

# A network for Integrated Watershed Management in Eastern Africa

IWMNet is a network of universities in Germany and Eastern and Southern Africa that collaborate in the field of Integrated Watershed Management (IWM) in Eastern Africa. By offering Masters' Programmes, promoting applied research within watersheds and closely co-operating with the relevant institutions, the network is strengthening the ongoing water sector reform processes in Ethiopia, Kenya, Tanzania and Uganda.

The sustainable development, protection and management of a country's water resources is a common goal. It is the basis for improving the livelihood of people by enabling food security based on sustainable river catchment management and conservation approaches. Achieving the Millennium Development Goals (MDGs) for reducing poverty not only calls for drastically improved infrastructure for water resources management, water supply and sanitation, but also for training human resources to plan, implement and operate facilities. The Integrated Watershed Management Network project (IWMNet) takes the existing policies, programmes and activities as a basis. Pilot catchments in all partner countries are used to gaining practical experience in drafting participatory catchment management plans, establishing appropriate moni-

toring procedures, undertake action and applied research, generate new knowledge and test tools for dissemination. Joint research and study visits focusing on problems of the region are major efforts to strengthen the research capacities of the partner universities.

Taking existing policies, strategies and reform agendas of partner countries into consideration, activities for capacity building are implemented at three levels:

**a) Regional level:** Network on Integrated Watershed Management (IWM) with Arba Minch University (Ethiopia), Kenyatta University (Kenya), Makerere University (Uganda), University of Dar es Salaam (Tanzania) and University of Siegen (Germany) by improving and extending academic education, through the establishment of International Masters' Programmes in "Integrated Watershed Management" at Kenyatta (KU) and Makerere University (MAK). The MA programmes focus their research on pilot water-

sheds, project and research oriented education, training tools and e-learning concepts. PhD research is offered, and students and staff mobility within the region are supported. Academic teaching, applied research within pilot catchments, and other activities are directly supported by the network. Synergies are created with the Master's Programme in Integrated Sanitation Management (ISM) now offered at the University of Dar es Salaam (UDSM), Tanzania.

**b) National regulatory level:** At the regulatory level, water managers and other professionals are trained via specialised short courses on IWM, draw-

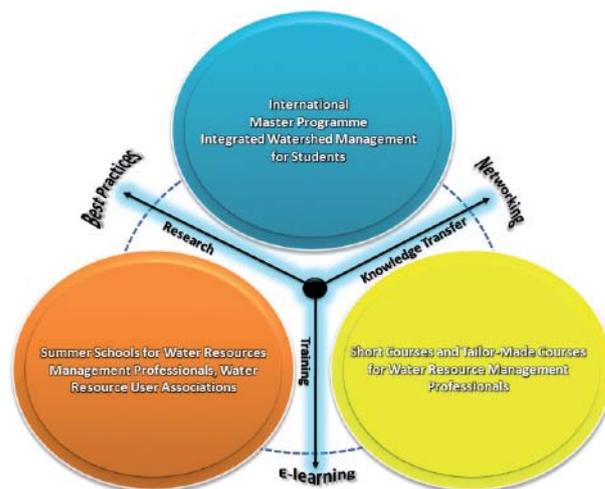
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**IWMNet: Activities for capacity building**



*Capacity Building and participatory planning play an important role in the Integrated Watershed Management Network.*

ing from modules offered at level a) to fulfil water sector reform needs and enhance capacity building. Courses are tailor-made in accordance with specific demands identified by the water and related resources authorities.

**c) Catchment/User level:** At local level, water resource user associations (WRUAs) are being assisted in drafting and executing Sub-Catchment Management Plans in accordance with sector reform needs. Participatory catchment management plans are key in ensuring the sustainable management and conservation of water resources and play a central part in conflict transformation.

IWMNet closely co-operates with the German Alumni Water Network (GAWN: [www.gawn.de](http://www.gawn.de)) as well as the EU-funded capacity building project in Integrated Sanitation Management (UCDISM: [www.ucdism.eu](http://www.ucdism.eu)). Other partners include: the International Water Management Institute (IMWI) in Ethiopia, German Technical Cooperation (GTZ) Water Sector Reform Programmes in Kenya and Tanzania, and the German Academic Exchange Service (DAAD).

The project is based on experience of University of Siegen and its partners gained from networking with regional universities and development programmes in the four partner countries at level a) consulting in water sector and university reform, level b) conducting training programmes in Ethiopia, and level c) organising DAAD-funded summer schools and expert seminars in Kenya and Germany. The action is coordinated with capacity building measures of the water sector programmes executed in Kenya and Tanzania.



Photo: G. Förch

## ■ IWM promoting sustainable use of scarce resources

The strengthening of the ongoing water sector reforms is essential for stabilising sustainable resource utilisation and improving the livelihoods of the people within the region. This concept forms an integral part of reaching the Millennium Development Goals and the set targets of the EU-Water Facility – particularly on strengthening capacities for sustainable management of precious water resources. IWMNet fits into ongoing processes and programmes of the governments of the

partner countries and various donors, e.g. World Bank, EU, Germany, and is enhancing their endeavours by linking different actors and institutions. Management of a complex system like a watershed must be associated with a process of individual and social learning. Management of watershed resources must be implemented for the benefit of the local people, and therefore together with them, rather than focusing only on a policy level. As users learn more about their ecological and social systems, they may change their ideas about desirable and feasible resource management alterna-

## Operational capacity and expertise

The Centre for International Capacity Development (CICD) at Siegen University ([www.uni-siegen.de/zew](http://www.uni-siegen.de/zew)), Germany, has extensive experience in project implementation, both within the EU and abroad. It has developed a refined project management team through years of working in collaborative project with partners, especially at East African Universities. It is running joint PhD and masters' programmes with Kenyatta University (Kenya), Makerere University (Uganda), Arba Minch University (Ethiopia) and the University of Dar es Salaam (Tanzania). All the partner universities work within fields relevant to catchment management and conservation – such as Hydrology, Geography, Soil Science, Engineering and Agriculture. E-learning platforms are already in use at University of Siegen and Kenyatta University. From 1993 to 2007, the University of Siegen was in charge of the co-operation project with Arba Minch University, sponsored by the German Government. The joint nature of the international master's course in IWM now offered at Kenyatta University strengthens the individual efforts of the partners.



Photo: G. Förch

*Achieving the MDGs for reducing poverty calls for improved infrastructure for water resources management, water supply and sanitation.*

is based on a dramatic improvement of infrastructure. However, an ever-growing population will require even more supplies despite already limited resources. Integrated management of resources

is the only way forward. With its work IWMNet is enhancing the capacity of the East African countries involved in developing integrated watershed management plans for sub-catchments and exchanging best practices among the stakeholders and the partners. Together with its partners, it is improving the managerial capacity of key stakeholders at different levels (local, regional, and national). It is strengthening the active involvement of all stakeholders in the implementation of policies and encouraging the consideration of the needs of low-income groups. It provides an opportunity to understand the constraints under which service providers function efficiently and explore options for community initiatives for problem

solving. Such a system calls for adaptive management – defined as a continuous process of design, action, monitoring and evaluation, and reflection and revision. Applied research thus forms one part of a continuous cycle of problem identification, solution, action, and evaluation and enables local stakeholders to actively participate in the management of their catchment.

Access to water supply and sanitation facilities in the partner countries varies between less than 25 percent in rural areas and almost 60 percent in selected urban centres, with appropriate sanitary facilities below 10 percent in Ethiopia. Improving living standards and livelihoods – as stipulated in the MDGs –

solving. Regional best practices can be shared among a larger community; activities, particularly at a local level, have contributed to conflict transformation in cases of competing utilisation of water resources.

The direct beneficiaries of the project are decision-makers, practitioners and managers in the water sector, staff of training and research institutions, and trainees or students as future managers of water resources institutions as well as water utilities.

## ■ Results

The IWM master's programme is running at Kenyatta University, Nairobi, and a second master's course is going to be offered at Makerere University, Kampala, in 2010/11, while a master's course on Integrated Sanitation Management (ISM) has been initiated at University of Dar es Salaam. The basic concept of participatory watershed management planning developed by the Meru Summer Schools (CICD, University of Siegen) was incorporated by the Kenyan Water Resources Management Authority in their catchment management strategy (CMS). A water film, "Until the last Drop – the Book of Tana", is currently being developed to support sustainable water resources management at watershed or catchment level. Various doctoral studies with strong regional approaches have been supported.

## Zusammenfassung

Die Universität Siegen hat zusammen mit vier ostafrikanischen Universitäten 2004 das „Integrated Watershed Management Network“ für Ostafrika gegründet. IWMNet wurde anfangs vom Deutschen Akademischen Austauschdienst (DAAD) unterstützt und wird jetzt vom AKP-EU-Wasserfazilitätsprogramm finanziert. Es soll die Wasserwirtschaft auf drei Ebenen stärken: regional durch Unterstützung des internationalen Masterprogramms für IWM an der Kenyatta-Universität in Nairobi; in den Einzugsgebieten durch die Schulung von Mitarbeitern der Wasserwirtschaft in

Methoden des Integrierten Wasserressourcen-Managements; und lokal durch die Schulung und Unterstützung der Wassernutzer in den Einzugsgebieten zugunsten einer nachhaltigen Ressourcennutzung.

## Resumen

La Universidad de Siegen (Alemania) y cuatro universidades de África Occidental han creado la Red Integrada de Gestión de Cuencas Hidrográficas (*Integrated Watershed Management Network – IWMNet*) para la región africana occidental en 2004. El apoyo original provino del Servicio Alemán de Intercambio Académico (DAAD), pero

hoy en día la IWMNet recibe financiamiento del programa titulado "Facilidad ACP-UE para el Agua". Sus principales objetivos son fortalecer la gestión de cuencas hidrográficas en tres niveles: a nivel regional, mediante el fomento del programa internacional de maestría en gestión de cuencas hidrográficas de la Universidad Kenyatta en Nairobi; a nivel de las cuencas, capacitando al personal a cargo del manejo del agua en metodologías de gestión de recursos hídricos; a nivel local, mediante la capacitación y el respaldo de los usuarios de los recursos de agua en las cuencas en lo relacionado con la utilización sostenible de sus recursos.