



Networks as Instruments for Scientific Capacity Building

By Kees Leendertse
HRD Specialist
UNDP/Cap-Net

Introduction

Cap-Net is an international network for capacity building in integrated water resources management. It is a programme of UNDP and an associated programme of the Global Water Partnership. Cap-Net's direct partners are regional and country level capacity building networks working in integrated water resources management. These networks are mostly composed of capacity building institutions, such as universities, training institutes, but also NGOs, governmental agencies, private companies, development programmes, etc.

Networking for capacity building in integrated water resources management is a relatively new phenomenon that has been emerging especially over the last year. While just one year ago only one such network was operational, namely WaterNet in Southern Africa, nowadays some 15 country and regional networks have been established and at different stages of development. All these networks have different origins and compositions but have in common that they strive for better management of water resources by means of delivering the capacity in the country or region to do so. The main focus of the networks is therefore the delivery of capacity building through training and education, institutional strengthening and providing the legal framework in which integrated management can take place.

This new trend towards networking for capacity building offers great opportunities to strengthen the academic basis of the member institutions of the networks. Building on the strengths of partners in a network, the spin-off of research activities by those members to other members or other capacity building networks may have accelerating effects on information generation and knowledge development. Network research programmes and inter-network knowledge exchange are expected to boost local water resources management practices.

This paper examines characteristics of the emerging networks and their relation with the global network of Cap-Net. Strategies in the field of capacity building for integrated water resources management that are developed and adopted by Cap-Net and its affiliated regional and country networks are briefly explained. The development activities of Cap-Net and the networks in the area of research and the way the networks can benefit from a common research programme is addressed in the final section.

Networks

Many regional and country networks for capacity building in integrated water resources management have emerged over the last year or so. There are now some 13 networks affiliated with Cap-Net, each with their own characteristics:

Regional networks

- REDICA - Central American Educational Institutions Network: with a strong emphasis on climate change and environmental issues;

- CARA – Central American Water Resources Management Network: aims to increase the capacity of regional universities;
- LA-WETnet – Latin American Network for Water Education and Training: a network of capacity building institutions and regional organisations aiming to increase the capacities in the region for IWRM and improve access to water and sanitation, enabling equity in health and development opportunities;
- WA-Net - West Africa Capacity Building Network: a network for regional cooperation among training, education and research institutes and organisations engaged in IWRM;
- WaterNet – Regional network of capacity building institutions with expertise in water resources management in Southern Africa;
- NileNet – a Nile Basin programme for applied training in IWRM: aiming for institutional development and interaction among water professionals;
- NBCBN-RE – Nile Basin Capacity Building Network for River Engineering: a human resources development and institutional development network;
- Awarenet – Arab Integrated Water Resources Management Network: a knowledge development and research promotion network;
- SaciWATERs – South Asia Consortium for Interdisciplinary Water Resources Studies: aiming for capacity building in IWRM through education, research and training;
- SeaCapNet – Southeast Asia Regional Network for Capacity Building in IWRM: increase access to training and education in WIRM and stimulate regional cooperation and research.

Country networks:

- InaCapNet – Indonesia;
- ArgCapNet – Argentina;
- MyCapNet – Malaysia.

And other networks are being established, for example in Central Asia, Central and Eastern Europe, the South Pacific, etc.

These networks have come up from different origins. Some are closely linked to GWP regional partnerships, whereas others have developed from relations with international organisations or programmes. The potential they have for improving capacity building in water resources management is now widely recognised. There are few individual capacity building institutions that have all skills required and less have the experience on how to reach the right blend for efficient water resources management. Networks of capacity building institutions provide an effective strategy to share experience and skills and reach a critical mass of expertise required to address the demanding requirements of reform towards sustainable management of water resources.¹

Some of the networks mentioned have a strong emphasis on applied research related to different aspects of water resources management. Few networks receive external support for the development of research programmes whereas others seek support through local or other international channels. The partnerships through networks between capacity building institutions are expected to be powerful tools in building the research capacity and therefore the scientific basis of the partner institutions individually as well as the network as a whole. Cap-Net therefore supports the intra-network and inter-network research activities and assumes a facilitating role in exchanging information on research programmes.

¹ Cap-Net. 2002. Capacity Building for Integrated water Resources Management; the importance of local ownership, partnerships and demand responsiveness. Delft, The Netherlands.

The global network of Cap-Net

Cap-Net consists of the international secretariat, based in Delft, The Netherlands, and the regional and country networks that are affiliated with Cap-Net. As such, Cap-Net is understood as a global network of networks for capacity building in integrated water resources management. The principles that glue the network together work in both directions from the global level support to the regional networks and inputs from the regions into the global network.

The type of support that Cap-Net provides to the regional networks ranges from technical and financial assistance in the network take-off phase and organising specific topic oriented training of trainers, to making available appropriate capacity building materials and providing support to research development and activities. The networks that want to be affiliated with Cap-Net, on the other hand, share a commitment to contribute to the global network by relaying information on changing demands for capacity development, sharing experiences and capacity building materials with the other networks, and collaborate in regional and inter-regional research.

This global network offers great opportunities both for capacity builders at the country or regional levels and to global programmes to enlarge their reach into the regions. To that respect Cap-Net functions as an intermediate and in that context a collaborative programme is being developed between Cap-Net and IFS to promote research for the sustainable management of water resources. Other partnerships have been set up with global programmes to strengthen their capacity development programmes in the regions and to enhance the relevance of the programmes for local capacity building.

For communication and dissemination of information with and between the regions, as well as for sharing of capacity building materials, the Cap-Net web site is a major vehicle. Apart from information on events and news relevant to capacity building in water resources management, the site provides facilities to upload training and resource materials and to post information on networks and training and education courses. The Cap-Net web site has become a focal point for capacity building in integrated water resources management for many capacity building institutions and individuals worldwide.

Capacity building

Capacity building is interpreted as the ability of individuals and organisations or organisational units to perform functions effectively and sustainably. This implies that capacity is not a passive state but part of a continuing process and that human resources are central to capacity development². Capacity building consists of three basic elements³:

- Creation of an enabling environment with appropriate policy and legal frameworks;
- Institutional development, including community participation; and,
- Human resources development and the strengthening of managerial systems.

How capacity building supports the transformation to IWRM is depicted in the next figure. The individual and institutional capacities as well as the enabling environment are prerequisites for the implementation of IWRM. They provide the frameworks for institutional and human resources development suitable for proper implementation of

² UNDP. 1998. Capacity assessment and development. In a systems and strategic management context. Technical Advisory Paper No.3. UNDP, New York, US.

³ Alarts, G.J., Blair, T.L., Hartbelt, F.J.A. 1991. A Strategy for Water Sector Capacity Building; proceedings of the UNDP Symposium . Delft, 3-5 June 1991. IHE, Delft, The Netherlands; UNDP, New York, US.

IWRM. Capacity builders (institutions as well as materials) should provide the knowledge and the tools relevant to the development process.

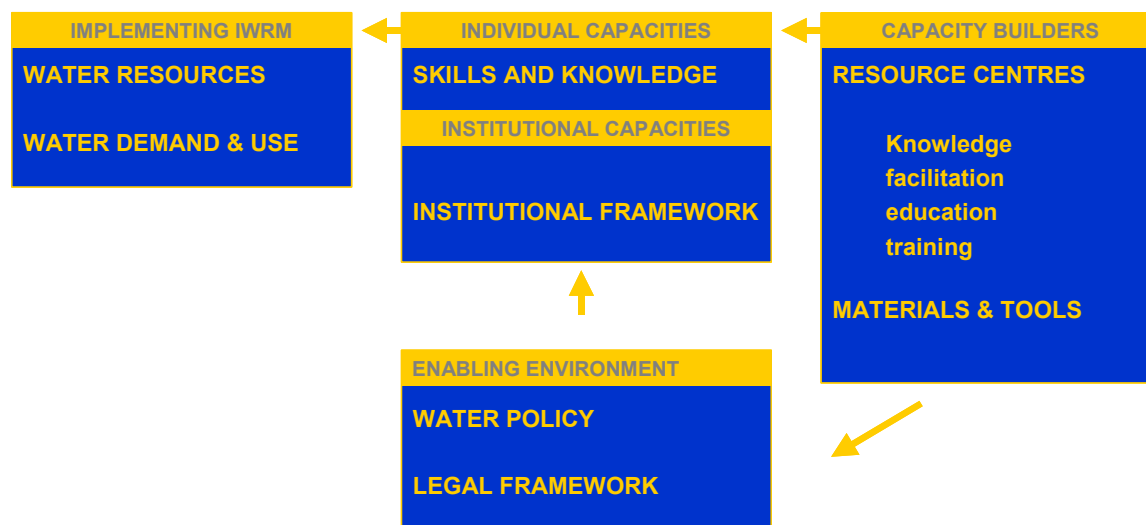


Figure 1: Water sector capacity building

The networks affiliated to Cap-Net share a vision on capacity building that is based on three principles⁴:

1. **Local ownership** of the capacity building process improves the relevance and sustainability.
Without recognition of local capacity building institutions as key players in establishing the core capability for sustained delivery of capacity building services and their roles as information and knowledge centres, external interventions will have little prospect for achieving long term impact. Focussing attention on anchoring the process in local institutions will strengthen their responsiveness to local needs and demands, while addressing their own capacity constraints.
2. **Partnerships** improve capacity building performance by building on strengths of the individual partners.
Integrated water resources management requires new mixtures of skills and bring together multiple disciplines across traditional technical boundaries. Whereas institutions capturing the required range for capacity building in IWRM are hard to find, each capacity builder brings its own strengths and capacities. Based on complementarities, partnerships between the institutions are the key to assure that capacity building demands following sector reforms towards IWRM can be met.
3. **Responding to demand** ensures impact of capacity building activities.
Capacity building service providers must be encouraged to adopt a more demand driven approach, identifying the immediate needs and demands of society and responding to those. Failing to engage with the water management implementing agency may lead to perceived inability to deliver and lack of confidence in local capacity building institutions. Responding to an effective demand for capacity building, on the other hand, guarantees an immediate impact of the activities.

⁴ Cap-Net. 2002. Capacity Building for Integrated water Resources Management; the importance of local ownership, partnerships and demand responsiveness. Delft, The Netherlands.

It is expected that these principles will not only be used for programme development by the networks but will also be relevant to decision making on capacity development at the locals as well as the international level.

For research, the three principles are as relevant as they are for training and education programmes. Applied research needs to be locally embedded to have an impact on the management of local water resources. The best strategy to develop adequate research programmes in a multidisciplinary environment is by building on scientific strength of the individual members of a network.

Strengthening research

The global paradigm shift towards integrated resources management puts heavy pressure on capacity building and applied research development. Resource centres need to respond to the changes in demand for water education as well as expanding the scientific base to be able to do that.

The challenge for meeting the change in water management from a sectoral to an integrated approach is to adapt research and education programmes accordingly. Integration of water management requires a multidisciplinary and multi-sectoral approach towards scientific capacity development. To be able to cover and deliver a complete package, networks of capacity building institutions will be instrumental in the development of research programmes.

Capacity building networks can be seen as instruments for scientific capacity building in integrated water resources management because:

- They have the capability to address salient issues in water management in a multi-disciplinary manner through their membership;
- They are in a position to provide strong research outputs by building on the strengths in research programmes of their members;
- They are likely to deliver research that is relevant to local water management issues and respond to particular needs in their respective regions;
- They have access to global scientific developments through their relation to the global network and international organisations.

Cap-Net supports the development of a research programme shared by the affiliated networks in various ways:

- *Research information base*
Cap-Net aims to assist regional and national capacity building networks in IWRM to develop regional and national information bases of research in the member capacity building institutions. The creation of a research information base will not only help the network collecting and disseminating information on research programmes within their membership but it will also provide insights in research activities of partner networks.
- *Inter-network research programme*
On the basis of global research priorities and information collected on the research programmes of network member institutions, an inter-network research programme can be developed. The programme will be based on complementarity between the networks and their research programmes, and exchange of teachers and researchers will be encouraged. It will also contribute to a better understanding of salient water management issues under different circumstances.

- *The Cap-Net – IFS programme*

A joint project has been developed by IFS and Cap-Net to promote research for sustainable management of water resources. The purpose of the programme is to identify and support young promising researchers in the area of water resources, and to establish regional research programmes. The networks have a distinct role in the implementation of the programme:

- in the assessment of research priorities and reviewing applications for scholarships, while promoting the research programme in the region;
- in the longer term, the actual management of the programme while IFS contributes with international scientific advisers.

Detailed procedures of the programme need to be elaborated and workshops with participating networks will be arranged.

The Cap-Net support to research through and by the networks should lead to an improved scientific base of the networks in order for them to deliver adequate and responsive capacity building for a better management of water resources.

Conclusion

The paper aimed to lay out the potentials that capacity building networks have to become instrumental in scientific development in integrated water resources management. The principles that are applied by Cap-Net as well as by the affiliated networks form an adequate and relevant framework for scientific capacity building. A guiding understanding is that sharing of research and cooperation in building knowledge on salient issues in integrated water resources management makes the networks stronger as well as improves the performance of the individual members.

A network is more than the sum of the elements that shape a network. Exchanging information and knowledge within the membership and between networks allows for the development of joint research programmes that builds on strengths of the members while promoting multidisciplinary and multi-sectoral research. When translated into water resources management activities, such programmes ensure an holistic integrated approach. In this manner the capacity building networks become instrumental in finding a response to the paradigm shift towards integrated water resources management.