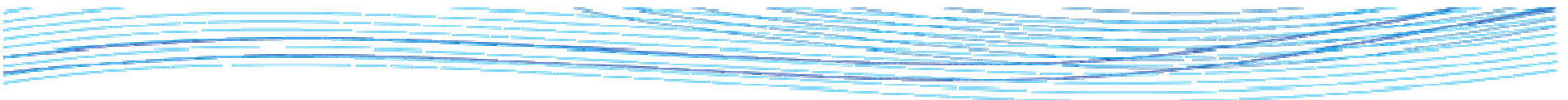




Integrated Water Resources Management in Asia

**25 November, 2013
Tokyo, JAPAN**

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NARBO Secretariat / Japan Water Agency**



Water-related Challenges in Asia



Too Little Water



Too Much Water



Too Dirty Water

Increasing water demand , risk of flood disaster, and risk of worse water quality

- ◆ Population growth, Urbanization, Economic development
- ◆ Recent extreme hydrological events

Lack of proper facilities, legislation and governance to stop negative spiral

- ◆ Bad water quality leads water shortage and excessive groundwater use
- ◆ Excessive groundwater use can increase flood disaster risk through subsidence
- ◆ To reduce groundwater use, need alternative water resources and scheme for proper water allocation

To tackle these issues, need IWRM approach with view point of River Basin

Asia's Experience on IWRM

To address the challenges in Asia, adapting Integrated Water Resources Management (IWRM) is inevitable.

It is important to show basic approach, grasp perspectives of all stakeholders and identify keys for success in order to achieve effective IWRM.

Therefore, NARBO provided IWRM guideline in cooperation with UNESCO. By using "Spiral Model", we address Asian challenges on IWRM.



The IWRM Guideline was used not only in Asian region, but also in other regions.

GEO-UNESCO IWRM Joint Workshop



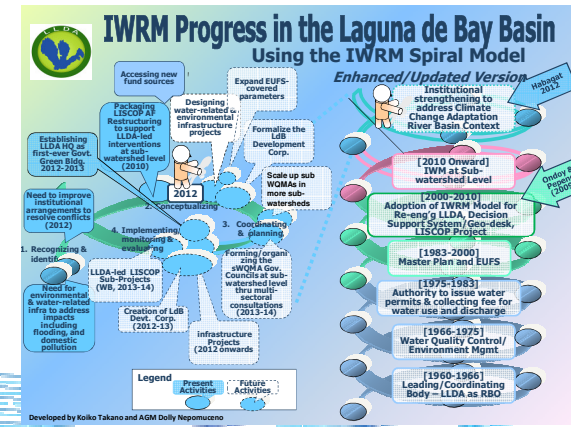
Nairobi, Kenya, 12 - 16 January 2012

The 6th World Water Forum



Marseille, France, 12 - 17 March 2012

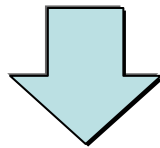
The Spiral Model of the Laguna de Bay Basin



Gaps

NARBO member (practitioner of IWRM) don't have enough capacity to

- ✓ Understand what will happen in the near future due to climate change, and
- ✓ Establish concrete countermeasures to address climate change.



Need to bridge 'gaps' of researchers and practitioners of IWRM at field level by capacity development



Workshop on Climate Change Projection and Adaptive Management in IWRM

Makassar, Indonesia, November, 2010

Highlights

- ◆ Knowledge on climate change adaptation at global level needs to be harmonized with strategies at local and river basin level
- ◆ Need for NARBO's assistance in predicting / forecasting changes in river or sea levels through data exchange and networking

Networking with Scientists, Researchers and Other networks

- i ; GEO-UNESCO Joint Workshop on Earth Observations and Capacity Development for Integrated Water Resources Management at River Basins in Africa (Nairobi, KENYA 12-16 January, 2012)**
- ii ; The 5th GEOSS Asia-Pacific Symposium, The 9th AWCI International Coordination Group (ICG) Meeting and the Workshop on Climate Change Adaptation organized by APWF (Tokyo, 2-4 April, 29 September-2 October, 2012)**



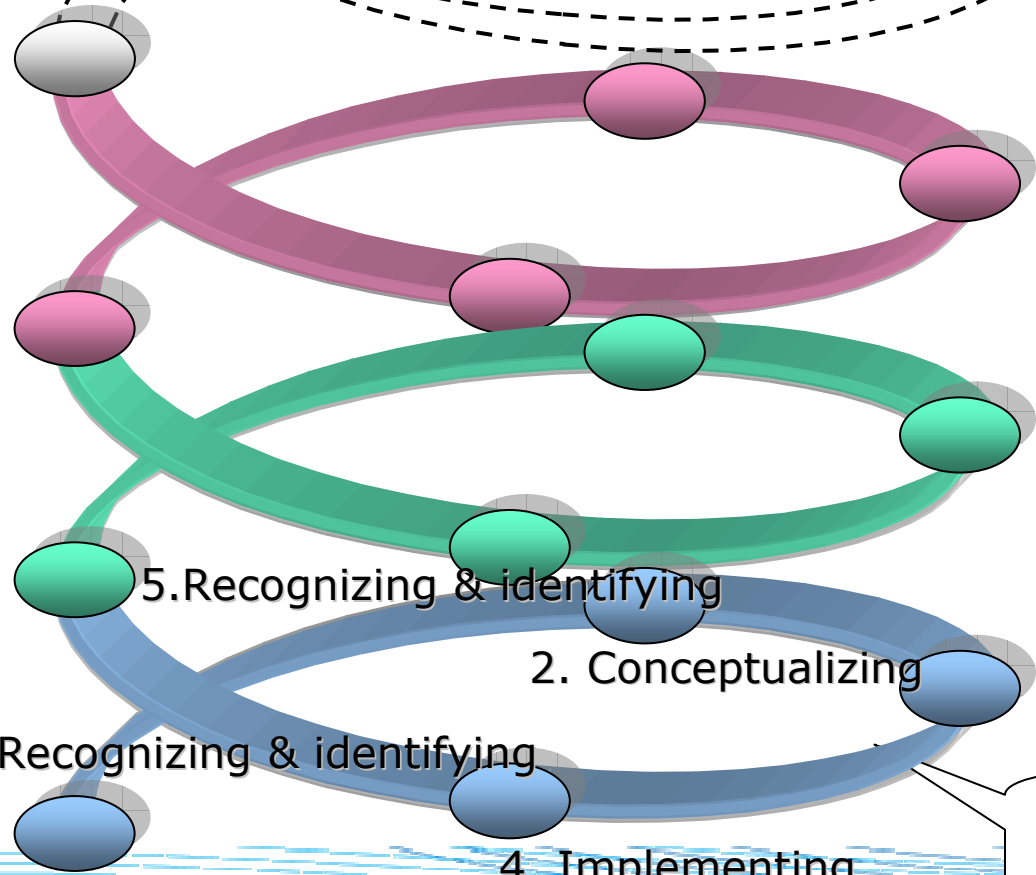
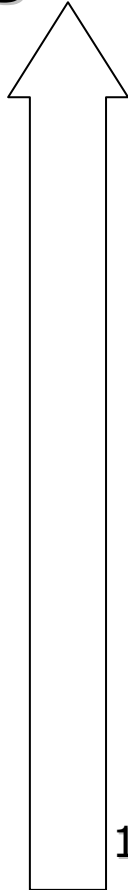
GEOSS-AP Symposium in Tokyo, 2012



GEOSS-AP Symposium in Tokyo, 2012

"IWRM Spiral" concept model

Progress of IWRM



1. Recognizing & identifying

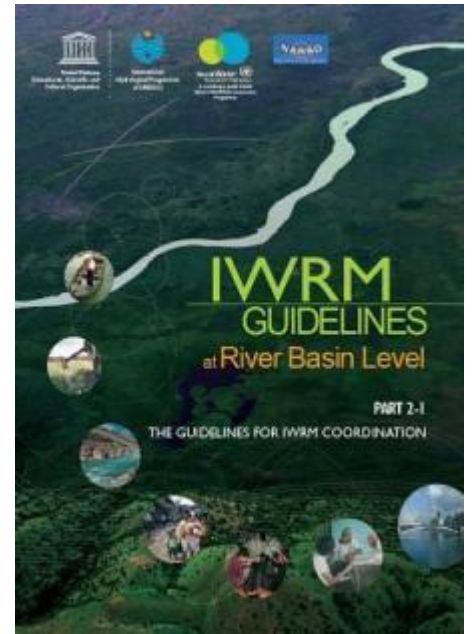
2. Conceptualizing

3. Coordinating & planning

4. Implementing, monitoring & evaluating

5. Recognizing & identifying

IWRM Process



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Thank you for your attention!

If you have any questions, please do not hesitate to ask me.

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