

NARBO's 9TH IWRM TRAINING
12-19 May 2014 • Philippines



Building on IWRM Good Practices

The Laguna Lake Basin Experience

Introduction of the Training

Dennis Von C. Custodio
Asian Development Bank

IWRM and Strengthening River Basin Committees

1st
IWRM Training
Thailand 2004

22 participants, 7 countries: Cambodia, Indonesia, Thailand, Japan, Lao PDR, Philippines, Viet Nam



IWRM and Strengthening River Basin Committees

1st
IWRM Training
Thailand 2004

- role and importance of RBCs on water resources management
- Thailand's participatory approach to IWRM and its success in institutionalizing the IWRM process through planning and budgetary instruments
- participants' output:
 - institutionalizing IWRM
 - advocating IWRM
 - fostering participation in IWRM
 - establishing new RBOs
 - capacity building of RBOs

River Basin Management and Organizations

27 participants, 6 countries: Pakistan, India, Nepal, Sri Lanka, Afghanistan, Bangladesh

2nd
IWRM Training
Sri Lanka 2005



River Basin Management and Organizations

2nd
IWRM Training
Sri Lanka 2005

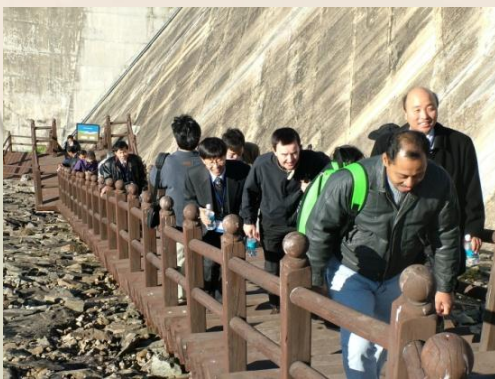
- integrated river basin management: concepts and principles
- phases in establishing RBOs
- comparative characteristics and performance of 7 river basins
- participants' output: river basin plan for a hypothetical basin model

Technology for IWRM

3rd

18 participants, 8 countries: Cambodia, Philippines, Malaysia, PRC, Indonesia, Sri Lanka, Thailand, Viet Nam

IWRM Training
South Korea 2005



NARBO
in Organizations

Technology for IWRM

3rd
IWRM Training
South Korea 2005

- **information and knowledge on the application of technology for IWRM**
- **integrated real-time water management systems for South Korea's five river basins (Han, Geum, Nakdong, Seomjin, Yeongsan)**
- **South Korea's water policy towards IWRM**
- **Hands-on exercises on computer-based models**

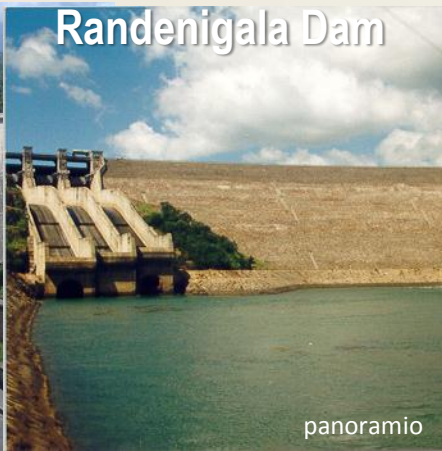
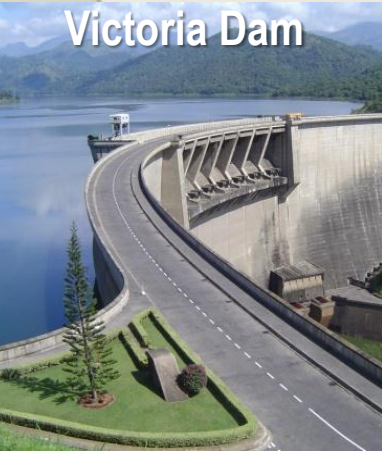
Water for All - Lessons Learnt and Meeting Future Challenges

15 participants, 6 countries: Bangladesh, Indonesia, Pakistan, Philippines, Viet Nam, and Sri Lanka

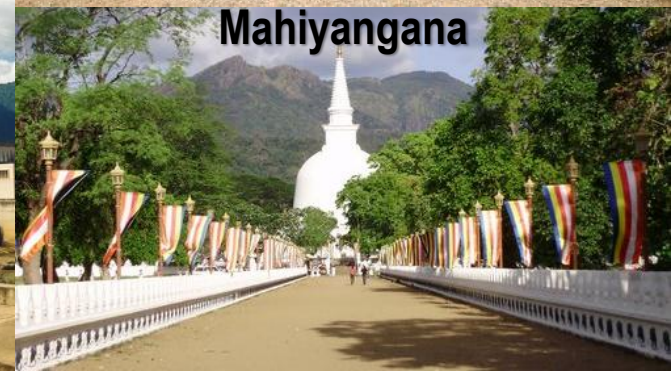
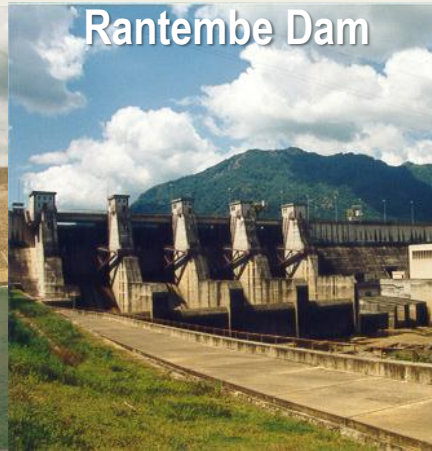
4th
IWRM Training
Sri Lanka 2006



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Water for All - Lessons Learnt and Meeting Future Challenges

4th
IWRM Training
Sri Lanka 2006

Lessons from Sri Lanka

- **resettlement, reconstruction, and recovery
from 2004 tsunami**
- **hydraulic history**
- **irrigation systems**
- **dam operations in Mahaweli cascade**

Keys for Success with IWRM

24 participants, 6 countries: Thailand, Indonesia, India, Philippines, Sri Lanka, Viet Nam

5th
IWRM Training
Viet Nam 2009



Keys for Success with IWRM

5th
IWRM Training
Viet Nam 2009

- **piloted a case study approach with VGTB as study river basin**
 - scope for a more detailed analysis of the basin
 - sound basis for comparison between basins
- **piloted use of IWRM Guidelines at River Basin Level**
 - spiral model of IWRM
 - sector perspectives
 - keys for success with IWRM



Network of Asian River Basin Organizations

Keys for Success with IWRM

19 participants, 7 countries: Indonesia, India, Thailand, Philippines, Sri Lanka, Viet Nam, Malaysia

6th

IWRM Training
Viet Nam 2009



- case study of the VGTB river basin
- IWRM Guidelines at River Basin Level

Solutions to Water Sector Issues through IWRM : the Mahaweli River Basin Experience

7th
IWRM Training
Sri Lanka 2012

26 participants, 8 countries: Sri Lanka, Thailand, Indonesia, Lao PDR, Myanmar, Philippines, Nepal, India



...showcased issues and IWRM solutions
in basin areas serviced by the Mahaweli
Authority of Sri Lanka

...shared the operational management of
the complex system of dams, hydropower
stations, and transfer tunnels and canals
under the Accelerated Mahaweli
Development Program



Enhanced Water Security through IWRM: Mahaweli Experience

8th
IWRM Training
Sri Lanka 2013



27 participants, 11 countries: Sri Lanka, Bangladesh, Lao PDR, Thailand, Indonesia, Philippines, Nepal, India, Pakistan, Afghanistan, Malaysia

...Sri Lanka's history of water resources management and development including water systems built 2,400 years ago

...how IWRM helped to enhance water security in the Mahaweli river basin



Building on Good IWRM Practices: The Laguna Lake Basin Experience

9th
IWRM Training
Philippines 2014

33 participants, 11 countries: Afghanistan, Bangladesh, Bhutan, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Sri Lanka, Thailand, Viet Nam

Meet the Participants

Thailand



Wilasinee Nutthawut

Bhutan



Jigme Tshewang

Malaysia



Khairi Rizal

9th Sri Lanka




Katukurunda Jayasenage

Myanmar



Maung

Lao PDR



Detsada

Philippines



Kim Gerardo Sol Joebeth Rose Mayan Ricardo

Bangladesh



Ataur

Viet Nam



Sai Le Thu Hoang Hung Lu Manh

Afghanistan



Ebadullah Mohammad Wais Sikander

Indonesia



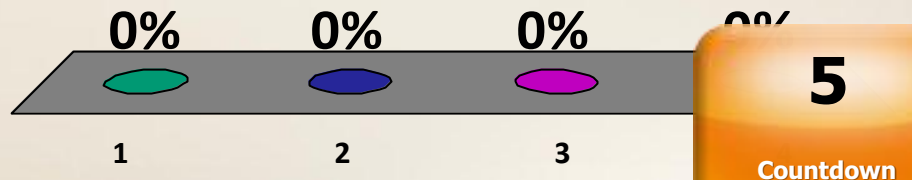
Kurdianto Esthi Zainal Ajib



Learning Structure

What motivated you the most to join this 9th IWRM training?

1. learning (IWRM and good practices from Laguna lake basin and other river basins in Asia)
2. expanding professional network on water
3. traveling to Philippines and know its people, food, culture, places of interest, etc.
4. others



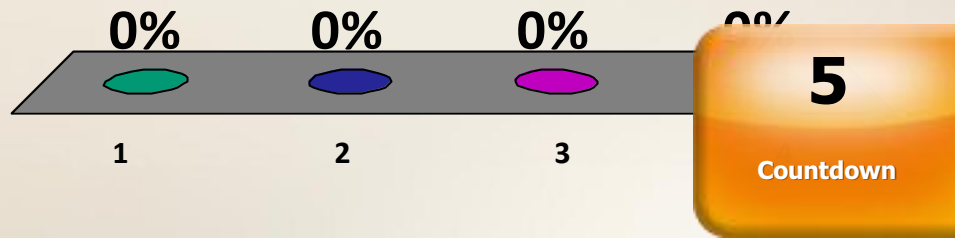
How will you learn?

- Participants' exchange of knowledge and experiences (posters, presentations, informal interactions and group discussions)
- Lecturers' presentations and knowledge-sharing on water resources management-related topics
- Understanding and use of IWRM Guidelines (group work and presentations)
- Laguna lake basin case study (presentations, hand-outs, video clips, and study visits)



Where do you want to learn most?

1. Participants
2. Lecturers
3. IWRM Guidelines
4. Laguna lake basin case study



Maximize your learning...



Understanding



Critical Analysis



Application



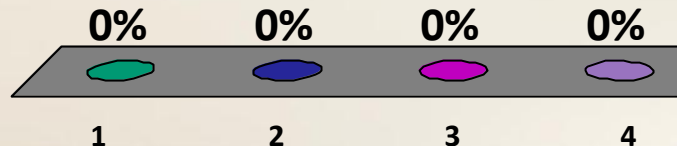
**Active
Contribution to
Group Work**



Presentation

Which of training's learning modality do you enjoy most?

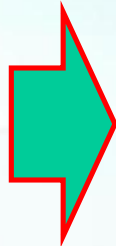
1. Understanding
2. Critical analysis
3. Application
4. Active contribution to group work
5. Presentation



5
Countdown

How will you be assessed?

ASSESSMENT



Demonstration of learning modalities
(understanding, critical analysis, group work contribution, application, feedback and presentation)

- situational report
- plenary and group participation
- poster content and presentation
- individual and group presentations

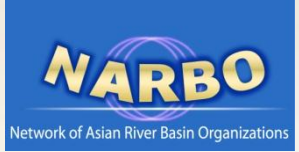
1. Attendance
2. Satisfactory completion
3. Exemplary performance



CERTIFICATE



CERTIFICATE



Program

9th

IWRM Training
Philippines 2014

1. General Introduction of IWRM and the IWRM Guidelines (blue)

– Day 1

2. Case Study of Laguna Lake Basin including Study Visit (pink)

– Days 2, 3, 4, 5, 7

3. Water resources management-related topics (green)

– Days 2, 6, 7

4. Participants' Poster Session and Group Work and Presentations (yellow)

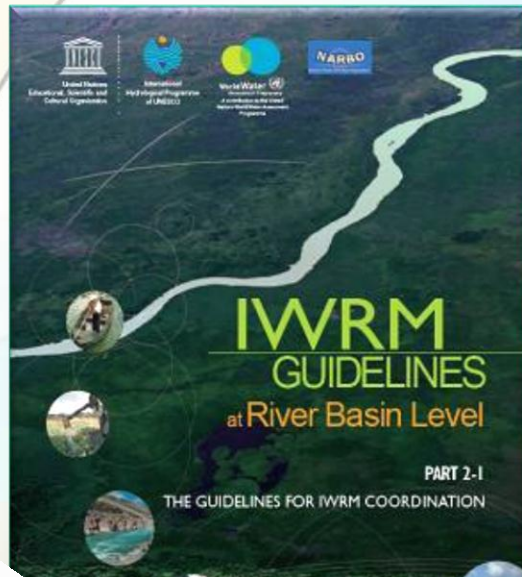
– Days 6, 7, 8

NARBO's 9th IWRM Training Programme "Building on IWRM Good Practices - The Laguna Lake Basin Experience" 12-19 May 2014, Laguna Lake Basin, Philippines										
Course Directors: Dolores Nepomoceno (LLDA) and Dennis' Yun Castorido (ADB) Daily 5-minute recap of previous day's proceedings from youth observers Day 0: Participant Arrival, Registration, Secretariat Meeting										
DATE	8:00-9:00	9:00-10:30	10:30-11:00	11:00-12:30	12:30-14:00	14:00-15:30	15:30-16:00	16:00-17:30	17:30-18:00	
Day 1 12 May (Mon)	Registration	9:00-10:30 3:00-3:45, 3:45-10:30 8:00 Welcomes and Introduction to the Program, Dolores Nepomoceno 8:30 Welcomes Speech, Ramon J.P. Pico, DENR (or Manuel Gerodich) 9:30 Welcomes Speech, Neville David, IWRM 9:45 Speech by Embassy of Japan in Philippines, Koji Otsu 10:00 Introduction of NARBO, Kazuhiko Onoto, ADB 10:30 Group Photograph	Short Break	11:00-12:30 11:00 Introduction of the IWRM Training, Guisse Viza Castorido, ADB 12:00 House rule, Cesar Quintero, LLDA 12:30 Self-introduction of Participant	Short Break	14:00-15:30 14:00-14:45, 14:45-15:30 Introduction of IWRM and its spiral model (IWRM Guidelines at River Basin Level, Part 1), UNESCO IWRM process, sectoral perspective and key for success (IWRM Guidelines at River Basin Level, Part 2), ADB 2 Video Clips: LLDA ("Balang Laguna" or Lake of Laguna)	Short Break	16:00-17:30 16:00-16:45, 16:45-17:30 Briefing of Group Presentation ADE Poster Session (Assessment and Presentation) Part 1	Short Break	18:00- 18:00 Welcome Dinner (18:00)
Day 2 13 May (Tue)	Registration	Laguna Lake Development Authority: Legal and Institutional Framework for IWRM - John Andrew de Laguna Lake Development Authority Financing Framework for IWRM - Rocimara Acosta, LLDA Laguna Lake Development Authority Decision Support System for IWRM - Alvin Farson & Neil Varcas, LLDA	Short Break	Water Environment Laguna Lake Development Authority Improving Performance for IWRM through PESO Plancharmarkin - Cesar Quintero, LLDA Mizumata Okada, VEPAP	Short Break	Sectoral perspective: Irrigation - Romeo Lopez/Notional Irrigation Administration Sectoral perspective: Flood Management and Drainage Master Plan for Metro Manila and Laguna Lake Basin - Patricia Garcia, LLDA Sectoral Perspective: Ecotourism, Water and Role of the Metropolitan Waterworks and Sewerage System - Ewanawit L. LLDA Water Abstraction and Allocation Practices for Basin Planning in Laguna Lake Resolution on Water Allocation Inclusion of ryegrass in Carabara Pangasinan, LLDA Joseph Sapiro, LLDA	Short Break	LLDA's Coordination of Sectoral Perspectives Role of Gender in IWRM Dolores Nepomoceno, LLDA Yasmin Siddiq ADE Shelling on Study Visit	Short Break	18:00- 18:00 Poster Session, Part 2 Course Directors Poster Session, Part 3 Course Directors
Day 3 14 May (Wed)	Registration	Environmental User Fee - Managing Environmental Risks for Water Security in Laguna Lake Basin Rovena Pagdanganan, LLDA Adelina C. Santos, LLDA	Short Break	Using Technology to Mitigate Water-Related Disaster Risks in the Laguna Lake Basin Mahar Laguna, UP-INPHC Emilio Hernandez, LLDA	Short Break	Community-Government Partnership for Improved Flood Management in the Laguna Lake Basin Emilio Hernandez, LLDA	Short Break	Stakeholders' Participation in IWRM in the Laguna Lake Basin Reena Bhatta, LLDA Joseph Sapiro, LLDA ADE	Short Break	18:00- 18:00 Course Directors
Day 4 15 May (Thu)	Registration	Study Visit 1 1. Role of Youth and Women in Lake Conservation, Lake Parkland, San Pablo, Laguna 2. Disaster Risk Reduction, Keys for Success, Sta Cruz, Laguna								
Day 5 16 May (Fri)	Registration	Study Visit 2 1. Processes for Domestic Use of Laguna Lake's Raw Water: Maglad Water Treatment Plant, Montalupa City, Metro Manila 2. Integrated Solid Waste Management for Lake Water Quality Protection, Teresa, Rizal								
Day 6 17 May (Sat)	Registration	Feedback of Learning from Study Visit including IWRM Spiral Model of the LLDA (Group Presentation)		Short Break	Super Typhoon "Yolanda": Experience and Lessons Maria Cecilia Monteverde PANGKALA	Youth Participation for Water Security in Asia Christopher I. Morris ADE	Short Break	Preparation for Presentation (Group Work)	Short Break	18:00- 18:00 Preparation for Presentation (Group Work)
Day 7 18 May (Sun)	Registration	Experience of Japan in IWRM JVA	Dissemination of the concept of IWRM at field level (EBC) JVA	Short Break	TBD Eric Guinleau ADE	Laguna Lake Basin Ecological Footprinting and Bio Capacity Dolores Nepomoceno, LLDA (TBD)	Short Break	Presentation and Discussion (Group Presentation) Course Directors	Short Break	18:00- 18:00 Preparation for Presentation (Group Work)
Day 8 19 May (Mon)	Registration	Presentation and Discussion (Group Presentation) Course Directors		Short Break	Presentation and Discussion (Group Presentation) Course Directors		Short Break	16:00 Vrap up and Evaluation, Award Ceremony 16:40 Closing Remarks, J.P. Reyes O. Acosta, LLDA 17:30 Closing Remarks, Kemaro Nido, NARBO (JVA)	Short Break	18:00- 18:00 Farewell Dinner
Day 9: Participants' Departure										
Legend: Blue: General Introduction of IWRM Pink: LLDA Case Study / Study Visit Green: Other IWRM-related topics Yellow: Presentation and Discussion										

1. General Introduction of IWRM and the IWRM Guidelines

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Philippines 2014



Tool to fill the 'implementation gap' of IWRM by translating complex IWRM principles into their practical application...

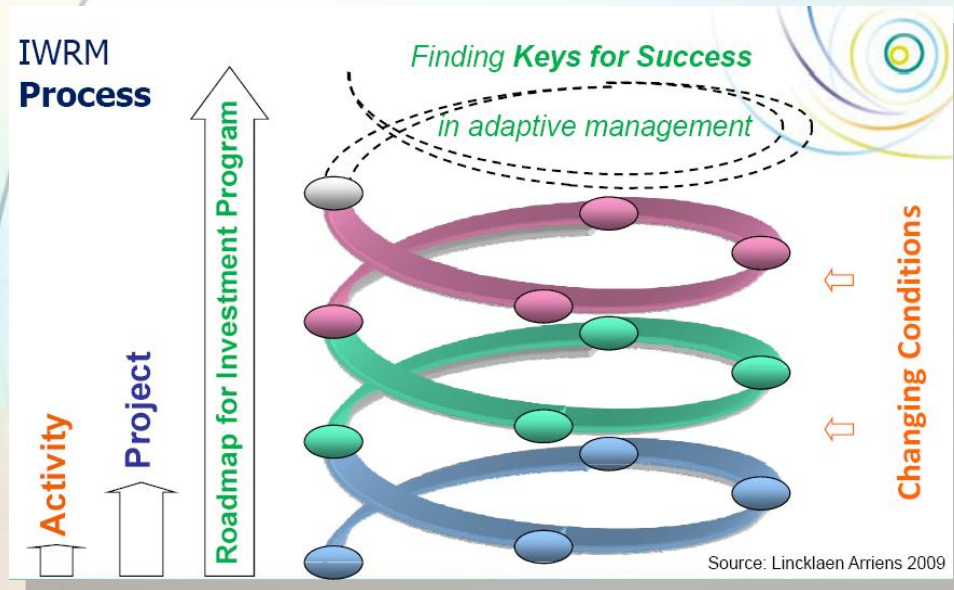
IWRM Guidelines Steering Committee Members

Eugene Z. Stakhiv (Co-chair)	ICIWaRM, USA
Shinsuke Ota (Co-chair)	Japan Water Agency
Adnan Altay Altınörs	MOFA, Turkey
András Szöllösi-Nagy	UNESCO
Kenzo Hiroki	MLIT, Japan
Kuniyoshi Takeuchi	ICHARM
Mochammad Amron	NARBO
Reza Ardakanian	UNW-DPC
Shahbaz Khan	UNESCO-IHP
Shelley McMillan	World Bank
Tony Jakeman	Australian National University
Victor Pochat	Universidad Nacional del Litoral, Argentina
Wouter Lincklaen Arriens	Asian Development Bank

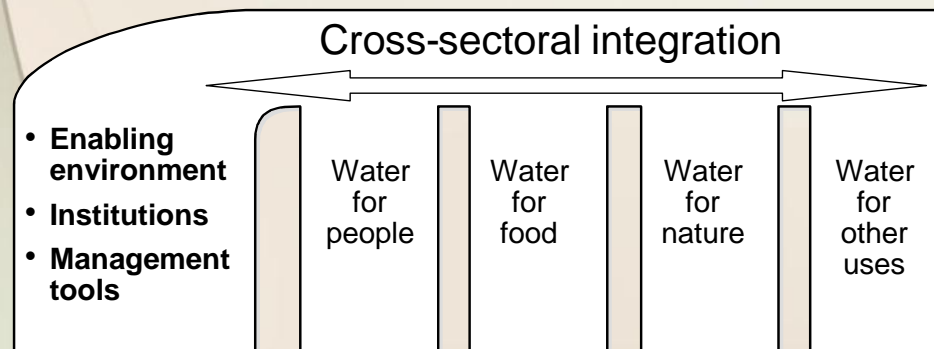
1. General Introduction of IWRM and the IWRM Guidelines

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Philippines 2014



IWRM spiral - IWRM as an evolutionary, iterative, and adaptive process



GWP's IWRM comb – need for cross-sector integration

2. Laguna Lake Basin Case Study

LLDA: Legal and Institutional Framework for IWRM		LLDA: Improving Performance for IWRM through RBO Benchmarking		LLDA: Decision Support System for IWRM		Sectoral perspective: Irrigation		Sectoral Perspective: Domestic Water and Role of the Metropolitan Waterworks and Sewerage System		LLDA's Coordination of Sectoral Perspectives	
LLDA: Financing Framework for IWRM						Sectoral perspective: Flood Management and Drainage Master Plan for Metro Manila and Laguna Lake Basin					
Environmental User Fee System: Market-Based Instrument for Pollution Control & Abatement	Managing Environmental Risks for Water Security	Using Technology to Mitigate Water-Related Disaster Risks	Community-Government Partnership for Improved Flood Management	Water Abstraction and Pricing; Conflict /Dispute Resolution on Water Allocation	Good Practices for Basin Planning	Stakeholders' Participation in IWRM	Ecological Footprinting and Bio Capacity				
<p>Study Visit 1</p> <ul style="list-style-type: none"> - Role of Youth and Women in Lake Conservation, Lake Pandin, San Pablo, Laguna - Disaster Risk Reduction: Keys for Success, Sta. Cruz, Laguna 											
<p>Study Visit 2</p> <ul style="list-style-type: none"> - Processes for Domestic Use of Laguna Lake's Raw Water: Maynilad Water Treatment Plant, Muntinlupa, Metro Manila - Integrated Solid Waste Management for Lake Water Quality Protection, Teresa, Rizal 											

Field Visit Route Map



Study Visit



3. Water Resources Management- Related Topics

9th

**IWRM Training
Philippines 2014**

- 1. Water Environment**
- 2. Role of Gender in IWRM**
- 3. Super Typhoon 'Yolanda': Experience and Lessons**
- 4. Youth Participation for Water Security in the Region**
- 5. Experience of Japan in IWRM**
- 6. Dissemination of the Concept of IWRM at Field Level**
- 7. Roadmapping for River Basin Investments: Case Study of the Citarum River Basin**

4. Participants' Group Work and Presentations

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Philippines 2014



Poster on challenges and IWRM solutions in your river basin... (Days 1, 2, and 3)



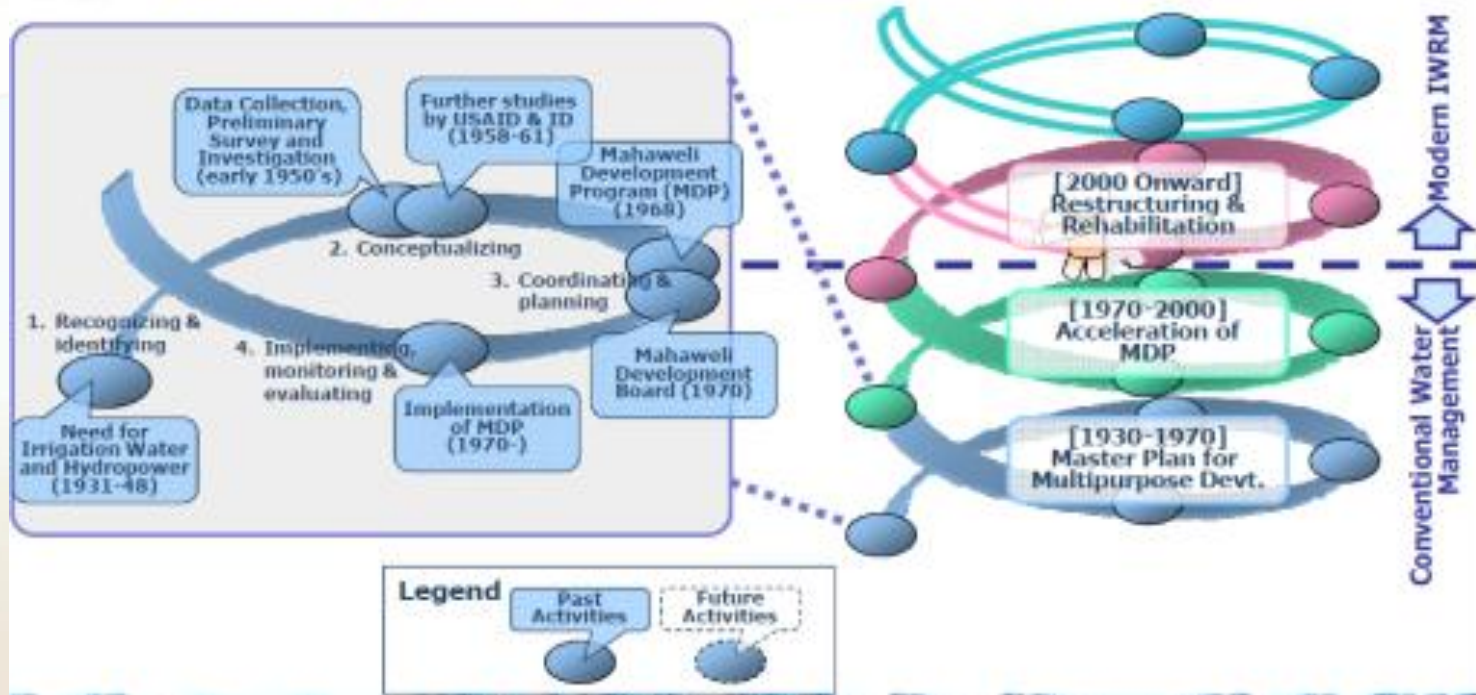
Feedback on the Laguna lake basin study visit ... (Day 6)



4. Participants' Group Work and Presentations

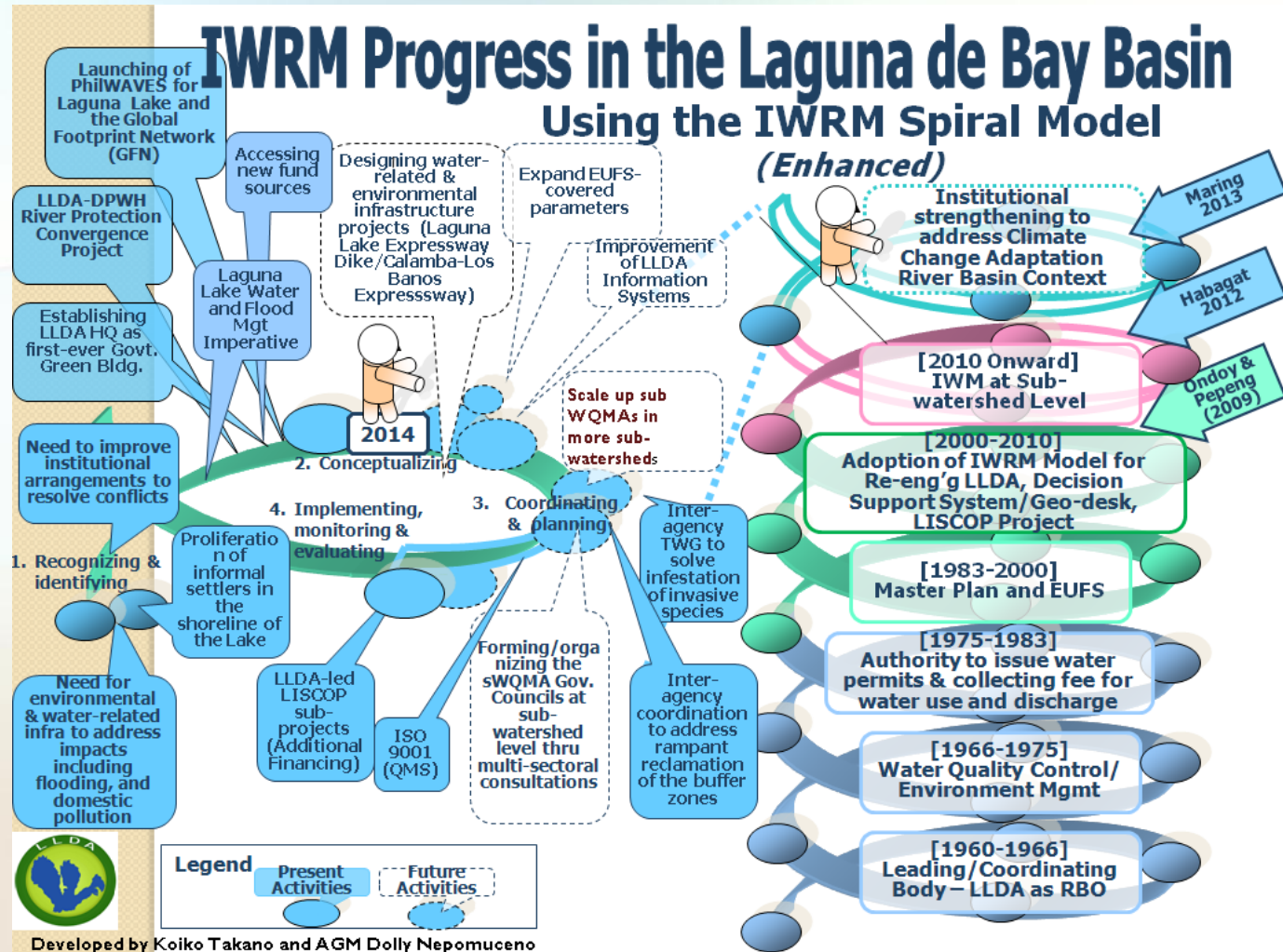
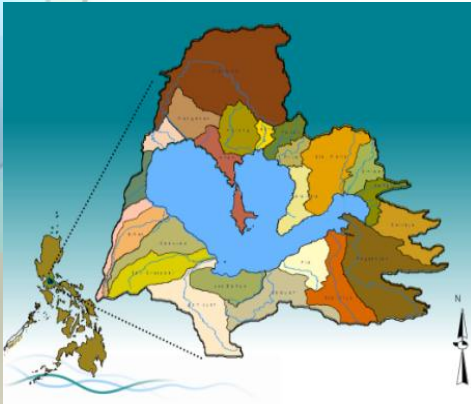


IWRM Spiral Model- Mahaweli River Basin



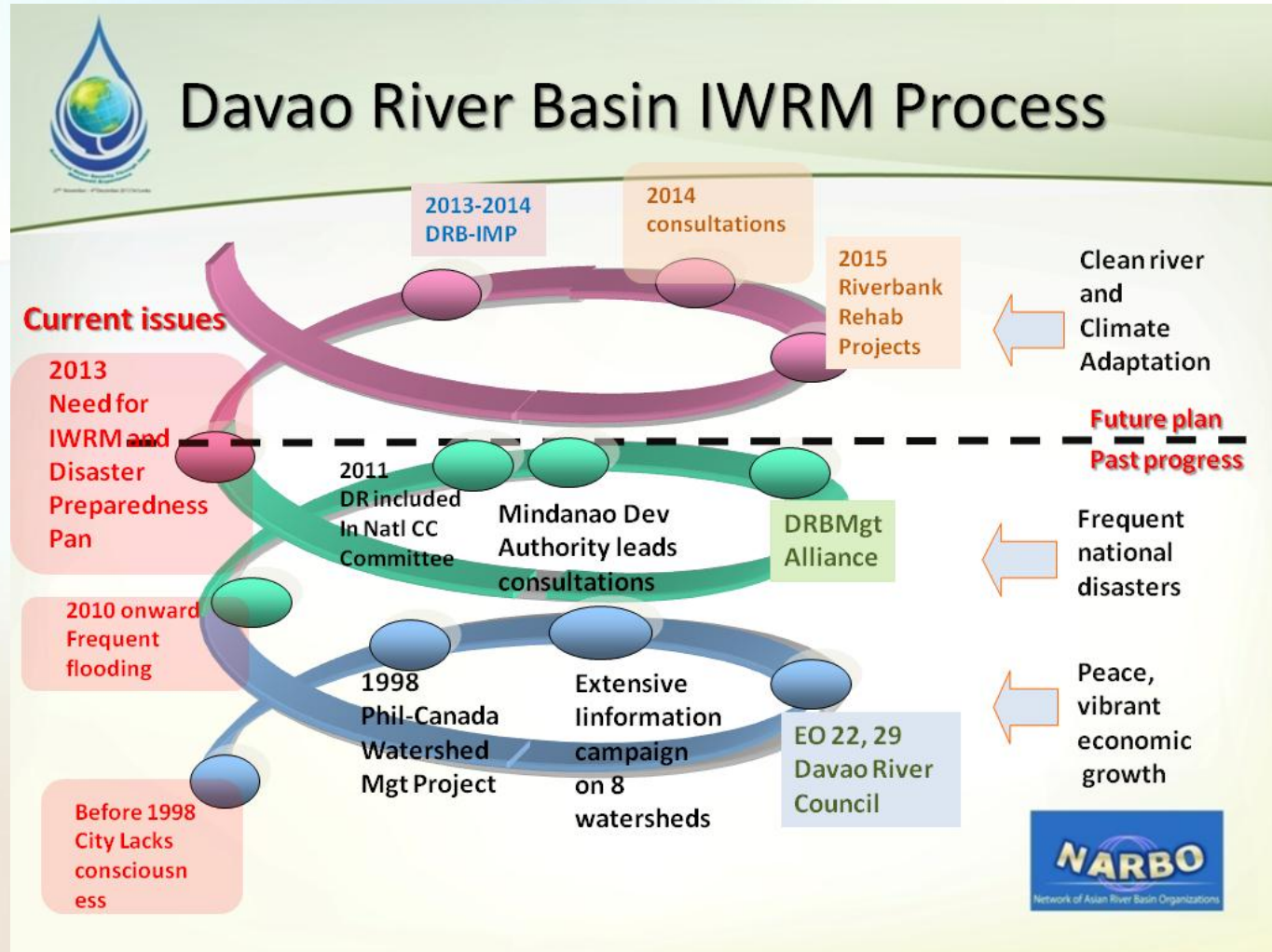
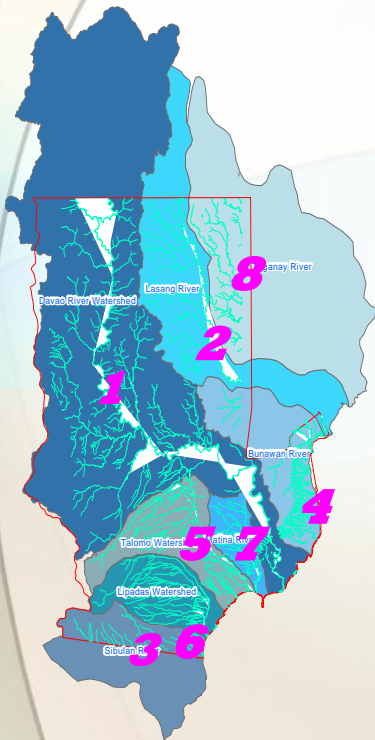
Keys for Success and IWRM spiral of your river basin - Days 7, 8

4. Participants' Group Work and Presentations



**Keys for Success and IWRM spiral
of your river basin - Days 7, 8**

4. Participants' Group Work and Presentations



Keys for Success and IWRM spiral of your river basin - Days 7, 8

4. Participants' Group Work and Presentations

Brantas River Basin

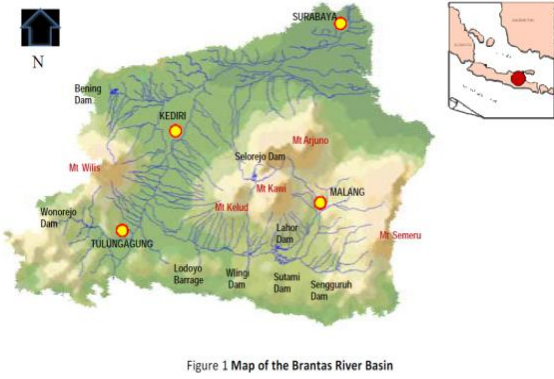
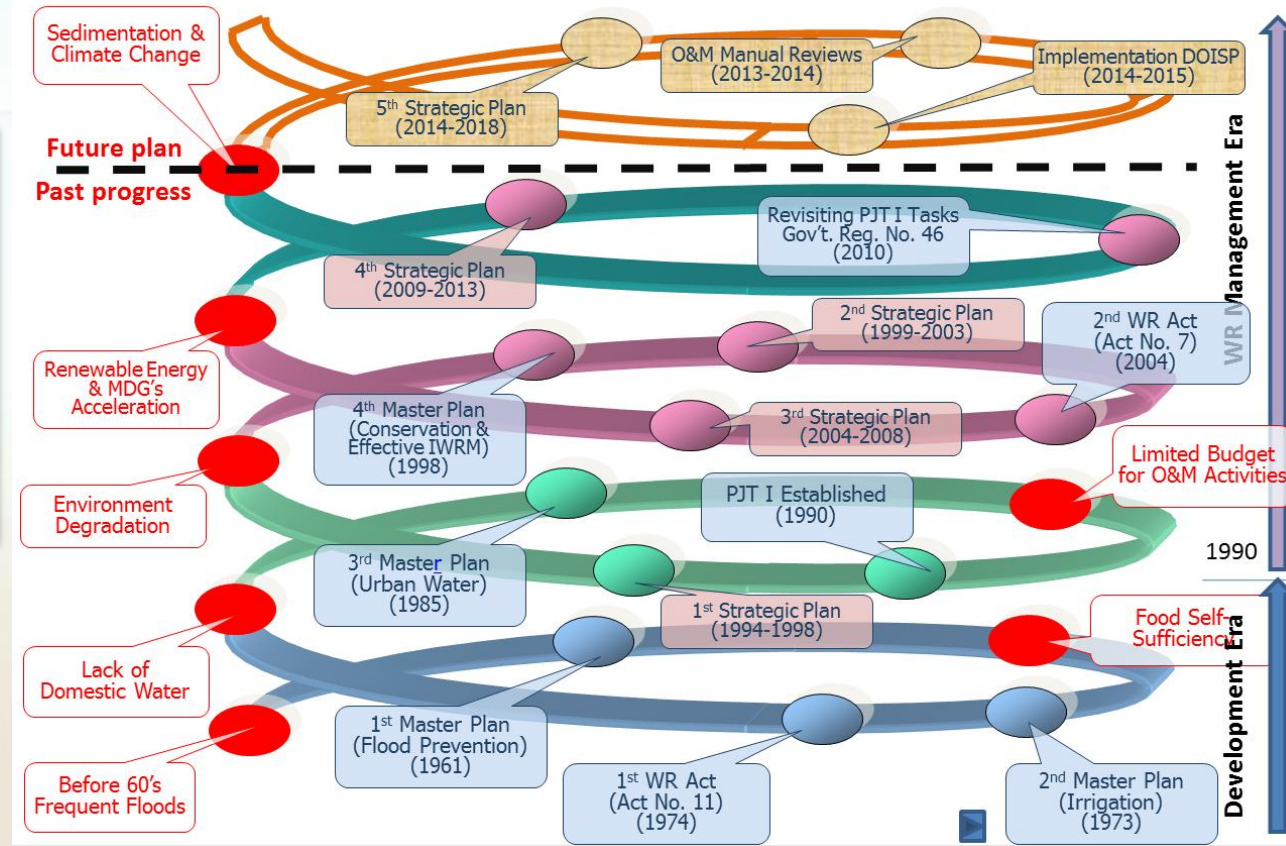


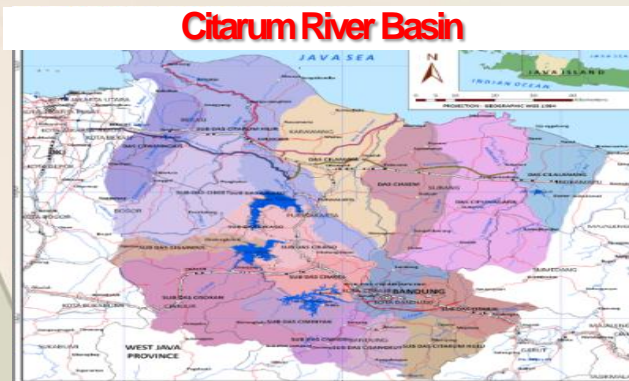
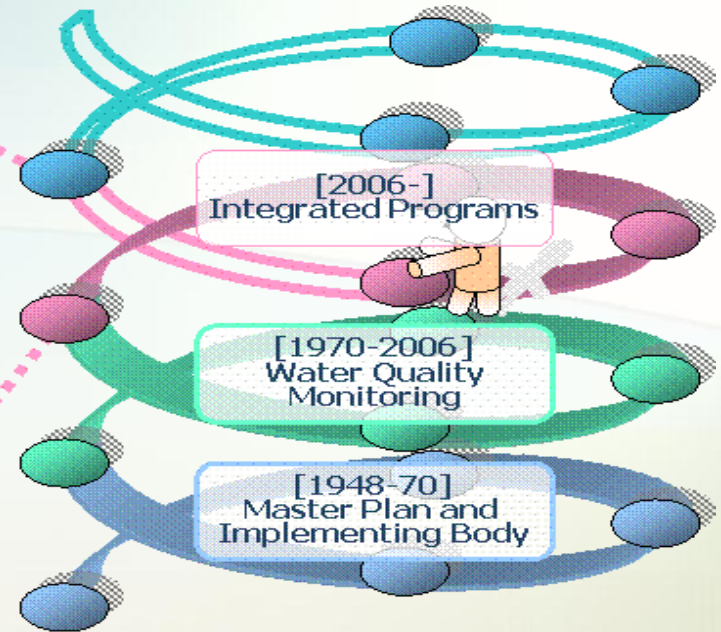
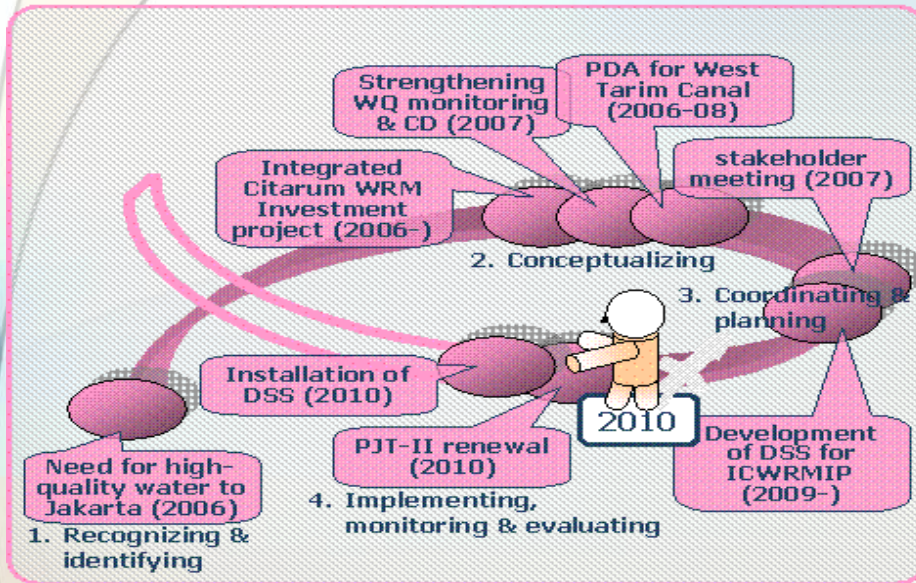
Figure 1 Map of the Brantas River Basin

IWRM SPIRAL OF BRANTAS RIVER BASIN INDONESIA



Keys for Success and IWRM spiral of your river basin - Days 7, 8

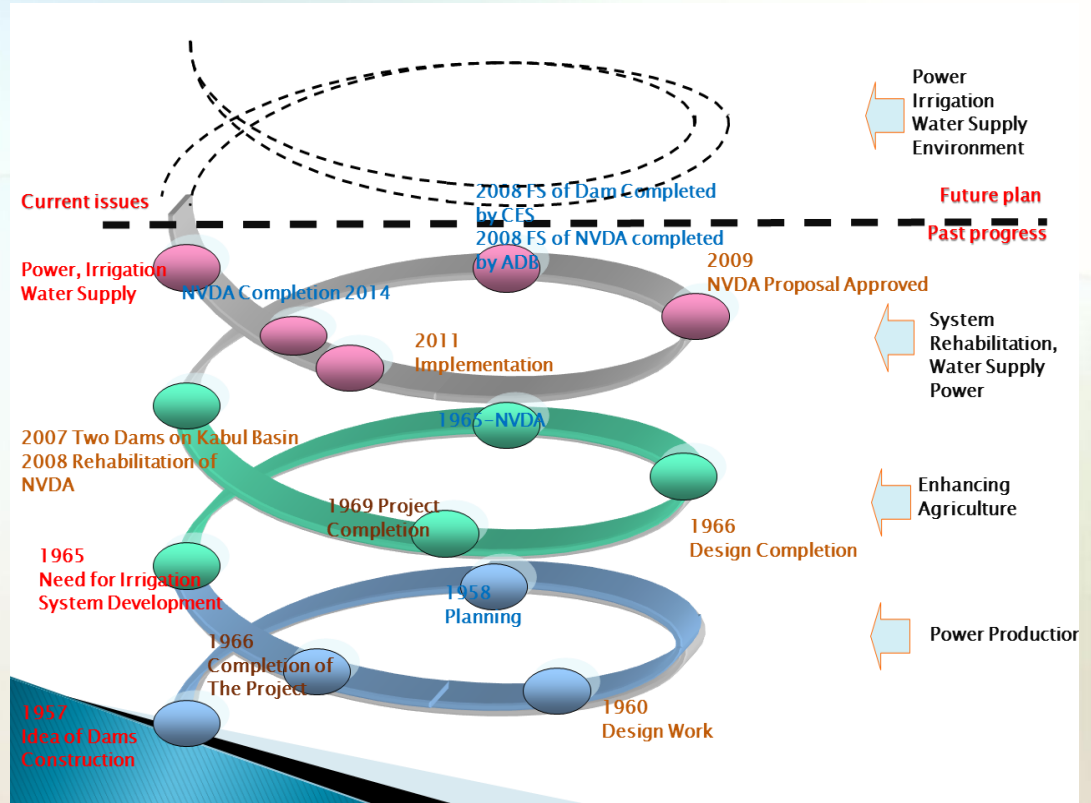
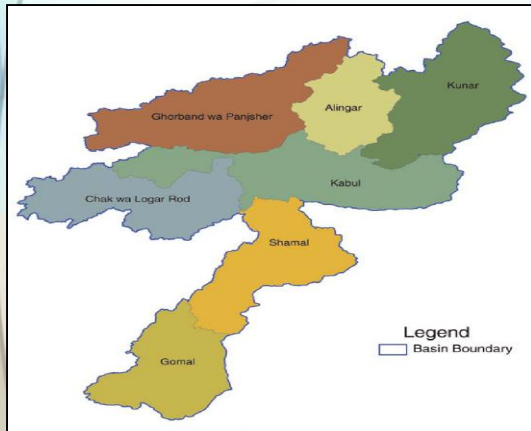
4. Participants' Group Work and Presentations



Keys for Success and IWRM spiral of your river basin - Days 7, 8

4. Participants' Group Work and Presentations

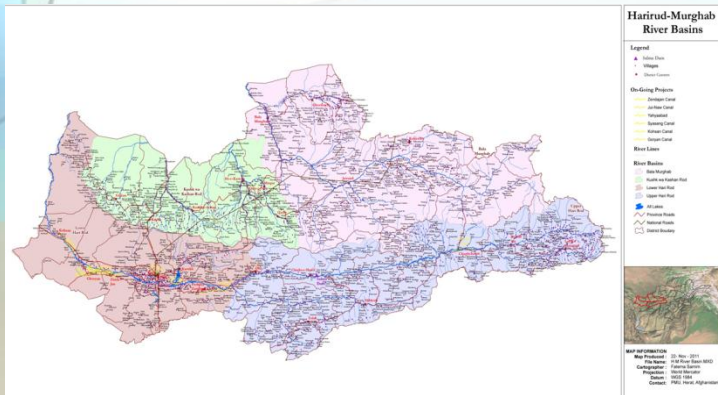
Kabul River Basin



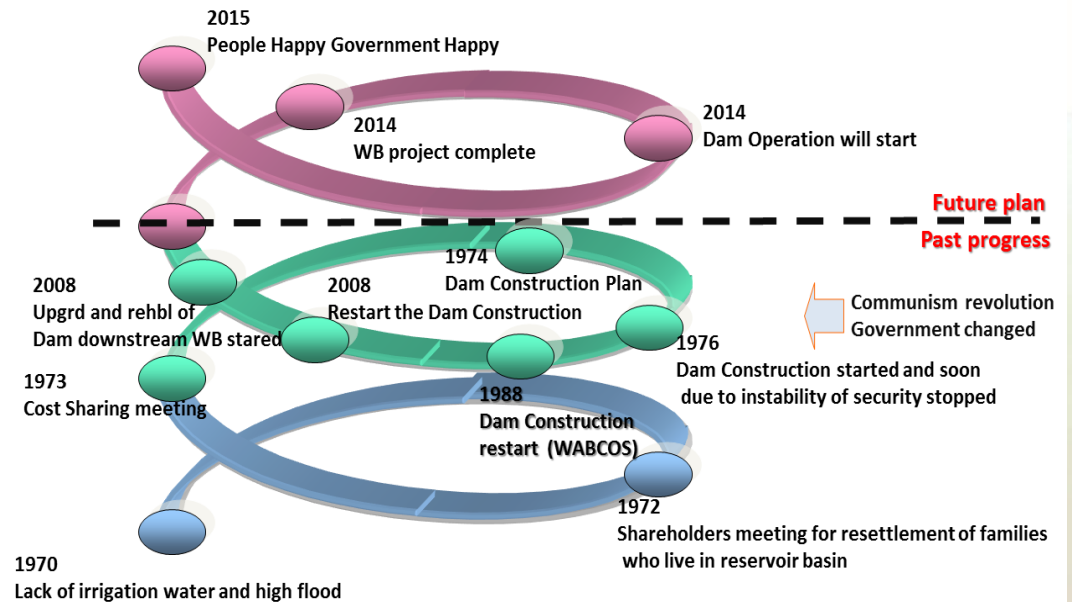
Keys for Success and IWRM spiral of your river basin - Days 7, 8

4. Participants' Group Work and Presentations

Western River Basin



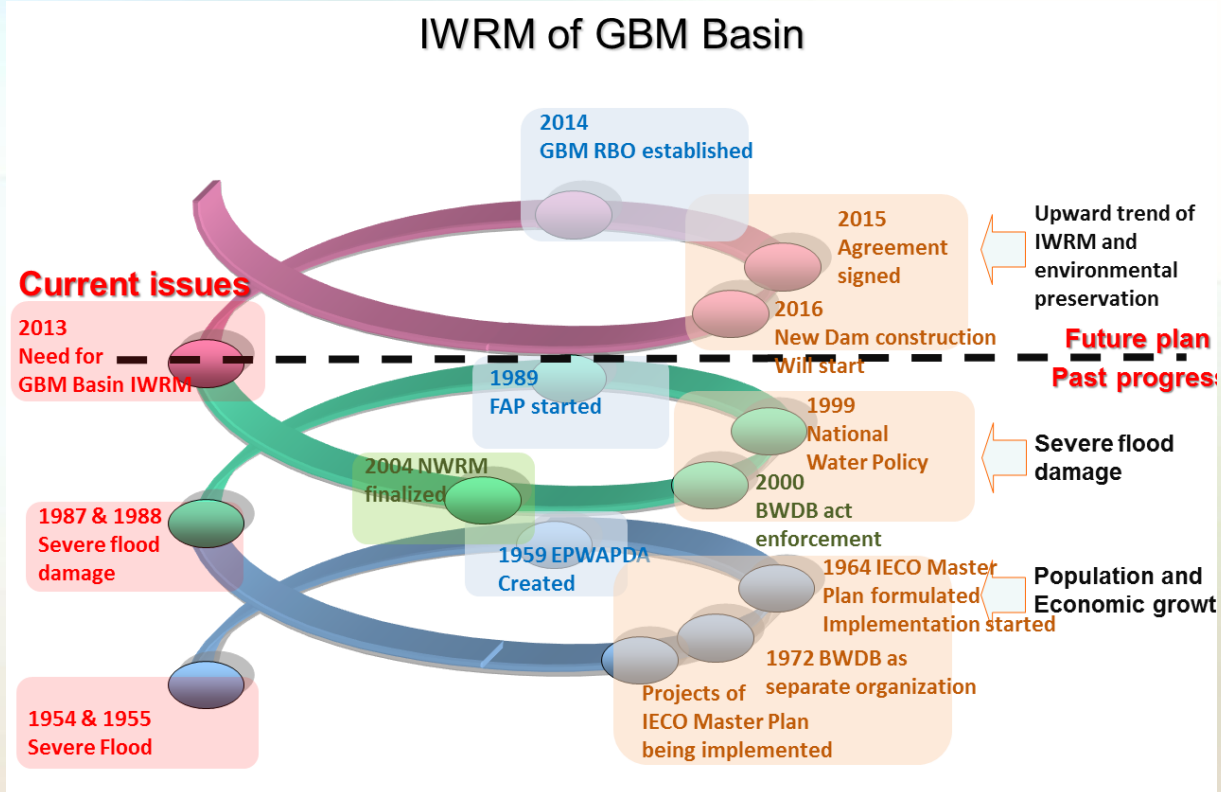
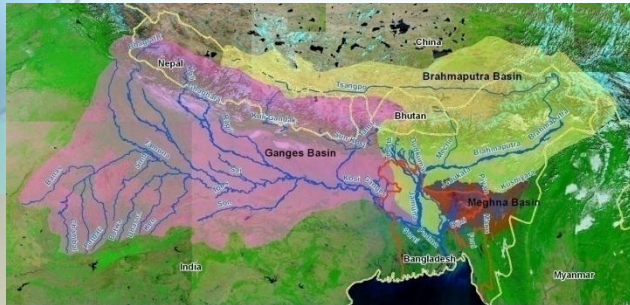
IWRM Spiral for Western Basin Afghanistan



Keys for Success and IWRM spiral of your river basin - Days 7, 8

4. Participants' Group Work and Presentations

Ganges-Brahmaputra-Meghna River Basin

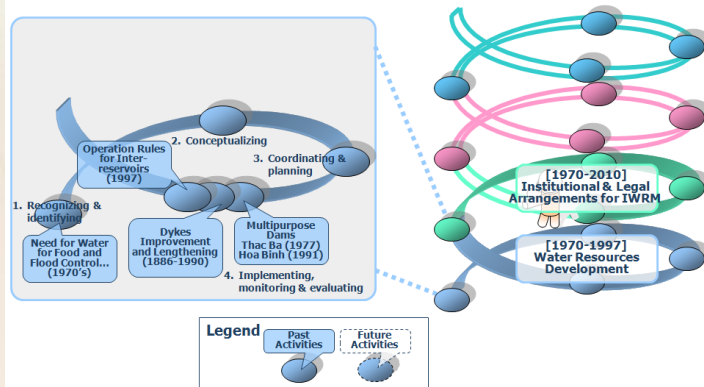


Keys for Success and IWRM spiral of your river basin - Days 7, 8

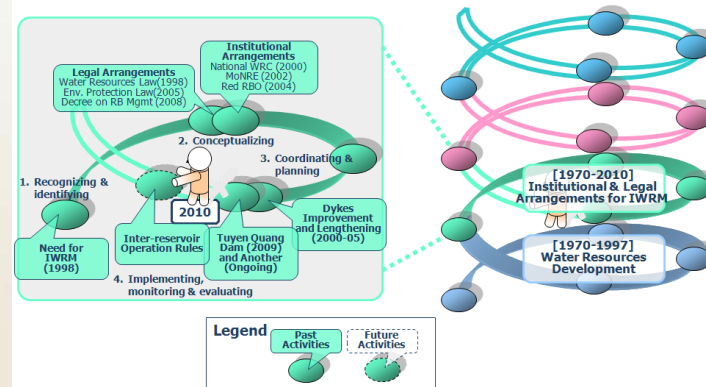
4. Participants' Group Work and Presentations



IWRM Progress in the Red-Thai Bin River Basin
Using the IWRM Spiral Model



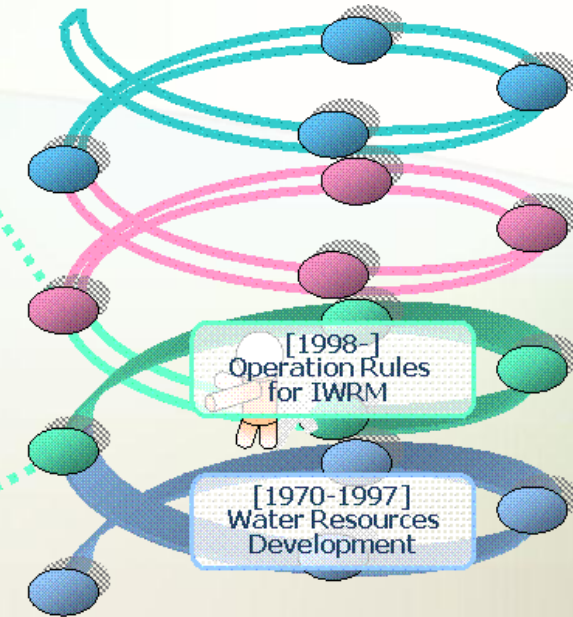
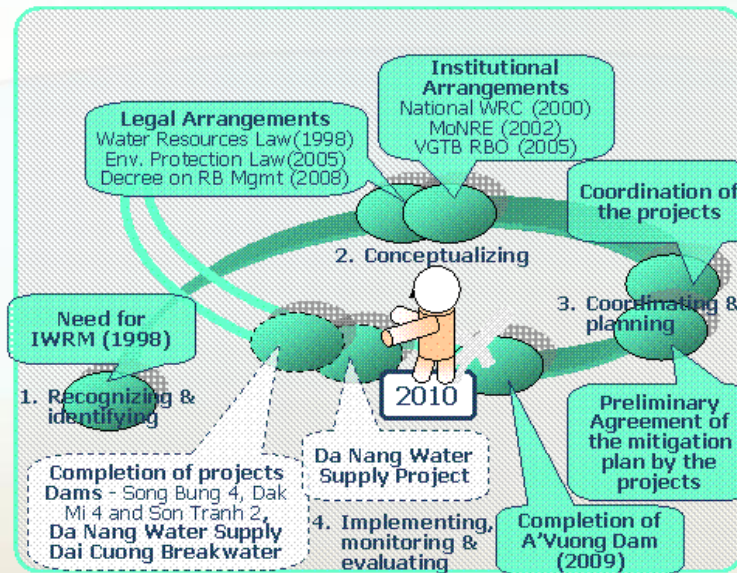
Logo of your organization **IWRM Progress in the Red-Thai Bin River Basin**
Using the IWRM Spiral Model



Keys for Success and IWRM spiral
of your river basin - Days 7, 8

4. Participants' Group Work and Presentations

Vu Gia Thu Bon River Basin

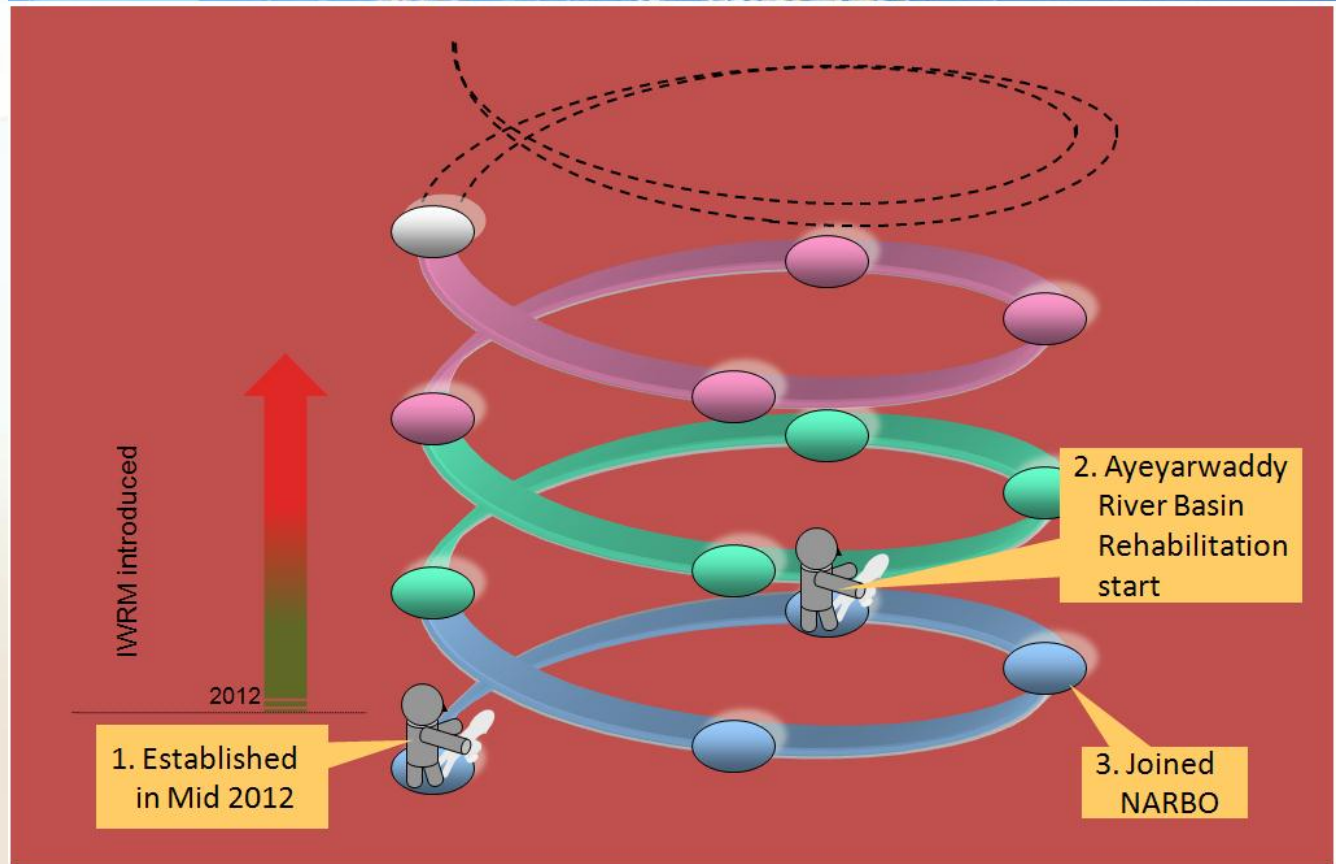


Keys for Success and IWRM spiral of your river basin - Days 7, 8

4. Participants' Group Work and Presentations

IWRM Spiral of Ayeyarwaddy River Basin, Myanmar

Ayeyarwaddy River Basin



Keys for Success and IWRM spiral of your river basin - Days 7, 8

4. Participants' Group Work and Presentations

River Basins with no IWRM spiral prepared yet

1. Cau
2. Cuu Long
3. Day
4. Teesta
5. Klang
6. Wangchu
7. Solo
8. Mekong
9. Maduru-Oya
10. Ambanganga
11. Lam Ta Klong
12. Huay Saneng

Keys for Success and IWRM spiral
of your river basin - Days 7, 8

Meet the Participants and Technical Secretariat

Meet the Participants

9th

WU

Thailand



Wilasinee Nutthawut

Bhutan



Jigme Tshewang

Malaysia



Khairi Rizal

Sri Lanka



Katukurunda Jayasenage

Myanmar



Maung

Lao PDR



Detsada

Philippines



Kim



Gerardo



Sol



Joebeth



Rose



Mayan



Ricardo

Bangladesh



Ataur

Viet Nam



Sai



Le



Thu



Hoang



Hung



Lu



Manh

Afghanistan



Ebadullah



Mohammad



Wais



Sikander

Indonesia



Kurdianto



Esthi



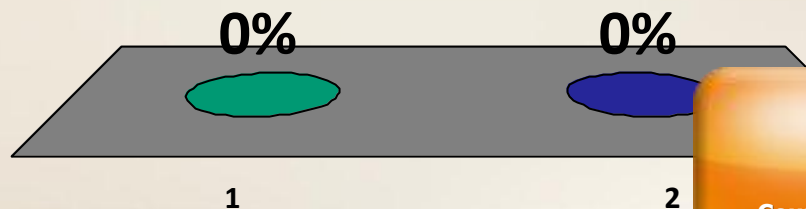
Zainal



Ajib

Regional Breakdown

1. **Southeast Asia** –
Indonesia, Lao PDR,
Malaysia, Myanmar,
Philippines, Thailand,
Viet Nam
2. **South Asia** –
Afghanistan,
Bangladesh, Bhutan,
Sri Lanka

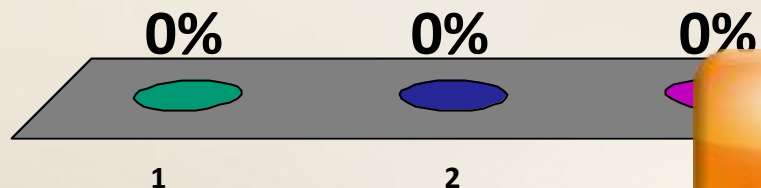


5

Countdown

Type of NARBO Membership

1. RBO
2. government
3. others



5

Countdown

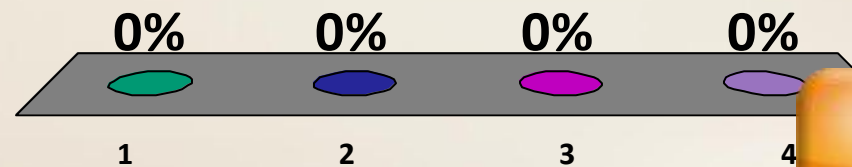
Age

1. 20s

2. 30s

3. 40s

4. 50s

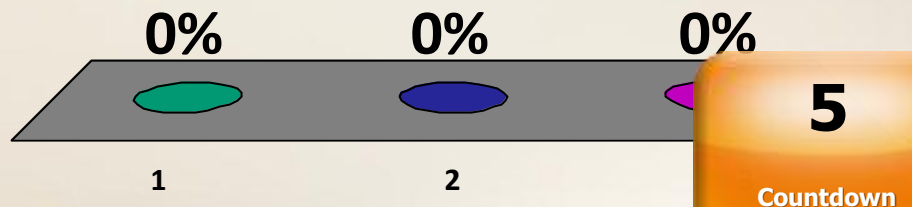


5

Countdown

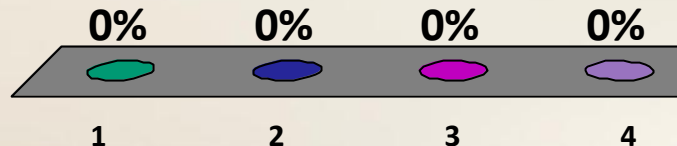
Gender

1. Male
2. Female
3. Others



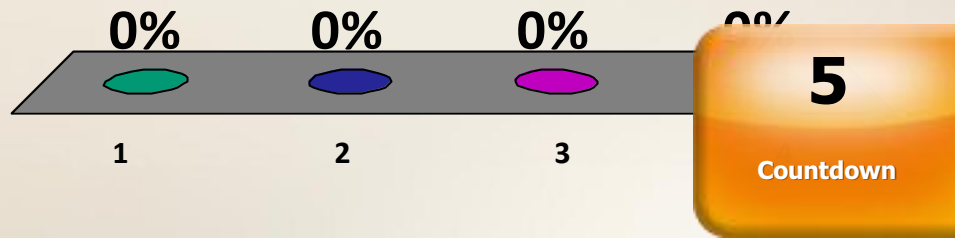
No. of years of experience in river basin management

1. 1-5 years
2. 6-10 years
3. 11-15 years
4. 16-20 years
5. 21 years or more



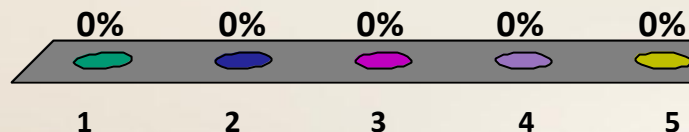
Highest Educational Attainment

1. Bachelor degree
2. Post-graduate diploma
3. Masters degree
4. Doctorate degree



Expertise

1. engineering / natural science
2. finance / budget
3. information systems
4. planning
5. stakeholder relations / social science
6. others



5

Countdown

Technical Secretariat

Course Directors



Dennis



Dolly

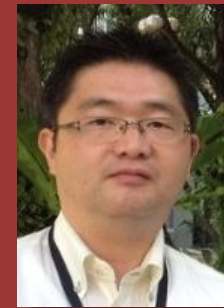
NARBO Secretariat



Tomo



Shige



Osamu



Koichiro

LLDA Core Team



Cesar



Jocelyn



Aida



Soraya



Benia

Reminders

1. Learn from the case study of the Laguna Lake Basin
2. Immerse yourself in a participatory approach
3. Feel free to ask questions and raise comments: do not be shy
4. Be out of your comfort zone -- work hard and put your strengths and talents to work -- but have fun too!
5. Use some of your free time to talk to and learn from each other, and exchange experiences...
6. Enjoy the course!
7. Expect this training course to change you!