

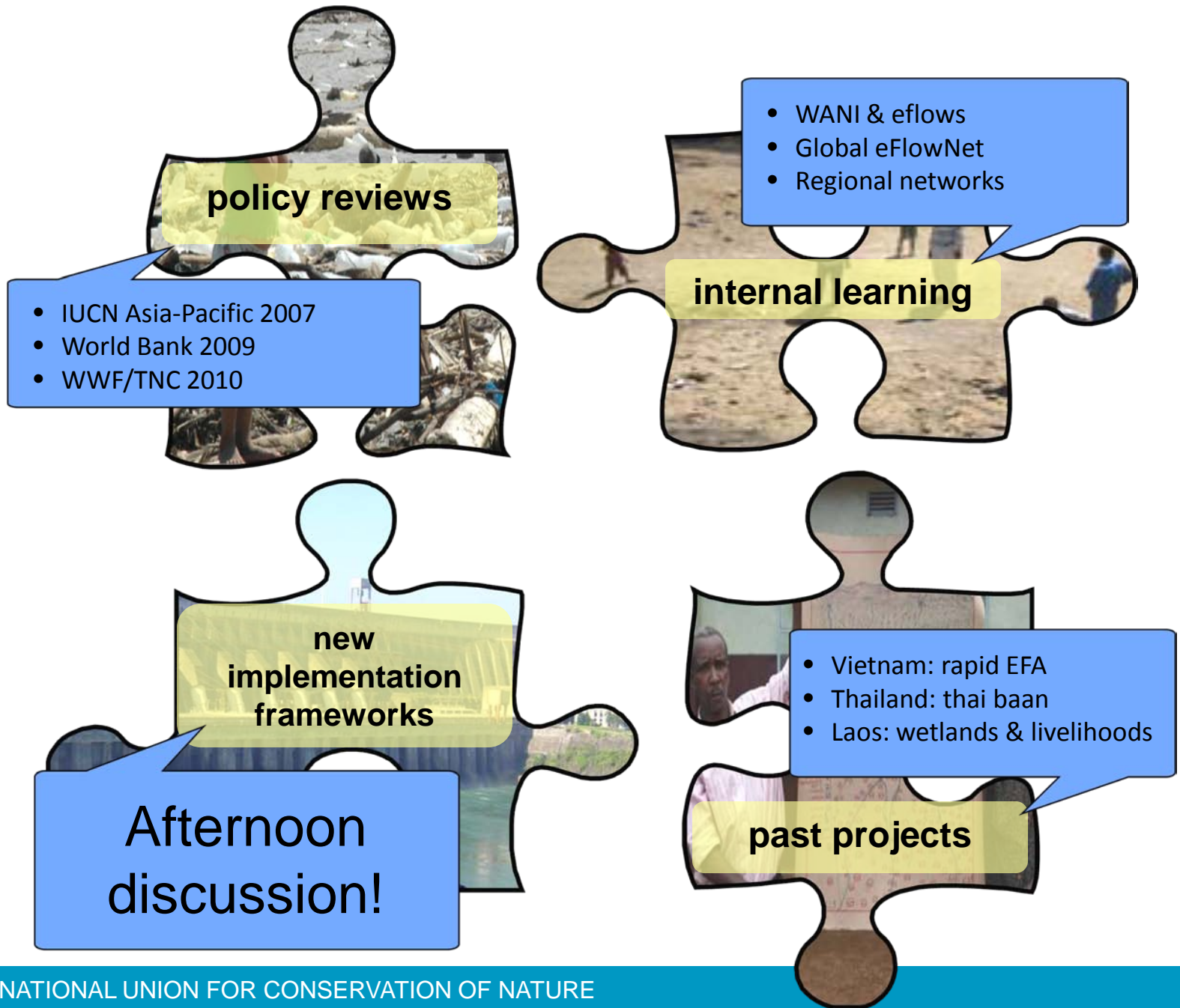


International experiences with environmental flows

Stefano Barchiesi

**Project Officer, IUCN Global Water Programme
Coordinator, Global Environmental Flows Network**

**Environmental Flows Training Workshop
Hotel Himalaya, Kathmandu, Nepal, 5-6 August 2011**





Review of status in Asia-Pacific Region

- Based on literature, an experts workshop, face-to-face interviews, a survey, online discussions, etc.
- Issues explored:
 - emerging interface between rural and urban environments and environmental flows
 - ongoing challenge of achieving sustainable water management as freshwater dwindles
 - Mechanisms for successful adoption and implementation



Review of status in Asia-Pacific Region

- In 2003 evidence of increasing research and practice in eflow assessments in Indonesia, Japan, Korea, Nepal, Pakistan, Sri Lanka and Taiwan + expression of interest or early stage of assessment for Cambodia, China, India, Lao PDR, Thailand and Viet Nam
- In 2007 varying degrees of implementation with 20/ 48 countries currently undertaking some activity with the eflows approach.



Review of status in Asia-Pacific Region

- Australia, Japan, and New Zealand integrated approach into local to state planning processes + reflected in national legislation and policies
- China and Korea; India, Nepal, and Pakistan; Cambodia, Lao PDR, Thailand, and Viet Nam have adopted approach and, in some cases, included in national legislation and policies.
- Emerging areas of interest and adoption in eflows include Bangladesh, Iran, Sri Lanka; Indonesia and the Philippines



Review of status in Asia-Pacific Region

- Contributing factors to adoption/implementation:
 - political support due to strong community interest or pressure
 - a river basin that is critically degraded due to over-allocation or overdevelopment
 - projects that were donor driven or instigated by a river basin organisation
 - eflows used as a tool in negotiation around water related developments



Review of status in Asia-Pacific Region

- Challenges in adopting eflows within IWRM:
 - a general lack of awareness of the approach
 - complexity of developing ecological health recommendations aligned with social goals i.e. involving stakeholders in decisions
 - lack of understanding of the socio-economic costs and benefits
 - lack of political will or guidance in the face of more pressing water management issues e.g.
 - rising sea level, water related disasters, underdeveloped river systems

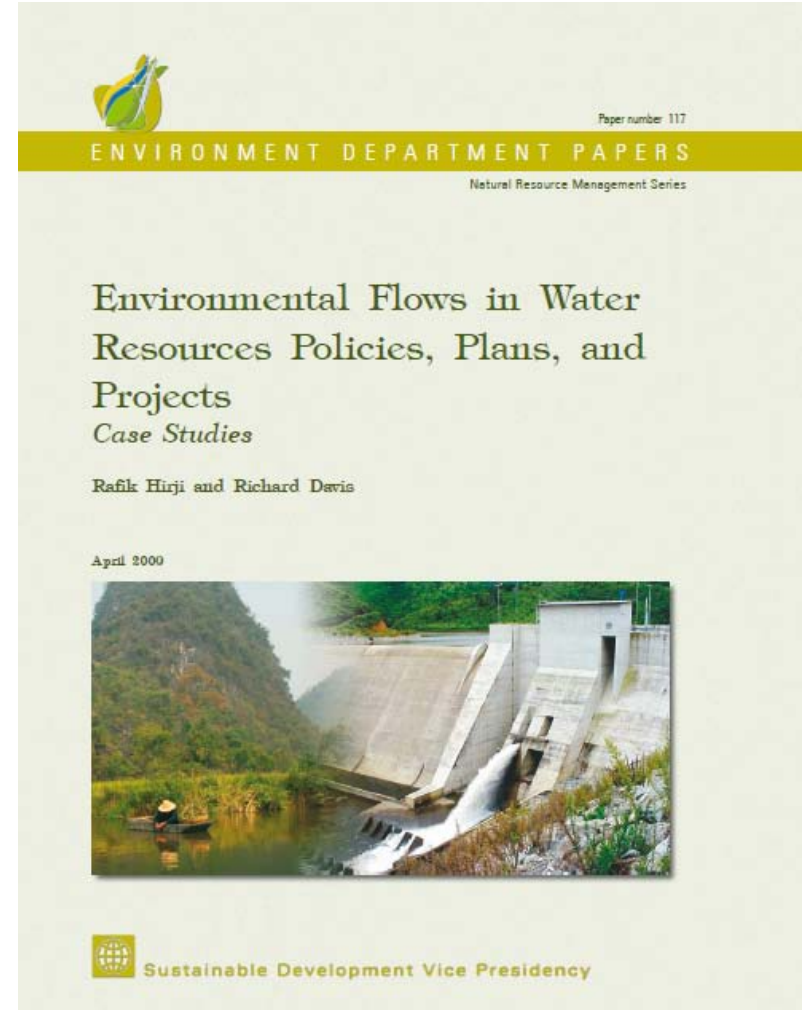
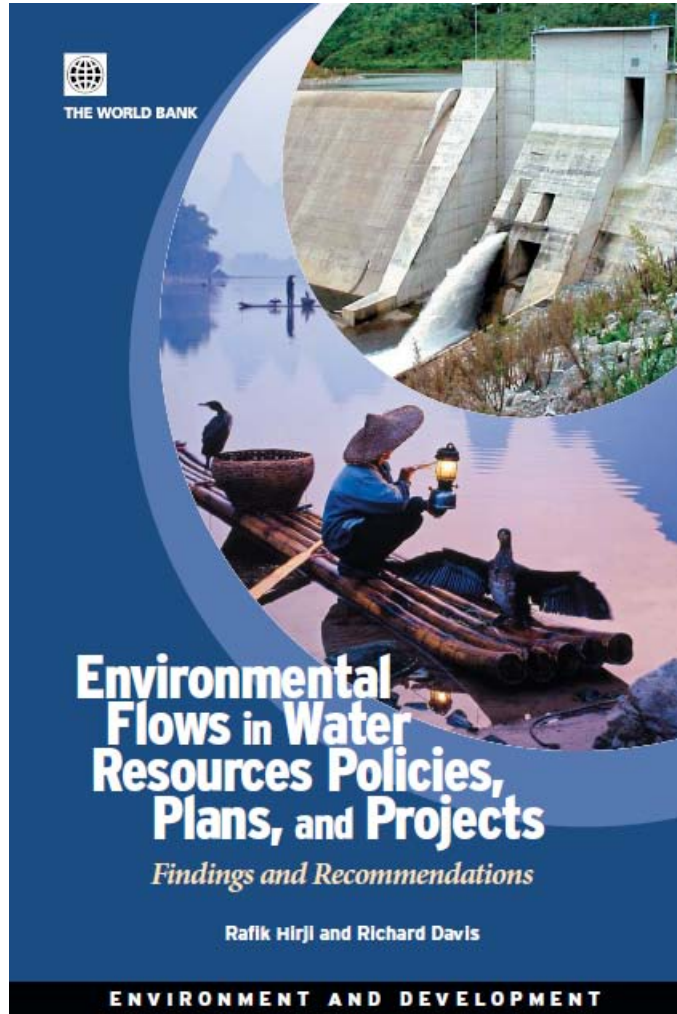


Review of status in Asia-Pacific Region

- Barriers to eflows implementation and use:
 - lack of comprehensive information on habitat and biota in the river systems
 - lack of the proper legal, institutional and monitoring arrangements
 - lack of resources e.g. expertise or funds
 - fragmentation of water management governance and institutions
 - legacies of ill-made decisions



World Bank policy, plan & project review





World Bank policy, plan & project review

- Entry points for Bank involvement:
 1. water resources policy, legislation, and institutional reforms → SEAs
 2. river basin and watershed planning and management → SEAs
 3. investments in new infrastructure → EIAs
 4. rehabilitation or reoperation of existing infrastructure or restoration of degraded ecosystems → EIAs



World Bank policy, plan & project review

- Criteria for assessment of effectiveness
 - Recognition: *Assigning priorities to environmental water is an indicator of the importance to be attached to environmental allocations.*
 - Comprehensiveness: *Environmental provisions need to be comprehensive across the water cycle to include surface water and groundwater, estuaries, and near-shore regions.*
 - Participation: *It is increasingly accepted as necessary even when its requirements in the policy are not very clear.*



World Bank policy, plan & project review

- Criteria for assessment of effectiveness
 - Objectives or Assessment Methods: *Provisions for “best-available science” in water policy can be used to impede policy implementation.*
 - Integration: *Environmental outcomes can be integrated with social and economic outcomes either as part of the EFA process or during the decision-making.*
 - Cost-effectiveness: medium for plans, high for new infrastructure, low to high for existing
 - Influence: scaling-up and monitoring programmes

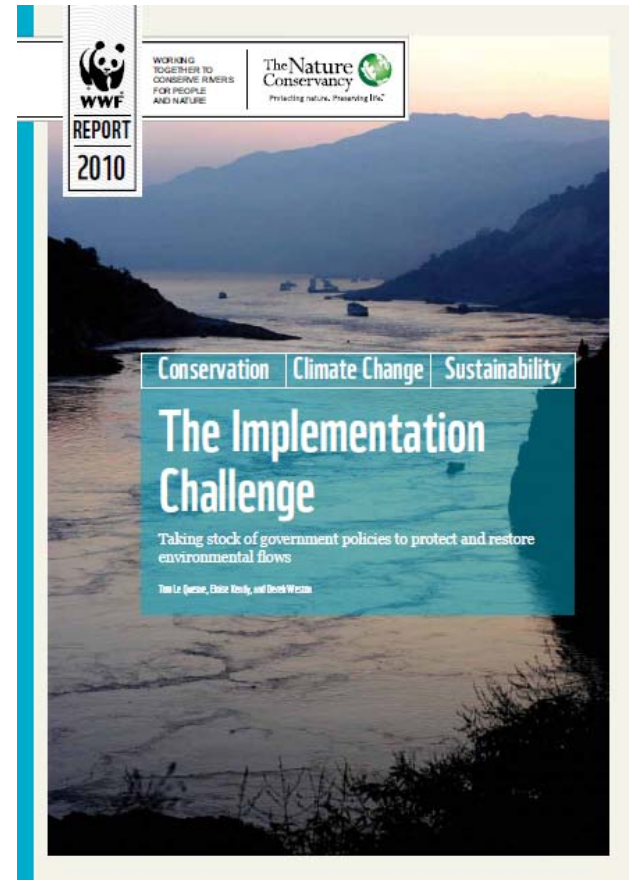


WWF/TNC eflows policy reviews

The Nuts & Bolts of Flow Reallocation

Proceedings of a Workshop held at the
International Conference on Implementing Environmental Water Allocations
Port Elizabeth, South Africa, February 22, 2009

April 2009





WWF/TNC eflows policy review 2010

- Overcoming the implementation challenges:
 - Undertake a phased approach
 - Allow flexibility for implementation methods, while setting a clear deadline and goals
 - Be opportunistic
 - Don't exceed available capacity, while building capacity from the onset of policy development
 - Limit allowable water abstraction and flow alteration as soon as possible



WWF/TNC eflows policy review 2010

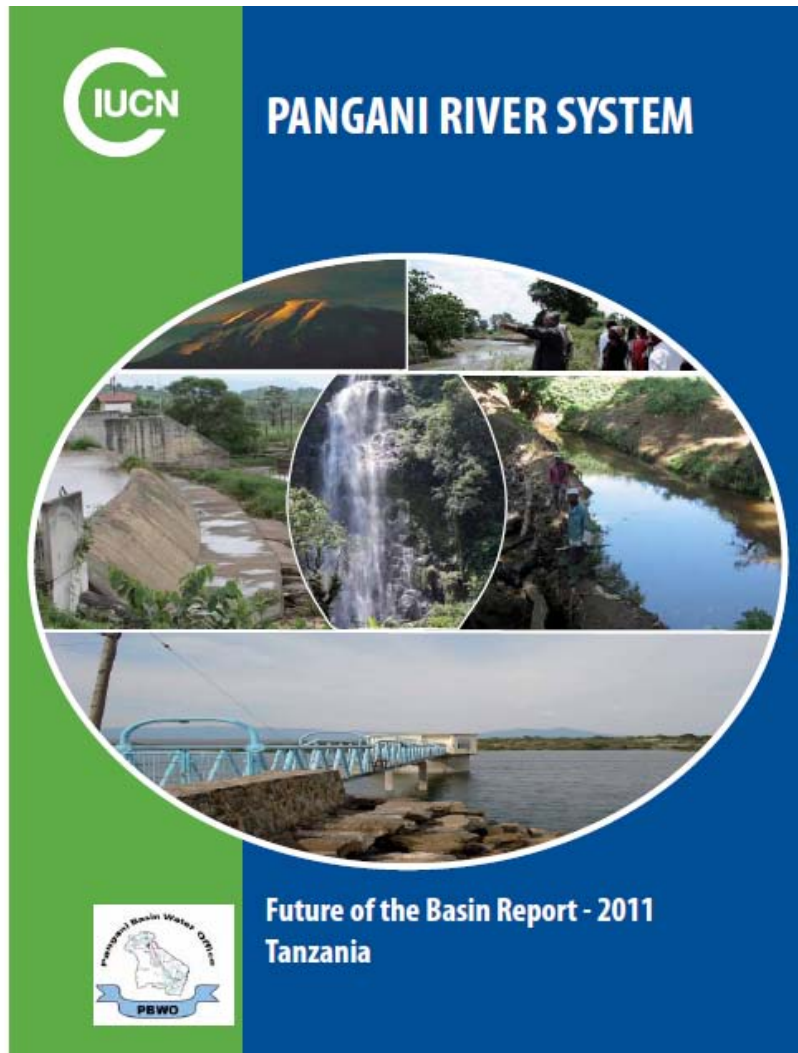
- Overcoming the implementation challenges:
 - Develop a clear statement of objectives for eflows policy based on an inclusive, transparent and well-communicated process
 - Develop a clear institutional framework, including independent oversight
 - Create sustainable financing mechanisms, in particular financial resources where re-allocation of water is required
 - Conduct proof-of-concept pilot projects



WANI and environmental flows

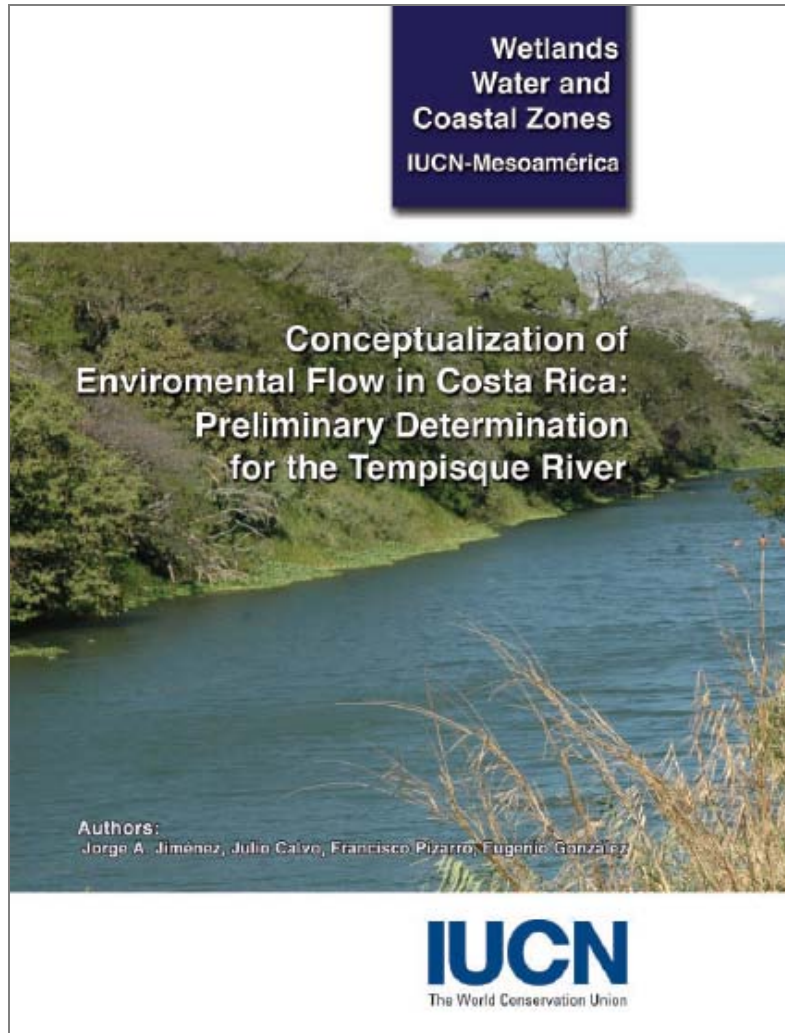
- WANI supported eflows assessments in basins in Latin America, Africa and Asia
- Workshops and training to support national processes to integrate eflows into water resources management, policies and laws
- A global network created to provide a central reference point for eflows information alongside region-specific platforms
- FLOW toolkit available in 11 languages to offer wider practical guidance

Environmental Flows Assessments



- Turning policy into action
 - From EFA to water development scenarios for climate change adaptive institutions, and decentralised participatory governance for negotiated water allocations

Environmental Flows Assessments



- Support to national processes in South America
 - Peru, Ecuador
 - Brazil, Colombia
 - Chile (Huasco River)
- ... and previously in Central America
 - Costa Rica (Tempisque)
 - Panama, El Salvador




A global network

- Why an environmental flows network?
 1. facilitate communication, capacity building and education to expand the recognition and adoption of environmental flows globally
 2. lift the environmental flows concept out of technocratic and academic circles and make it accessible to managers in river basins, policy makers, NGOs, governmental and international agencies, local communities and the wider public
 3. bridge the gap between science, policy and implementation by encouraging a broad dialogue on putting eflows into practice



What does the network do?

- Builds capacity and supports training on environmental flows
- Builds partnerships and collaborations around interests in environmental flows
- Provides a resource bank and clearing house for environmental flows information
- Advances knowledge and addresses gaps in environmental flows information
- Advocates environmental flows towards policy making and awareness building




Environmental Flows and Human Well-being

Stockholm International Fairs and Congress Center
Seminar: Tuesday 19th of August, 13:30-17:00, Room K21
Co-sponsors: USAID Global Water for Sustainability Program, Swedish Water House, WWF, TNC, Environmental Flows Network, DIVERSITAS, Global Water Systems Project, UNESCO International Hydrology Program, IUCN, Wetlands International

Join us for a seminar on the links between human well-being and healthy ecosystems. Explore the prospects for improving human health by safeguarding and restoring aquatic ecosystems with environmental flow. Speakers will address the latest research findings, share examples from specific case studies, and present some of the cutting-edge approaches.

Human health, especially in rural areas of the developing world, is inextricably linked to the health of aquatic ecosystems. Human communities depend directly on goods and services of these ecosystems, including food to meet nutritional requirements, clean fresh water for drinking, cooking, and bathing, and natural habitats on pathogens and other pests. These ecosystem services underpin all subsequent interventions promoted by health, sanitation and hygiene programs, either supporting or countering them. They also strongly influence efforts to combat disease, prepare for climate change, and achieve Millennium Development Goals. The fundamental requirement for maintaining aquatic ecosystem health is to maintain critical components of natural flow regimes, including sufficient quantity and quality.



Environmental Flows for Sustainable Development, Poverty Alleviation and Biodiversity Conservation

Seminar Sunday 16th of August 2009, 14:00-17:30, Room T4
Co-sponsors: Global Environmental Flows Network (eFlowNet), USAID Global Water for Sustainability Program (GROWS), Conservation International, Diabara, International Union for Conservation of Nature (IUCN), Swedish Water House (SWH), The Nature Conservancy (TNC), UNEP-DHA Centre for Water and Environment (DCE), and World Wide Fund for Nature (WWF).



Network products

- Website – www.eflownet.org
- Forum and newsletter
- Seminars and workshops
- Sponsoring events
- Joint publications



Securing Water for Ecosystems and Human Well-being: The Importance of Environmental Flows



Implementing Environmental Water Allocations, 2009



Welcome to the website of the Global Environmental Flows Network - your gateway to information on Environmental Flows

04 November 2010

- Home
- About eFlowNet
- About Environmental Flows
- Resource Centre
- Discussion Forum
- Newsletter
- Members
- Regional Networks
- Opportunities
- Contacts
- Links

Environmental Flows (eFlows) refer to water provided within a river, wetland or coastal zone to maintain ecosystems and the benefits they provide to people. This website is an open portal for anyone interested in accessing, sharing or discussing information on eFlows.

Brisbane Declaration: A commitment to Environmental Flows.

New eflow policies report online

This new report by WWF and TNC takes stock of international progress toward achieving effective environmental flow policies and conveys the emerging lessons, illustrated by stories from around the world.

Current Highlights



[Read More](#)

Launch of East Africa Environmental Flow Network

The East Africa Environmental Flows Network has been launched to provide a platform for knowledge sharing and exchange of information on environmental flows/ environmental water allocations in East Africa.



To join the discussion forum please visit the [East Africa Eflow Network Google Group](#)

[Read More](#)

Notice Board



Latest News

03 Sep 2010

Red List update

African freshwater species threatened – livelihoods at stake

[Read More](#)

02 Feb 2010

Dialogue on dams in West Africa

The Water Resources Coordination Center (WRCC) of the Economic Community Of West African States (ECOWAS) in Ouagadougou (Burkina Faso) has recently introduced a dialogue on large hydraulic infrastructures in West Africa.

[Read More](#)

[More News](#)

SITE SEARCH

GO

Member Login

Email

Password

Remember me

[Log in](#)

[Forgot your password?](#)
[Join eFlowNet](#)



Forum Discussions

- Environmental Flows for non-perennial rivers
- Eflows and bioenergy
- e-flow assessment and problems with implementation
- Have we bridged the gap between scientists and decision-makers?



Resource Centre

- Document Sharing
- Events Calendar
- Case Studies & Projects
- Training & Education
- Presentations

Events Calendar

[5th National Conference on Coastal and Estuarine Habitat Restoration - Restore America's Estuaries](#)



Vision for eFlowNet

eFlowNet and its outputs will bring together basin managers, environmental flows experts and policy makers to work towards accelerating uptake of environmental flows as a standard tool in sustainable river basin management for allocating water between the environment and competing uses



Advancing a global network on environmental flows

Photo credits – Front: © Taco Arrens / IUCN; Back: © Mark Greth / James Dalton / IUCN



What are environmental flows?
Environmental flows describe the quantity, quality and timing of water flows required to sustain freshwater and estuarine ecosystems and the human livelihoods and well-being that depend on these ecosystems. Where rivers have been regulated for agriculture, industry, hydropower or domestic supplies, it is important to ensure there are sufficient flows for the environment. These in turn support the health of aquatic systems and the well-being of people who depend on them.

Promoting the positive potential
The Global Environmental Flows Network (eFlowNet) is mobilising learning, knowledge sharing and adoption of environmental flows approaches. The network unites water managers, industry, NGOs, local communities, governmental and intergovernmental agencies, and researchers in improving the uptake of environmental flows as a standard tool in sustainable river basin management to allocate water between competing uses including the environment.

For more information please contact: info@eflownet.org <http://www.eflownet.org>

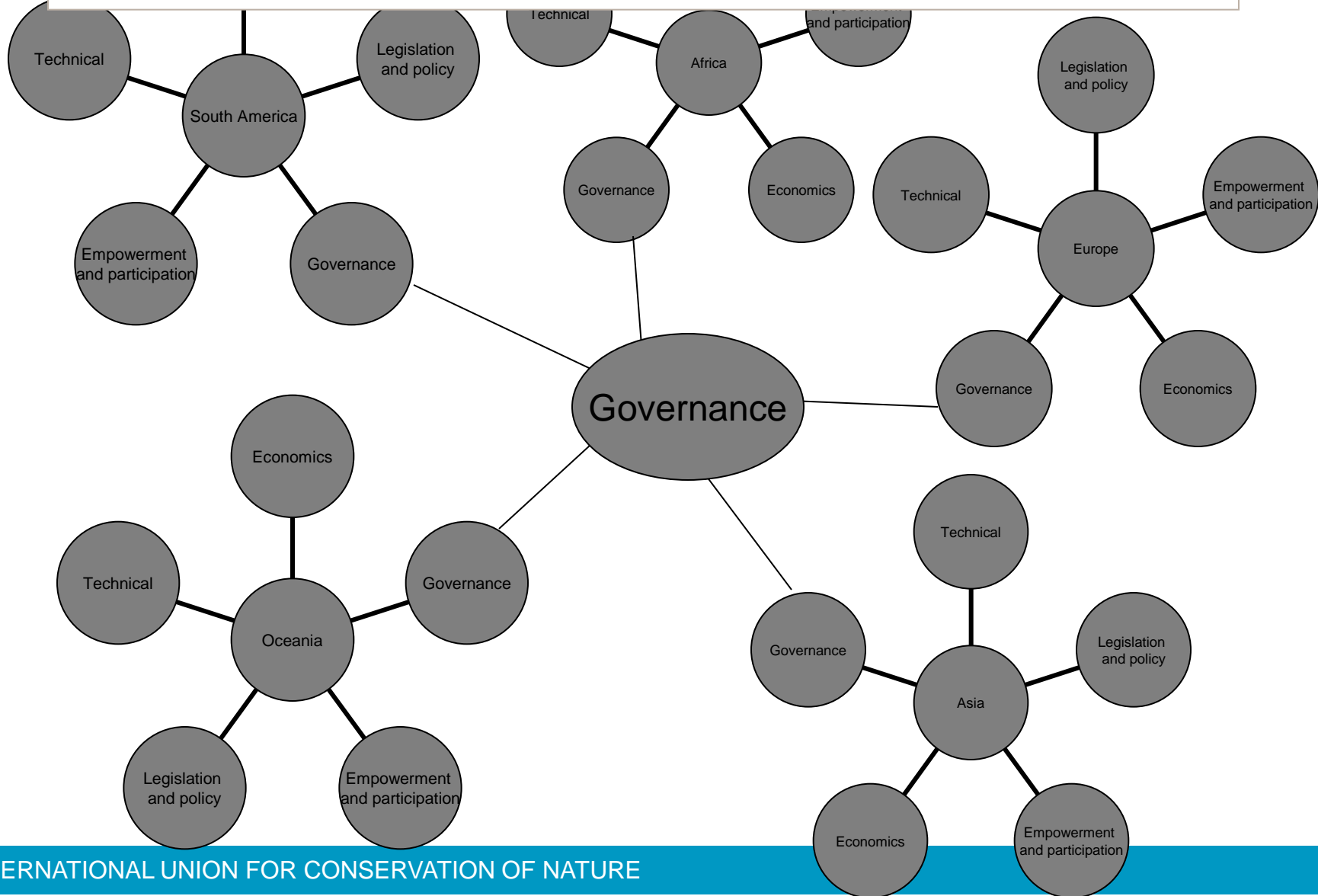
Priority Actions for 2010-2011

1. Making the network sustainable
 - Partnership agreement
 - Collective workplan
 - Fundraising strategy
2. Linking up with other networks
 - Regional networks in Latin America and East and Southern Africa
 - Sectoral networks, e.g. hydropower, industry and agriculture
3. Increasing members' engagement
 - Full-time network coordination
 - Expert groups leading thematic discussions



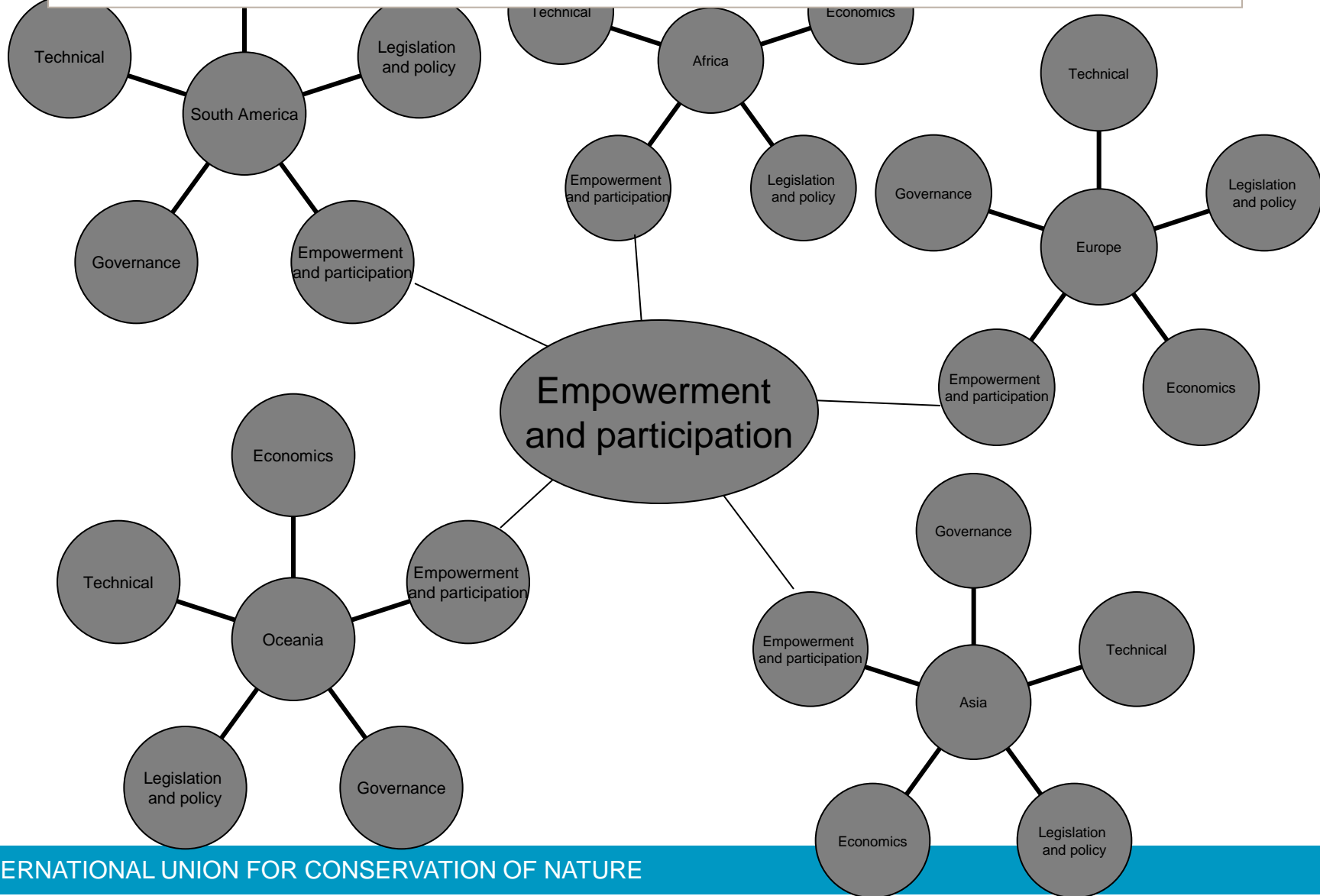


From global to regional networks

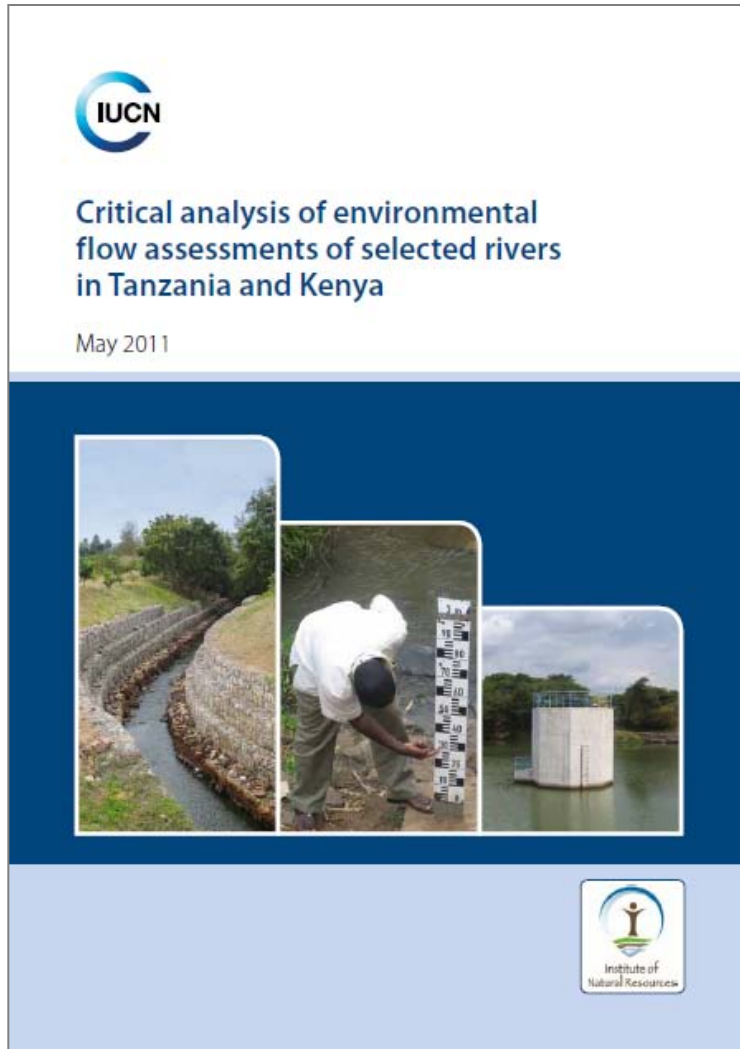




From global to regional networks



Eastern and Southern African network



- A critical analysis of work carried out over the past decade to assess and implement the eflow requirements of 4 river basins in Tanzania
- Lesson learned on EFAs
 - Recommendations on operationalising eflows



Latin American network

- IW:LEARN Regional Workshop on Eflows in Brazil
February 11-15, 2008



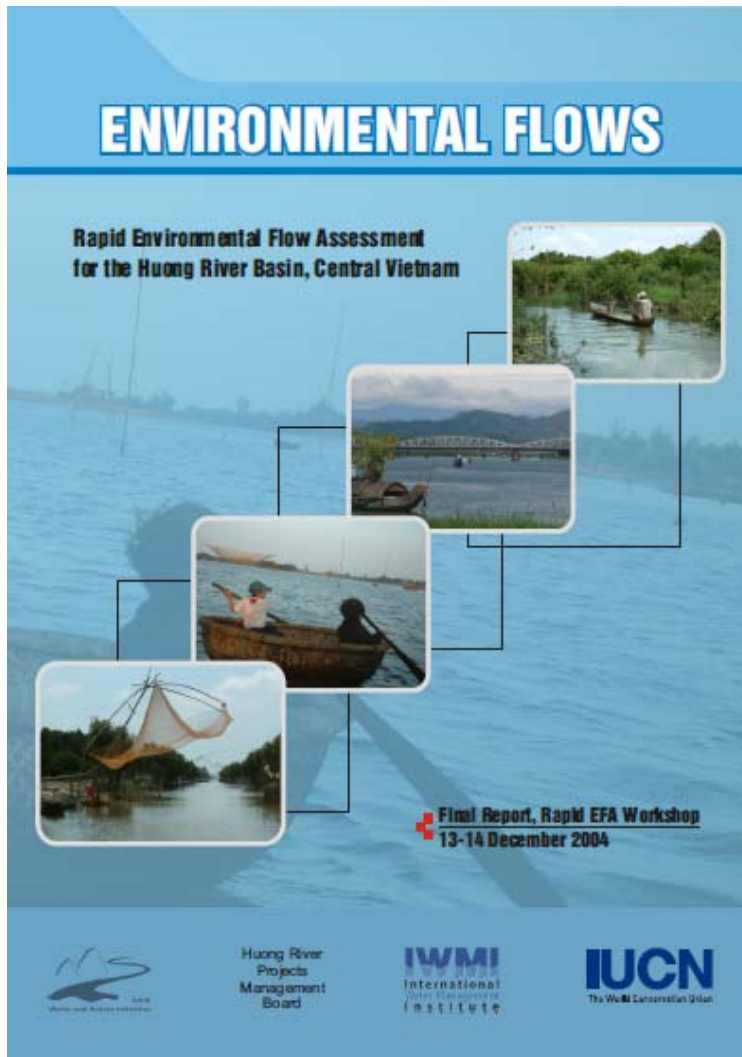


FLOW toolkit and translations



- Both product and process are important!

Method development: Rapid EFA



- Partnership between Thua Tien Hue Province People's Committee, Huong River Projects Management Board, IWMI, and IUCN WANI
- 1st eflow assessment conducted in Viet Nam

Thai Baan: Community-based research

- Used traditional knowledge to demonstrate the importance of flood regimes for fisheries supporting livelihoods in the Songkhram Basin, Thailand



Thematic focus: Wetlands & Nutrition

**The role and nutritional value of
aquatic resources in the livelihoods of rural people**
A participatory assessment in Attapeu Province, Lao PDR



A contribution to the
Dialogue on Water, Food and the Environment
Food and Agriculture Organization of the United Nations
Regional Office for Asia and the Pacific
and
IUCN – the World Conservation Union



- Investigated role of aquatic resources in nutritional status of rural people in Attapeu Province of Lao PDR



What has WANI learnt about eflows?

- The success or failure to mainstream eflows in water management will depend on whether they have their place in national legislation
- Eflows must have clear objectives and scenarios built on multistakeholder consensus
- Eflows will only ensure a healthy river if they are part of a broader package of measures on a river basin scale
- Establishing adaptive management based on a 'learning by doing' approach is critical



Implementation frameworks: a roadmap

- Active participation and involvement of civil society, downstream water authorities, scientists, managers
- Develop legislation on sustainable resource use
- Engage actors including monetarily
- Inclusion of traditional knowledge
- Adaptive management: more monitoring to understand the implications of eflow decisions once adopted
- Integration in city, towns and rural area plans



Networking plans

- Showcase progress & contribute to 6WWF Target
 - Establish regionally defined principles and practices and monitor capacity for managing the flows and quality of surface and groundwater to maintain or improve the health of inland and coastal water and ecosystems
- Opportunities to cross-learn with GEF IW projects
 - Surface freshwater Community of Practice with input into 3 regional workshops in Latin America, Africa and Asia-Pacific