencies; river basin organizations; water service providers; and others with the most reliable, effective, and practical information; analysis; advice; and capacity-development services in the field of river basin organizations and management. More specifically, the regional water knowledge hub will:

- Assist clients in establishing river basin organizations and river basin management systems that integrate up-to-date quality management systems;
- Conduct applied research and development on river environments, hydrology, hydraulic structures and geotechnical engineering, river engineering, sediment management (sabo technology), coastal areas and swamps, and irrigation;
- Prepare norms, standards, procedures, guidelines, and manuals for optimal river basin organization and management;
- Instruct water sector personnel in the use of ISO 9001 standards for the design, operation, and maintenance of water resources and infrastructure;
- Educate clients in dam safety and the use of remote sensing and geographic information system (GIS) in water resources management;

- Advise clients on the provision of permits for the preparation, allocation, use, and exploitation of water resources in river basins;
- Act as an information clearinghouse by conducting seminars and workshops, publishing a journal on river basin organizations and management, and facilitating the face-to-face and electronic exchange of river basin-related information; and
- Provide consulting services to river basin organizations in the areas of technology, policies, and management.

### CRBOM Launch

CRBOM's knowledge partners will include local, national, regional, and international research institutions; water knowledge institutions; and networks dedicated to contributing information and sharing best practices and lessons learned to develop knowledge and capacity in river basin organizations and management.



CRBOM and Asian Development Bank, in collaboration with Network of Asian River Basin Organizations (NARBO) and APWF's KnowledgeHubs network were jointly organizing the regional launching workshop of Indonesia's CRBOM on 27 April - 1 May 2009 in Lor In Hotel, Solo City, Central Java, Indonesia. The event launched CRBOM as the regional water knowledge hub for river basin organization and

management under the Asia-Pacific Water Forum's (APWF's ) KnowledgeHubs initiative, and allowed prospective clients of the hub to share their challenges and expectations for the knowledge and capacity development services to be offered by CRBOM. The event was attended by 170 participants from 95 organizations from 20 countries.

The objectives of the event were

- 1) to launch CRBOM as a member of the APWF's KnowledgeHubs network;
- 2) Present findings and lessons learned from the Process Development for Preparing and Implementing IWRM Plans in Bangladesh, Indonesia, Pakistan and Viet Nam;
- 3) Formulate a work plan, modalities for country assessments, performance benchmarking of river basins organizations, and the preparation of action-oriented river basin development roadmaps for investment.

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

- 1) A completion workshop for ADB's project RETA 6351 on "Process Development for Preparing and Implementing IWRM Plans," which will present findings and lessons learned from Bangladesh, Indonesia, Pakistan and Viet Nam;
- 2) An inception workshop for ADB's project RETA 6470 on "Managing Water in Asia's River Basins: Charting Progress and Facilitating Investment," which will support NARBO's activities related to implementing integrated water resources management.



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

- 1) Mr Isnugroho — Executive Director,
- 2) Mr Hermono Suroto Budinetro — Deputy Director of Information and Technology,
- 3) Mr Rahardjanto — Deputy Director of Programme and Evaluation,
- 4) Mr Fahmi Hidayat — Deputy Director of Training and Dissemination,
- 5) Mr Hetomo — Deputy Director of General Affairs,
- 6) Mr Leonarda B. Ibnu Said — Liaison Officer.

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

## Report of the 2<sup>nd</sup> Technical Advisory Committee Meeting

### • [Background](#)

1. The Network of Asian River Basin Organizations (NARBO) is keen to improve the quality and credibility of its annual training program on integrated water resources management (IWRM) to the level of a prestigious regional flagship program. At NARBO's 3<sup>rd</sup> General Meeting at Indonesia in 2008, NARBO agreed to establish the Technical Advisory Committee (TAC) which will review and advise NARBO's leadership and secretariat in revamping the training program, based on experience gained by NARBO over the past four years and taking into account approaches and experiences by other training providers.
2. The 1<sup>st</sup> TAC meeting was held at Singapore in April 2008. Positive and active discussions were done by TAC members who consisted of specialists at NARBO's Knowledge partner organizations, and many recommendations were made to NARBO secretariat.
3. Based on the advice of the TAC, NARBO secretariat prepared the basic framework of the 5<sup>th</sup> IWRM Training and conducted it successfully at Hoi An, Viet Nam in February 2009.

### • [Former IWRM Training](#)

4. NARBO secretariats conducted IWRM Training fifth time in past years as follows.

No	Date	Venue	Host Organization	Theme	Number of participants
1 <sup>st</sup>	26 July - 6 August, 2004	Thailand	Thailand Water Resources Association (TWRA)	Integrated Water Resources Management•IWRM•	22
2 <sup>nd</sup>	25-29 April, 2005	Sri Lanka	International Water Management Institute (IWMI)	River Basin Management and Organization	27
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5 <sup>th</sup>	18-25 February, 2009	Viet Nam	Vu Gia-Thu Bon River Basin Organization	Keys for Success with IWRM	24

### • [2<sup>nd</sup> Technical Advisory Committee Meeting](#) [Introduction and Explanations](#)

5. 2<sup>nd</sup> TAC was conducted on 25 June 2009 at Waterhub in Singapore with kind support of Public Utility Board of Singapore. It was attended by 19 delegates from NARBO's Knowledge Partner organization. The objectives of this meeting were to

- 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
- iii. to introduce and promote the IWRM Guidelines.

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

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

8. NARBO secretariat plans to conduct IWRM Training for middle-level staff and for senior-level staff in phased manner. Participants who got an excellent evaluation at the training for middle-class staff which will be held twice will be invited to the training for senior-level staff for the purpose of fostering the next-generation leader of Implementation of IWRM and improving the status of NARBO's IWRM Training. In this way, NARBO secretariat suggested the prototype of training and named it "Cycle of three".

### **Comments on 5th IWRM Training**

9. Main comments to NARBO secretariats on 5<sup>th</sup> IWRM Training were as follows.

- The 5<sup>th</sup> IWRM Training was successful and could be a good prototype of future trainings.
- Feedback survey and several activities to improve the contents of training and should be considered.

### **Comments on the concept of the 6th IWRM Training**

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

### **Suggestions and Recommendations on NARBO's IWRM Training**

11. Main recommendations to NARBO secretariats were as follows.

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

considered.

## **Comments on IWRM Guidelines**

12. Main comments on IWRM Guidelines were as follows.

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

## **Suggestions and Recommendations on IWRM guidelines**

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

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

## **NEXT STEPS**

By considering the suggestions and recommendations from TAC, NARBO secretariat will improve the contents of 6<sup>th</sup> IWRM Training and conduct it for middle-level staff this autumn. Detailed information will be issued soon. We are looking forward to your application to the 6<sup>th</sup> IWRM Training.

### **Agenda of the Meeting**

- 12:30 - 13:00 Registration
- 13:00 - 13:15 Opening Session
- 13:15 - 13:20 Selection of TAC Chairperson(Master of the Ceremony)
  - Opening Remarks by NARBO Chairperson
  - Introduction of TAC Meeting by NARBO Secretariat
- 13:30 - 14:15 Introduction of IWRM Guidelines and Its strategy by UNESCO
- 14:15 - 14:40 Question and Answer
- 14:40 - 15:00 Coffee break
- 15:00 - 16:50 Workshop on Exploring New Challenges in IWRM
  - Presentation about the result of the 5<sup>th</sup> IWRM Training and the concept of the 6<sup>th</sup> IWRM Training
  - Workshop session
- 16:50 - 17:00 Closing Session
  - Synthesis and next steps by ADB
  - Closing Remarks by Acting NARBO Vice Secretary General

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

Koichi TAKANO, NARBO Secretariat, Japan Water Agency

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



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

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

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

Session 1 comprised Opening Remarks, Introduction to background of the Guidelines Project, presentation of the Guidelines Part 1 and Q&A

session. At the Opening Remarks, Dr. Kentaro Kido, JWA expert, introduced NARBO and JWA. He also introduced one participant from Sri Lanka to other participants. The person is Mr. K. W. Ivan de Silva, Vice Chairperson of NARBO. He attended the workshop as an activity of UNESCO national commission of Sri Lanka.

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



- (1) Has the Guidelines already introduced to the training program?
- (2) How to make the highest position of decision maker understand importance of IWRM?
- (3) How to utilize the Guidelines in the trans-boundary issues?

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

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

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

In Session 4, Mr. Susumu Fujioka, JWA expert and NARBO Secretariat, made a presentation on good example provided in the guidelines. He introduced good example of Tone river, Japan with the implementation of IWRM



Process and Spiral. He also explained the Pentagram which is included in the guidelines as useful tool. Participants' reaction was very positive and they told to us that they could understand clearly how the Guidelines is practical.



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

As a whole, the session was successfully completed with kind support from participants. JWA, as NARBO secretariat, would like to give feedbacks about the results of this session to UNESCO, or the Guidelines project. JWA also would like to improve coming NARBO IWRM training based on these feedbacks.

Detailed information on IWRM Guidelines and their relation to NARBO is provided in [the report at Website](#). And the Guidelines can be downloaded from [UNESCO Water Portal Bi-monthly Newsletter No.214](#).

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## Twinning Program between JWA and MASL–2009 Brief Report on Twinning Program

Chandrapala W.A, Mahaweli Authority of Sri Lanka

Twinning Program is one of the key activity of the NARBO action plan. To implement this program, an Agreement and MOU were signed between Japan Water Agency (JWA) and [Mahaweli Authority of Sri Lanka \(MASL\)](#) in April 2008, to exchange of personnel for the Twinning Program. The main objective of this program is to share the experiences, especially in the Water Resources Management sector and good practices etc. between two countries. Also, for sharing experience between both parties, to develop best integrated Water Resources Management (IWRM) practice. To develop good relationship between Sri Lanka NARBO and JWA is also one of the purposes of this program. We feel that, this kind of program gave us ample opportunity to share experiences in very friendly and simple manner.

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



Courtesy call at JWA Head quarters office



Discussion at Mie canal site

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



Fish ways of Nagaragawa Barrage



At the Intake facility of Tone Canal



Recently installed dust removal machine facility



Mie canal intake for Toyogawa Canal System

During 3<sup>rd</sup> week, the team visited to Tone Canal system, where we learned on canal intake facility and Land Improvement District. Also, had organized a presentation on Daily Water Management & Facility Maintenance an Effective Facility Maintenance by Stock Management, where clarified some issues raised by the team members.

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

Finally, we grateful all those JWA & NARBO staff members, who helped and assistance given to us to make this program a successful and useful one.

## NARBO ANNUAL REPORT 2008

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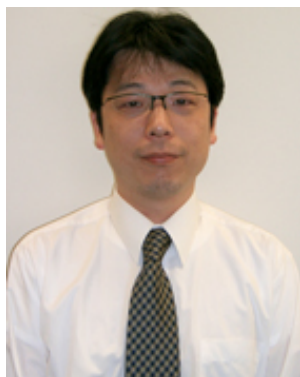
## New Members of NARBO Secretariat

NARBO secretariat is glad to introduce new secretariat staff, Yoshihiro Yamashita and Tatsuo Kunieda. They are staff of JWA and they would like to keep close relationship with NARBO members more than ever.



### Yoshihiro YAMASHITA (Mr.)

I would like to introduce myself to you. My name is Yoshihiro YAMASHITA. I was assigned as a manager of Water Resources Engineering Department of Japan Water Agency and have newly joined NARBO secretariat staff from August 10. I had experiences to have worked as a JICA expert in the Philippines and the Islamic Republic of Iran, and a staff of JBIC. I am glad to work with NARBO members and would like to contribute my experiences to NARBO activities as much as possible. Thank you very much in advance.



### Tatsuo KUNIEDA(Mr.)

Allow me to introduce myself to all NARBO friends. I have just completed my three years assignment of working for Mekong River Commission (MRC) which is one of the NARBO members as you know well, and returned to Japan Water Agency (JWA). I also have newly joined NARBO secretariat staff. Taking this opportunity, I would like to express my sincere thanks to all MRC staffs for your kind cooperations and warm friendships and hope to see you again wearing a new NARBO hat. In parallel, I am really looking forward to meeting and working with all NARBO friends soon. Sincerely yours, Tatsuo

Kunieda.



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



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- MARD–JWA Twinning Program shared Good IWRM Practices in JAPAN
- JWA and MARD held Twinning Program in Viet Nam
- The 9th IIASA–DPRI Conference on Integrated Disaster Risk Management
- New ADB Publication: “Water Rights and Water Allocation: Issues and Challenges for Asia”

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### From Secretariat

- Newcomer

## News

### The 6th NARBO IWRM Training was held in Da Nang, Viet Nam – Preliminary Report

by Tadashige Kawasaki – Asian Development Bank Institute (ADBI)

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

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## **MARD–JWA Twinning Program shared Good IWRM Practices in JAPAN**

by Ma.Nguyen Van Hung – Department of Water Resources, MARD, Viet Nam

We are exceptionally lucky to have been selected by Viet Nam Water Resource Department for this MARD–JWA twinning program which was held in Japan from 10–26 November 2009. The main objectives of this program are to share information and experience on good practices in water resources management between two countries; to develop the best IWRM practice in river basins; and to strengthen the relationship between NARBO Viet Nam and JWA.

(>>See more)



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## **JWA and MARD held Twinning Program in Viet Nam**

by Susumu FUJIOKA – Japan Water Agency(JWA)

Based on a Memory of Understanding (MOU) signed between Japan Water Agency (JWA) and Viet Nam NARBO in March 2008, and an agreement signed between JWA and Ministry of Agriculture and Rural Development (MARD), Twinning Program between the two parties has been started by the dispatch of three from MARD to JWA in November 2008. The objective of the Twinning program is, as the MOU states, "to get a better understanding on Integrated Water Resources Management implemented by the other party". Furthermore, we feel that this program serves as an effective opportunity to develop tight relationship between the two parties. For the annual activity of Twinning Program, in 2009, JWA and MARD plan to exchange their personnel, two from JWA to MARD and three from MARD to JWA.

(>>See more)



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## **The 9th IIASA–DPRI Conference on Integrated Disaster Risk Management**

by Tatsuo KUNIEDA – Japan Water Agency(JWA)

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

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## **New ADB Publication: "Water Rights and Water Allocation: Issues and Challenges for Asia"**

by Dennis Von Custodio, NARBO Secretariat, and IWRM Specialist and RETA 6470 Coordinator (Consultant), Asian Development Bank

The Asian Development Bank released "Water Rights and Water Allocation: Issues and Challenges for Asia" in September 2009 – the 17th in its Water for All publication series.

In 2005, the Network of Asian River Basin Organizations initiated a series of thematic workshops on water rights and water allocation. Four workshops were held in Hanoi in December 2005; in Manila and Bangkok in June and November 2006, respectively; and in Saitama in January 2007. The workshops explored the challenges associated with water allocation and water rights as experienced by the participating countries.

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## Insight

### Launching APWF Water Knowledge Hub and Signing of Letter of Intent for the Indonesia Citarum Project

by Ickhwan Ko, Director General of K-water Institute Korea Water Resources Corporation (K-water)

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

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## From the secretariat

### Newcomer

NARBO secretariat is glad to introduce a new secretariat staff member, Osamu ARINO . He is a staff member of JWA and he would like to keep close relationship with NARBO members more than ever.

(>>See more)

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## The 6th NARBO IWRM Training was held in Da Nang, Viet Nam – Preliminary Report

by Tadashige Kawasaki–Asian Development Bank Institute(ADBI)

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



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

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

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

- ( i ) using 'Keys for Success (KfS)' in a spiral of adaptive management to increase water security,
- ( ii ) optimizing the interests of stakeholders at each phase,
- ( iii ) generating a triple bottom line of economic, social and environmental outcome.

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

The Training employed the following learning structures effectively:

- ( i ) knowledge and experiences from participants (posters, presentations, group work discussions;
- ( ii ) knowledge and experiences from lecturers (presentations and discussions on theory and other case studies);
- ( iii ) understanding and use of IWRM Guidelines (presentations and group work);

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

These structures helped to achieve the following learning objectives:

- ( i ) to clarify IWRM and the implementation process;
- ( ii ) to provide a sound understanding of sectoral perspectives;
- ( iii ) to apply the IWRM Guidelines;
- ( iv ) to understand 'KfS for IWRM' through case studies;
- ( v ) to introduce performance benchmarking of RBOs, investment roadmap on IWRM, and benefit sharing ;
- ( vi ) to critically evaluate VGTB case study in terms of barriers and enablers to IWRM;
- ( vii ) to explain how KfS may be applied in their own river basins.

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

The NARBO secretariat is going to provide the details of the 6th IWRM Training and to share the materials among the NARBO members in the next update of NARBO website.





## MARD–JWA Twinning Program shared Good IWRM Practices in JAPAN

by Ma.Nguyen Van Hung – Department of Water Resources, MARD, Viet Nam

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First of all, we would like to thank JWA very much.

We are exceptionally lucky to have been selected by Viet Nam Water Resource Department for this MARD–JWA twinning program which was held in Japan from 10–26 November 2009. The main objectives of this program are to share information and experience on good practices in water resources management between two countries; to develop the best IWRM practice in river basins; and to strengthen the relationship between NARBO Viet Nam and [JWA](#).

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

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

We are really impressed by the hydraulic structures and operations in Japan which are modern, large-scale, beautifully designed with the auxiliary sub–systems for exploiting and operating, and works perfectly; especially by the information communication systems from dams to JWA Head Office.

JWA is the focal agency managing the entire water supply and hydraulic construction systems in Japan, and functions as a coordinator between ministries and water users. Thus, it avoids overlapping in the management of water resources and consensus between different involved ministries in the country.

Although we did not have much time in Japan, thanks to JWA'S enthusiasm, we received a lot of information on hydraulic construction systems that JWA manages by reports and field visits. With the close friendship and warm hospitality of JWA, we had productive seminars and exchange of information and experiences in the effective and safe management exploitation and operation of water system in Japan.

Finally, we are grateful to all JWA and NARBO staff members, who helped and provided assistance to make this program a successful and useful one. Words are limited to express our deep appreciation.



Courtesy cal at JWA Head quarters office



Visiting Takizawa Dam



Visiting Pipeline construction



Visiting Takizawa Dam



Presentation of VN Courtry report



Visiting Farming field

## JWA and MARD held Twinning Program in Viet Nam

by Susumu FUJIOKA – Japan Water Agency(JWA)

Based on a [Memory of Understanding \(MOU\)](#) signed between [Japan Water Agency \(JWA\)](#) and Viet Nam NARBO in March 2008, and an agreement signed between JWA and [Ministry of Agriculture and Rural Development \(MARD\)](#), Twinning Program between the two parties has been started by the dispatch of three personnel from MARD to JWA in November 2008. The objective of the Twinning program is, as the MOU states, "to get a better understanding on Integrated Water Resources Management implemented by the other party". Furthermore, we feel that this program serves as an effective opportunity to develop tight relationship between the two parties. For the annual activity of Twinning Program, in 2009, JWA and MARD plan to exchange their personnel, two from JWA to MARD and three from MARD to JWA.

This article reports briefly about Twinning Program held from 2<sup>nd</sup> to 6<sup>th</sup> November in Hanoi City and Dien Bien City in Viet Nam.

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

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

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

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

Nui Coc company has one main reservoir, Nui Coc (width 480 m, height 27 m, earth type dam), and seven other supportive dams.

Along with reservoirs, it manages and operates an irrigation main canal of 18 km in length. The total length of first tribal canal is 47 km, and that of second tribal canal is 7,500 km. The irrigation system supplies water for the fields of 12,000 ha. 4,500 ha of them are used for vegetable and 2,000 ha are used for tea.

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



*Nui Coc company's office*



*Nui coc reservoir*

After brief explanation of outline, we visited Nui coc reservoir. N.W.L. and D.W.L of Nui coc reservoir are 46.2 m and 48.25 m respectively. Its designed flood is 957 m<sup>3</sup>/s. Capacity of reservoir is 175.5 million m<sup>3</sup>. As discharge facilities, two pipes whose diameter is 1.7 m, penetrate the lower dam body. The maximum discharge of those pipes is 30 m<sup>3</sup>/s in total. The catchment area of this reservoir is 500 km<sup>2</sup>. It has two spillways, one of which has three gates of 8 m in width and the other of

which has two gates of the same kind. The maximum discharge of the spillways is 1,430 m<sup>3</sup>/s. For the water quality survey, the Ministry of Environment and domestic water users independently conduct regular survey of the water quality . of the reservoir

In the afternoon of the first day, we visited Xa huong reservoir. Main purpose of this dam is irrigation, partly for the domestic use for military and a golf club in the downstream area. Total capacity is 12 million m<sup>3</sup>. The spillway gate, which is operated manually, takes eight labors when opening the gate. Water level tends to increase rapidly when a flood comes. Water level is measured by the ruler attached to the column of the bridge between the water intake facility and the dam body.



*Xa huong reservoir*

After visiting Nui Coc reservoir and Xa huong reservoir, we rode on a car to go to Dien Bien city, Lai Chau province, to visit and see Pa Khong Reservoir. Along with Japanese delegation, Mr. Phan Thanh Toan, Mr. Nam and Mr. Quan crammed into a car to challenge an unforgettable journey. The 14-hour car ride before we reached the Dien Bien city was deeply etched into the minds of all the members who shared the experience. The exhausting journey finally came to a period when the Director of Pa Khong Reservoir Management and Operation (M&O) office, Mr. Nguyen Van Chien greeted us at the dinner table in the evening. In the next morning, we visited Pa Khoang Reservoir M&O office, where General Manager warmly welcomed us and informed us of general outline of the reservoir. Located in the north



*Pa Khoang Reservoir*

of Dien Bien city, Pa Khoang reservoir plays an essential role for the lives of citizens there.

Of all its capacity, 3.4 million m<sup>3</sup> is allocated for irrigation, whereas 1.9 million m<sup>3</sup> for flood control. Spillway is a free overflow type. Irrigation water is provided free of charge, with its water flow and allocation managed by the Operation and Management (O&M) office at the dam

it is provided to the agriculture sectors.

Four hydropower generators are installed thanks to ODA from Japan.

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

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

This program had planned in such a way that gave us a wonderful opportunity to become familiar with current situation of Viet Nam reservoir as well as building tight friendship. On the last day of the program, we visited the MARD office again, where we reported what we saw and learnt throughout the program to the General Director of Department of Irrigation and Water Management, Ass. Prof. Vu Van Thang, and expressed our finest thanks for this program. Finally, we are grateful to all MARD staff members and assistance given to us to make this program a successful and useful one.

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## The 9th IIASA–DPRI Conference on Integrated Disaster Risk Management Scientific Challenges in Implementing Integrated Disaster Risk Management in a Changing World, 12–16 October 2009

by Tatsuo KUNIEDA - Japan Water Agency(JWA)

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

On behalf of NARBO Secretariat, Mr. Tatsuo KUNIEDA participated in this event and made a presentation of the IWRM Guidelines which was produced by UNESCO in collaboration with NARBO in 2009. The Spiral Model proposed in the Guidelines was praised by many professors and scientists as an ingenious and facilitative idea with lots of good examples and their keys for success descriptions. Using this Guidelines, NARBO is going to organize the 6th NARBO IWRM training from 30 November to 7 December 2009 in Da Nang, Viet Nam.

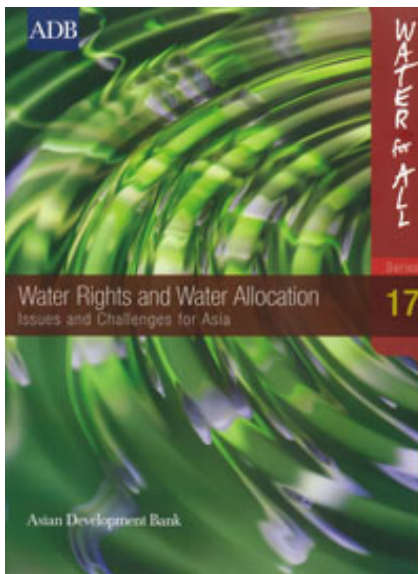
Ninth IIASA–DPRI Conference: <http://nexus-idrim.net/idrim09/Kyoto/index.html>

**NARBO IWRM Training:** [http://www.narbo.jp/narbo/notice/information\\_6thtraining.htm](http://www.narbo.jp/narbo/notice/information_6thtraining.htm)



## New ADB Publication: “Water Rights and Water Allocation: Issues and Challenges for Asia”

Dennis Von Custodio,  
 NARBO Secretariat, and IWRM Specialist and RETA 6470 Coordinator (Consultant),  
 Asian Development Bank



The Asian Development Bank released “Water Rights and Water Allocation: Issues and Challenges for Asia” in September 2009—the 17th in its Water for All publication series.

In 2005, the Network of Asian River Basin Organizations initiated a series of thematic workshops on water rights and water allocation. Four workshops were held in Hanoi in December 2005; in Manila and Bangkok in June and November 2006, respectively; and in Saitama in January 2007. The workshops explored the challenges associated with water allocation and water rights as experienced by the participating countries.

In May 2007, NARBO and ADB held a fifth workshop in Manila to synthesize the findings from the earlier workshops. Participants viewed that introducing a country-wide licensing system for water use could take many years to complete, and developing practical guidelines and solutions for the transition phase is urgent.

The publication, which builds on the foundation of the five workshops, attempts to

- ( i ) provide practical clarity on the concepts and terminology surrounding water rights and water allocation,
- ( ii ) summarize key findings from the cross-country comparisons on water rights and water allocation;
- ( iii ) stimulate in–depth discussion on water rights and identify ways to overcome the challenges of their implementation, and
- ( iv ) provide inputs for future NARBO and ADB activities to assist governments in the region in improving water rights and water allocation in the context of integrated water resources management.

The publication can be a resource for staff working in water agencies and river basin organizations that

have already joined NARBO as members, as well as for other interested parties—both in government and civil society—who are considering adopting a water rights system.

Visit [ADB website](#) for detailed information and free download of the publication.

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## Launching APWF Water Knowledge Hub and Signing of Letter of Intent for the Indonesia Citarum Project

by Ick Hwan Ko, Director General of K-water Institute  
Korea Water Resources Corporation (K-water)

### About K-water regional knowledge Hub

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

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

- ( i ) water quality monitoring and modeling;
- ( ii ) point and non-point source control;
- ( iii ) river and reservoir water quality management;
- ( iv ) water quality improvement for public health and environment.

The Hub's activities include following:

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



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

- ( i ) a regional workshop of on river basin management in Asia on 19th August in Incheon, Korea as part of the World City Water Forum’;
- ( ii ) launching ceremony of the Citarum river basin project pursuant to a letter of intent (LOI) between ADB and K–water on the 21<sup>st</sup> August in Daejeon, Korea. The objectives of the event were:
  - To launch K–water Hub as the APWF’s regional water knowledge hub on water quality management in river basins
  - To allow the prospective clients to share their challenges and issues on water quality management in their river basins and to listen to their expectations from K–water Hub
  - To allow K–water to showcase their facilities and to share the knowledge and capacity development services : and
  - To facilitate networking and collaboration with K–water and other partners for building partnerships on water quality management in river basin

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

### Indonesia Citarum project



A LOI between K–water and ADB was signed for \$6 million worth of collaboration to support Indonesia’s Integrated Citarum River Water Resources Investment Program (ICWRMIP). The objectives of the project are to develop an effective decision support system (DSS) for integrated water resources management (IWRM) for the CRB and to strengthen the capacity of water resource managers for better water quantity and quality management decisions. The DSS to be

developed in this project is expected to serve as a standardized framework on which all current monitoring, modeling, and conservation practices can be integrated and analyzed by the river basin managers in the CRB.

The representatives from Indonesian government, ADB and other organizations recognized the event as a successful example of exchanging experience and knowledge for water quality management in river basins, and they highly assessed K–water’s 40–year accumulation of technology and experience in water resources management, stating that K–water is expected to lead international cooperation through NARBO and APWF Water Knowledge Hubs. Also, K–water was asked to build relationships of

multilateral cooperation, develop other pilot projects, and provide technical supports to resolve water-related problems in Asia Pacific region. Receiving highly positive assessments, K-water successfully finished the launching ceremony and signed the Indonesia Citarum project.

### [Plans for Year 2010](#)

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

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## New Member of NARBO Secretariat

NARBO secretariat is glad to introduce a new secretariat staff member, Osamu ARINO . He is a staff member of JWA and he would like to keep close relationship with NARBO members more than ever.



### Osamu ARINO (Mr.)

It is my great pleasure to be one of secretariat staff of NARBO, which plays important roles in the promotion of integrated water resources management. I have long waited for such an opportunity to join NARBO activities. Making the most of my experiences gotten in South East Asia and Japan, I think I will be able to contribute to basin organizations in monsoon area in Asia. I sincerely hope I will get close relationship with those who are involved in NARBO and accelerate our activity together with all of you. Thank you.

## NARBO Newsletter

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

### Topics

#### News

- The International Year of Sanitation (IYS) Follow-up Conference
- NARBO Case Study Workshop – Follow up for NARBO 6th IWRM Training –
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- A report from Twinning Program between MASL and JWA 2010 in Sri Lanka –

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- Date of the 4th General Meeting

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### News

#### The International Year of Sanitation (IYS) Follow-up Conference

by Tadashige Kawasaki, NARBO Secretariat, Asian Development Bank Institute

The Millennium Development Goals (MGDs) include the target of “reducing by half the population of people without access to safe drinking water and basic sanitation”. Though many efforts were done and population of people with access to basic sanitation facilities rose rapidly especially in east Asia, there are still lack of proper sanitation and hygiene practice, approximately 1.8 million children die every year due to un-clean water.

(>>See more)

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

by Tatsuo KUNIEDA – Japan Water Agency(JWA)

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 \(ADB\)](#).

(>>See more)



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## A memorable exploration of Mahaweli River Basin

### – A report from Twinning Program between MASL and JWA 2010 in Sri Lanka –

by Susumu FUJIOKA – Japan Water Agency(JWA)

Based on an Agreement and MOU signed between [Japan Water Agency \(JWA\)](#) and MASL in 2008, Twinning Program between the two parties has been started by the dispatch of 4 personnel from JWA to [Mahaweli Authority of Sri Lanka \(MASL\)](#) to JWA in May 2008. The objective of the Twinning program is, as the MOU states, that “to get a better understanding on Integrated Water Resources Management implemented by the other party”.

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## Information

### Date of the 4th General Meeting

Six years have passed since the Network of Asian River Basin Organizations (NARBO) was established in 2004.

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## From the secretariat

### New Member of NARBO– The Water and Energy Commission Secretariat (WECS) –

The Water and Energy commission (WEC) was established in 1975 and it's secretariat (WECS) in 1982 by the Government of Nepal with the prime objective of developing policies, strategies, long term plans and visions for the promotion and development of water and energy sector of the nation.

(>>See more)

### Reminder of the Member Annual Report on 2009 and Questionnaire for the NARBO Action Plan 2010-2011

Thank you very much for your cooperation on the questionnaire for the preparation of the NARBO Action Plan 2010-2011, and Annual Report 2009. We have already received some reply from members.

(>>See more)

## The International Year of Sanitation (IYS) Follow-up Conference

by Tadashige Kawasaki, NARBO Secretariat, Asian Development Bank Institute

The Millennium Development Goals (MGDs) include the target of “reducing by half the population of people without access to safe drinking water and basic sanitation”. Though many efforts were done and population of people with access to basic sanitation facilities rose rapidly especially in east Asia, there are still lack of proper sanitation and hygiene practice, approximately 1.8 million children die every year due to un-clean water. Water and sanitation are closely related to other issues, such as poverty, health, education, and gender, on which progress is needed in order to achieve sustainable development. Behavioral change and developing clean and safe sanitation facilities are crucial for maternal and child health.

Based on these backgrounds, United Nations (UN) launched the International Year of Sanitation (IYS) in 2008 and many conferences and workshops to cope with sanitation issues were held last year. IYS changed the situation by helping countries open debates for better sanitation.

*The International Year of Sanitation (IYS) Follow-up Conference* was held on 25–27 January 2010 at the United Nations University in Tokyo by Ministry of Foreign Affairs (MOFA), Government of Japan supported with ADB Headquarters, ADBI, United Nations University, United Nations Secretary-General's Advisory Board On Water And Sanitation (UNSGAB), United Nations Children's Fund (UNICEF), Asia-Pacific Water Forum(APWF) and Japan International Cooperation Agency (JICA).



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

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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.

On behalf of NARBO Secretariat, I would like to express my sincere thanks to all participants and DWR Thailand for your very active and friendly cooperation. In addition, please accept our sincere apology to those who was not able to join this workshop. This time, there were only limited participants invited due to many constraints.

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## A memorable exploration of Mahaweli River Basin – A report from Twinning Program between MASL and JWA 2010 in Sri Lanka –

by Susumu FUJIOKA – Japan Water Agency(JWA)

Based on an Agreement and [MOU](#) signed between [Japan Water Agency \(JWA\)](#) and MASL in 2008, Twinning Program between the two parties has been started by the dispatch of 4 personnel from JWA to [Mahaweli Authority of Sri Lanka \(MASL\)](#) to JWA in May 2008. The objective of the Twinning program is, as the MOU states, that “to get a better understanding on Integrated Water Resources Management implemented by the other party”. Furthermore, we feel that this program serves as an effective opportunity to develop tight relationship between the two parties. In 2009, MASL sent 4 personnel to JWA for the first time as a Twinning Program, followed by JWA sending 2 personnel to MASL in 2010 February. This article reports briefly about Twinning Program held from 4th to 16th February in Colombo and entire Mahaweli river basin.

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

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

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

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



*Meeting At MASL HQ*



*Field Visit to Victoria Dam*

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

After a stay at Kandy we set out for Victoria Dam after visiting one of the most sacred temples in Kandy. Eng. S. R.K. Aruppola, EIC of Victoria Dam gave us a warm greeting before the explanation of the current issue there. Illegal residents in the upstream of reservoir, maintenance cost problem and operation when flooding was the main topic there. The illegal residents in the upstream, as is commented by Mr. C. Wellappili at the final report of this program, relates to the poverty problem. Some economically suffered people wish to cultivate the land in the reservoir in spite of the risk of being submerged at high water season.



*Meeting with Farmers at System C*

Due to the aging of the Dam, which is built in 1980s, telecommunication system doesn't work anymore. The rehabilitation and updating of facility is required, which is also be treated by DSWRPP. In the afternoon of that day, we visited the control office of both Randanigala Dam and Rantanbe Dam, where a clear explanation of current issue of siltation, mainly excavation work in 2007, is presented by Eng. H. M.Kalubanda. Likewise the other dams, the problem will be also treated by DSWRPP. In the night at circuit bungalow at Rantanbe, we set out for the wild-elephant explore after dinner only to find a small deer-like animal after nearly two hours of explore.

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

After meeting with farmers, we visited the three important reservoirs in the System C and System B area, namely Ulhitia, Raaa, and Maduru Oya. It was quite meaningful to visit these sites to understand the situation of System C and System B, where we had no plan to visit during this problem.



*Moragahakanda Saddle Dam No.2*

After a stay at Plonaruwa, which is said to be the second ancient capital of Sri Lanka history, our journey was extended as far as one

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

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



*At System H office bungalow*

After taking lunch, joining Mr. Malala to accompany us, our journey has resumed to the Kaluganga Project, where we are informed of outline of the development of System F in the downstream of the reservoir. We were amazed that the whole village infrastructures such as police station, post office, hospital and schools, would be simultaneously developed along with the Dam construction. In the night, we set up for the elephant-watching tour from the resident area, where fortunately we could see a herd of elephants closely.

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

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

The Kalawewa reservoir consists of two reservoirs, one is Kalawewa and the other is Balaluwena. At the saddle point of these reservoirs the circuit Bungalow of Kalawewa is located. Even though it was already getting dark when we arrived to the Bungalow, we enjoyed a boat tour in the reservoir. In the next day, after visiting local temple, where many children clean the garden as a school activity, which can be normally seen in Sri Lanka, we headed for Anurudhapura, picking up Eng. Basnayake from Moragahakanda Office on the way.



At the PEACE project office near to Anurudhapura, we met a Japanese specialist, Mr. Saisho, who has been working for the irrigation of Sri Lanka for long time, now engaging in the PEACE project. The meeting was quite enlightening for us to understand the current situation of irrigation government policy in Sri Lanka.

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

After a several hours of drive from Anurudhapura, our field tour came to the end in the evening of 12<sup>th</sup> Feb.

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

Whole the Twinning Program was coordinated and prepared with the finest efforts of the MASL officers, making it quite informative and useful to grasp the outline of the Mahaweli river basin. We would like to express our best thanks to all of the MASL officers who had concerned to this Twinning Program.



## Date of the 4th General Meeting

Six years have passed since the [Network of Asian River Basin Organizations \(NARBO\)](#) was established in 2004. NARBO aims to strengthen the capacity and effectiveness of RBOs in promoting IWRM and improving water governance, through training and the exchange of information and experience among RBOs, their associated water sector agencies, and knowledge partner organizations in Asia and to advise on the establishment of RBOs in Asia. Thanks to your contribution, NARBO has made solid achievements and significant outcomes in improving IWRM in our member organizations.

This year of 2010 is expected to be exciting as many water-related events are planned. We especially would like to ask all of you to note the schedule of the General Meeting, 7–10 June, 2010 so that your attendance can be ensured.



## **Reminder of the Member Annual Report on 2009 and Questionnaire for the NARBO Action Plan 2010–2011**

Thank you very much for your cooperation on the questionnaire for the preparation of the NARBO Action Plan 2010– 2011, and Annual Report 2009. We have already received some reply from members.

If you have not sent back to us yet, please fill in the questionnaire we sent and send it back to NARBO Secretariat by April 3 by email ([narbo@water.jp](mailto:narbo@water.jp)) or facsimile (+81-48-600-6509).

(1) Questionnaire preparing for the NARBO Action Plan 2010-2011 In order to make more effective and member-involved ActionS Plan in the next General Meeting, we would like to collect NARBO member's recommendation and contributions beforehand.

(2) Member's Annual Report on 2009 We would like to ask you to submit NARBO Member's Annual Report. Especially, please be reminded that according to NARBO Charter, every RBO member has an obligation to submit the report.

If you have any questions, please don't hesitate to ask us. Your Annual report will be posted to the NARBO website. We, secretariat staffs, are looking forward to your report!