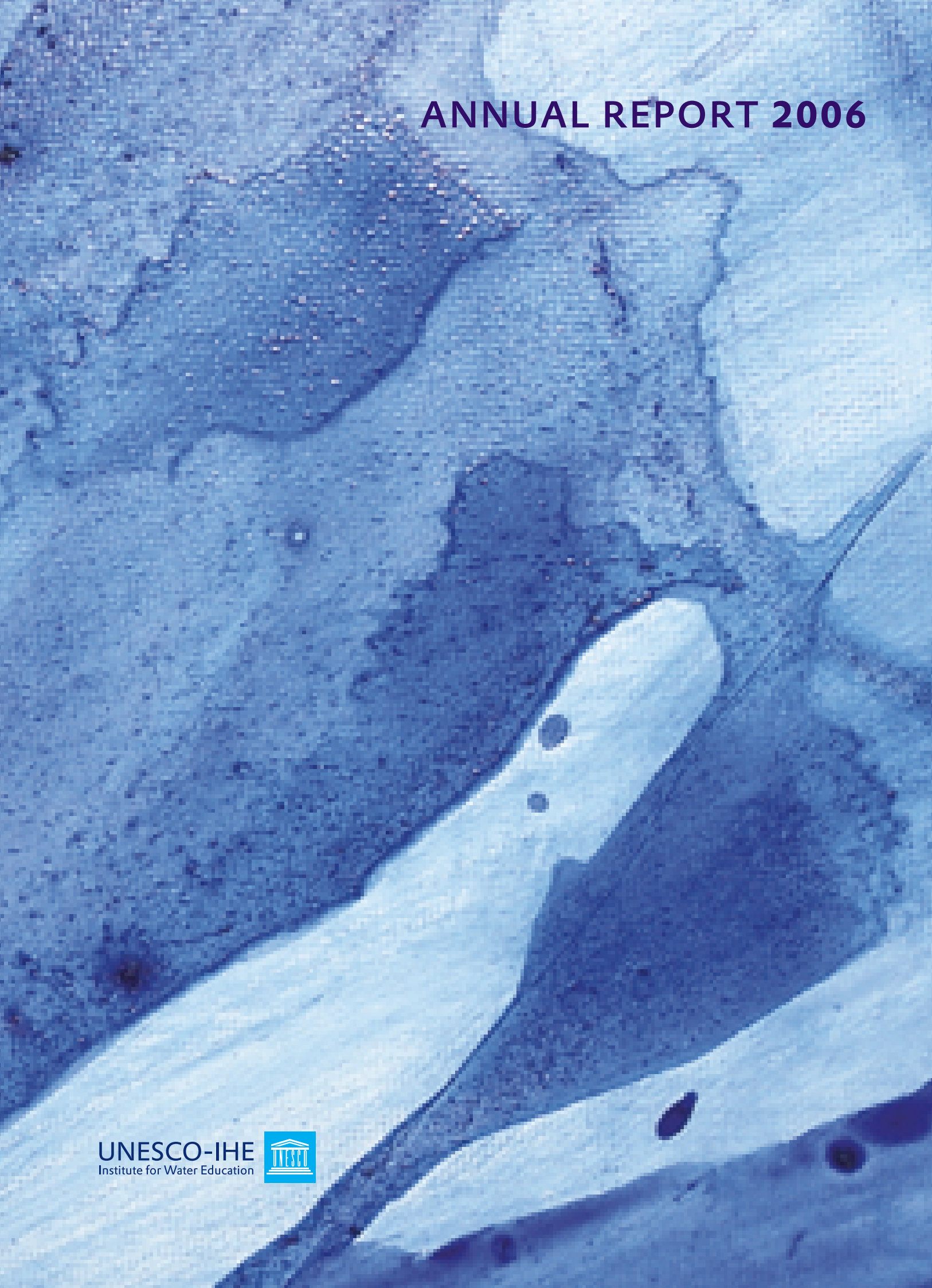
ANNUAL REPORT **2006**



UNESCO-IHE
Institute for Water Education

CONTENTS

THE INSTITUTE

UNESCO-IHE is the largest postgraduate water education facility in the world and the only institution in the UN system authorised to confer accredited MSc degrees and promote PhDs. In 2003 UNESCO and the Government of the Netherlands transitioned IHE Delft into the UNESCO-IHE Institute for Water Education.

UNESCO-IHE envisions a world in which people manage their water and environmental resources in a sustainable manner, and in which all sectors of society, particularly the poor, can enjoy the benefits of basic services. The mission of UNESCO-IHE is to contribute to the education and training of professionals and to build the capacity of sector organisations, knowledge centres and other institutions active in the fields of water, the environment and infrastructure, in developing countries and countries in transition.

Since 1957 the Institute has provided postgraduate education to more than 13,400 water professionals from 162 (developing) countries. More than 50 PhD candidates have been promoted from the Institute, and numerous research and capacity building projects have been carried out throughout the world. Alumni reach senior positions in their home countries and become nationally and internationally recognised experts in their fields of speciality. Many have made significant contributions to the development of the water and environmental sectors. UNESCO-IHE alumni have access to and remain part of a global network, consisting of alumni, guest lecturers, experts and renowned centres of knowledge, together providing a vast source of expertise to draw upon.

UNESCO-IHE centres its education, research and capacity building programmes around five themes: Water Security, Environmental Integrity, Urbanisation, Water Management and Governance, and Information and Communication Systems. Through each of these themes, the Institute focuses its contributions on resolving the major issues and challenges faced by many developing countries, as stated in the Millennium Development Goals and as identified by – among others – the UN Millennium Summit, the World Water Fora, the World Summit on Sustainable Development, and the Commission on Sustainable Development.

DIRECTOR'S STATEMENT

Without question, 2006 recorded a number of very important changes as we continue to strive to improve our impact as a postgraduate education and research institute. Among other changes, we have developed our research plan and installed specific criteria to measure scientific output by our academic staff, produced a vision on Innovation and Education, introduced summer courses and completed the accreditation process for our Master Programmes.

As this report clearly documents, we continued to address priority water resource policy, management, engineering and science issues in a wide variety of contexts – urban, rural, and natural environments; in national and transboundary geographic settings; and within local, national, regional and even global policy fora.

I cannot complete this short statement without noting progress realised in delivering our principle product – highly qualified professionals – trained at both the MSc and PhD levels to address priority water problems in developing and transition economy nations throughout the world. In 2006 UNESCO-IHE awarded a record number of 11 PhD degrees, two with distinction, and had a record number of MSc participants commence their research phase. Also, online courses were joined by 135 participants in 9 online courses, a notable increase from the 83 participants in 2005.

The UNESCO Member States have every reason to be proud of this Institute, and we have every reason to be gratified in our shared commitment to contributing in tangible ways along the path towards sustainable development.

Richard A. Meganck
Director

2006 AT A GLANCE UNESCO-IHE IN NUMBERS

UNESCO-IHE IN NUMBERS

145 fulltime-equivalents of which 54% academic and 46% supporting

4 Water and Environment Related Master Programmes with 14 specialisations

134 Msc degrees awarded
202 MSc participants from 69 countries
74 registered PhD fellows
11 PhD graduations
333 water sector professionals in short courses
135 participants in 9 online courses (83 in 2005)
5 refresher seminars held for alumni

212 Scientific Publications
109 Capacity Building and Advisory Projects

Total turnover of € 24 million, overall negative operating result of € 68,000

EDUCATION

- The independent review committee reports all indicated a positive outcome, paving the way to NVAO accreditation
- The Committee on Innovation in Education developed a vision on education at the Institute, to be implemented by 2012
- Summer courses were run for the first time
- A record number of 190 participants entered the MSc research phase
- Three new online courses were developed and taught

RESEARCH

- Successful application to the SENSE research school
- A record number of 89 publications in peer reviewed journals
- Specific criteria to measure scientific output developed
- FP6 SWITCH project was launched, and over 30 PhD's related to SWITCH commenced
- A record number of 11 PhD degrees awarded, two with distinction
- Chapter 13, "Enhancing knowledge and capacity" of the 2nd World Water Development Report (WWDR-II) published

CAPACITY BUILDING AND ADVISORY PROJECTS

- Total turnover of € 7,8 million and fee income of € 2.9 million
- Research projects 30% of total
- The project entitled "Improving Municipal Wastewater Management in Coastal Cities in ACP Countries" commenced
- A tailor-made course on water supply and sanitation to the Nepalese department of water supply and sewerage was acquired
- Kick-off € 22 million SWITCH project on integrated urban management
- Guatemala project on integrated management of water resources initiated

PARTNERSHIPS AND NETWORKING

- Cooperation Agreements signed with Boussinesq Centre for Hydrology, The Coca-Cola Company (TCCC), Unie van Waterschappen (Union of Water Boards), and Universidade de São Paulo (USP)
- The Partnership for Water Education and Research (PoWER) submitted the Phase II project proposal to DGIS
- Active support was given to WaterNet, the IWRM capacity building network in Southern Africa, NBCBN-RE, the Nile Basin wide network for River Engineering, and CK-Net, the network of 10 Indonesian universities dealing with water resources and irrigation management
- A proposal for the establishment of a Top Technological Institute on Water Technology was developed

OVERALL DEVELOPMENT OF THE INSTITUTE

- At the World Water Forum IV in Mexico City UNESCO-IHE coordinated the theme 'Capacity Development and Social Learning', convened two sessions and delivered five workshops
- New partnership model presented at the Strategic Roundtable on the Future of UNESCO-IHE
- Municipal Urban Infrastructure department changed its name to Urban Water and Sanitation department
- Entrance hall, conference room and restaurant were reconstructed, including a security system

CORE ACTIVITIES

Master Programmes and Specialisations offered in 2006.

MSc Programmes	Specialisations
Environmental Science	Environmental Science & Technology
	Environmental Planning & Management
	Limnology & Wetland Ecosystems
	Water Quality Management
Water Management	Water Resources Management
	Water Services Management
Municipal Water & Infrastructure	Water Supply & Engineering
	Sanitary Engineering
	Integrated Urban Engineering
Water Science & Engineering	Hydrology and Water Resources
	Hydraulic Engineering - River Basin Development
	Hydraulic Engineering - Coastal Engineering & Port Development
	Hydraulic Engineering - Land & Water Development
	Hydro-informatics

MSc Programme	Participants 2005-2007	2006-2008
Environmental Science	45	50
Water Management	29	28
Municipal Water & Infrastructure	29	42
Water Science & Engineering	90	82
Total	**193**	**202**

CORE ACTIVITIES

EDUCATION

Degree programmes offered at UNESCO-IHE in 2006 were the 18-month Master of Science (MSc), and the 4-year Doctor of Philosophy (PhD). With the start of the 2005-2006 academic year in October 2005 the 12-month MEng programme was no longer offered. An overview of the Master Programmes and their Specialisations are presented in the table.

The participants in UNESCO-IHE originated from 69 different countries. In December 2006, the total number of registered participants came to 469 for the Master of Science and PhD programmes. The total number of MSc participants is shown in the overview table and more details on educational statistics are presented in annex 1.

Additionally, 333 participants attended UNESCO-IHE's regular and tailor-made short courses in 2006. Another 135 professionals were trained in the nine online courses, a substantial increase from 83 participants in 2005. Five regional refresher seminars were organised for alumni. In Burkino Faso the seminar dealt with 'Ecological Sanitation', in Mozambique a seminar on 'Flood Management' was offered, in Namibia the subject was 'Public-Private Partnerships', in India it was on 'Urban Flood Modelling and Disaster Management' and in Nepal the seminar was entitled 'Integrating environmental and Economic Aspects in Urban Infrastructure'. An overview of all short courses, online courses and refresher seminars is presented in Annex 2.

By the end of 2006, 68 research fellows were enrolled in the PhD programme. 11 PhD candidates obtained their PhD degree, two with distinction. An overview of PhD research is presented in annex 3.

In addition to the Delft-based programmes, UNESCO-IHE assisted partner institutes in Ghana, Palestine, Yemen, Zimbabwe, Kenya, Egypt and Colombia to deliver postgraduate education and training. Through various guest-lecturing assignments, UNESCO-IHE contributed to the education of professionals in an increasing number of countries.

By the end of August 2006 the Institute received official reports necessary for the continuation of accreditation of its Master Programmes, all indicating a positive outcome. These reports were the outcome of visits that took place the previous year by an independent review committee, organised by the Dutch-Flemish Accreditation Organisation (NVAO). In October, an official request was sent to the NVAO for accreditation of the four Master programmes. In November, the Municipal Water and Infrastructure programme was the first to receive formal accreditation by the NVAO.

The Self study committee (SSC), which guided the whole process towards the accreditation, drafted a final report on conclusions and follow-up mid 2006, in which the following recommendations were made:

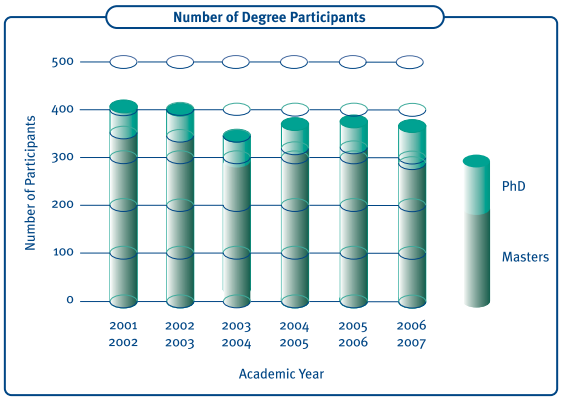
- the continuation of educational innovations;
- strict application of the quality control system;
- a discussion on the set-up of the WSE programme;
- the introduction of new specialisations and the closing of specialisations with small demand;
- the introduction of a Certificate of Postgraduate Studies for students who do meet the criteria for a full MSc degree.

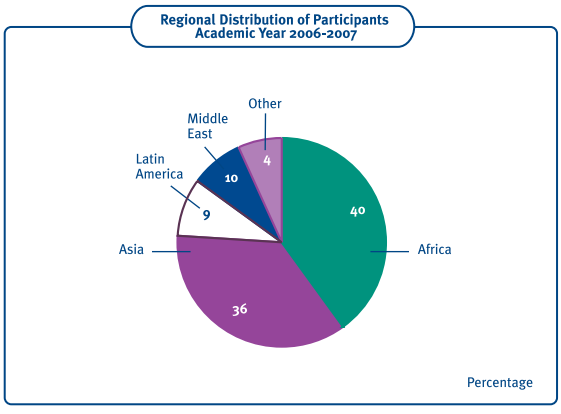
The Committee on Innovation in Education was installed in April, with the aim of developing a vision of the Institute's teaching and learning programmes, and a strategy document, to catalyse the realisation of this vision by 2012. The committee focused its attention on the following components:

- Life-long learning: education at UNESCO-IHE will provide opportunities for higher learning and learning throughout life. A shift is needed from teaching to learning which requires more self-regulated learning by the student and a coaching role by the teaching staff.
- Flexibility: education at UNESCO-IHE will provide flexibility with regard to access, content, breadth, depth and duration of its programmes, and means of delivery and examinations.
- Innovative delivery: the Institute will adopt new ICT approaches for the packaging of information for course delivery.
- Partners: progressively more programmes will be developed and delivered with partner institutions.
- Teaching and research: all educational programmes will be underpinned by research.

The committee presented its first conceptual report to the Academic Board at its November meeting. The Academic Board was unanimously convinced that the report presented the desired evolution of the Institute. The committee was asked to develop a more detailed implementation and budget plan.

In September 2006 the Institute organised summer courses for the first time. These one-week courses were open to all students for the Institute. Every student made a selection of one or two courses out of the 11 offered courses. The aim of these courses was to broaden the perspective of the student. The summer courses were perceived very useful by all involved and will be repeated in 2007.





CORE ACTIVITIES

RESEARCH

The Institute's three core research objectives are:

- To develop innovation, provide new knowledge, and promote the uptake of technologies and policies that will address the issues of the global water agenda, in particular the Millennium Development Goals.
- To seek, evaluate and facilitate responses for the sustainable management of water, to meet the needs of all sectors of society, particularly the poor.
- To develop and promote principles of good governance that drives institutional and management change, to support the sustainable management of water.

Research is a vital component of UNESCO-IHE's mission. In particular, the research activities of the Institute contribute to the overall knowledge base concerning the water environment, and therefore to its other prime activities of education and capacity building. After mature reflection, research results are fed into the syllabi of the Master Programmes, and a number of capacity building projects also benefit from research insights in knowledge management and developments in knowledge systems.

UNESCO-IHE continued to centre its research and development activities round five thematic thrusts: water security, environmental integrity, urbanisation, water management and governance, and information and communication systems as presented in detail in annex 5. Within the thematic thrusts framework each academic core establishes its own research agenda.

In 2006, the number of publications in peer-reviewed journals and the number of PhD students graduating increased from previous years, a clear indication that the scholarship of academic staff continues to improve. A significant number of the PhD students are funded from public and private sources, largely as a result of arduous networking activities. The majority of the research activities are funded through organisations such as the EC, World Bank, KIWA, Veolia, SUEZ, Global Water Research Coalition.

Research Outputs	Numbers 2005	2006
Journal articles	84	89
Books	7	7
Chapters in books	29	26
Paper in proceedings	87	70
PhD thesis	8	11
Other publications	16	9
Total	231	212

In early 2006, the Institute took the lead in a major European integrated project: SWITCH. This high profile project on integrated urban water management brings together 32 northern and southern partners and combines research, training and demonstration activities. During 2006, over 30 PhD's related to SWITCH initiated their programmes, and several international workshops and seminars were held.

During 2006, the Institute also contributed significantly to the 6th programme of UNESCO-IHP in the area of urban water management. In order to build on its growing reputation in the area of urban water management, the Institute aims to establish a cross-institute theme on urban water management in 2007.

A number of other projects were also secured within the second phase of Delft Cluster, covering topics such as integrated asset management, risk and uncertainty of urban infrastructure and anticipatory water management. In addition, UNESCO-IHE has played an active role in the development of a proposal for the establishment of a Top Technology Institutes programme for water technology (TTIW), and will participate in research projects within this programme from 2007.

During 2006 UNESCO-IHE submitted an application to SENSE, a research school focusing on environmental sciences. SENSE is accredited by Royal Netherlands Academy of Sciences (KNAW), and brings together excellent academic research groups (from eight universities). The application was successful and UNESCO-IHE will become a partner of SENSE by 1st January 2007, and all relevant PhD fellows at UNESCO-IHE will participate fully in SENSE from that date.

In 2006, UNESCO-IHE established a cross-institute theme on flood risk management in order to bring together several disciplines to address the issue of how to reduce the risk to individuals, society and the environment from flooding. In this regard the Institute is a contributor to the interagency IFI (International Flood Initiative) led by UNESCO. Several initial research lines have been identified and will be pursued in 2007.

In 2006, in the interest of improving the quality of research undertaken at the Institute, a Publication Review Committee was established. The findings of this committee are now being used to develop a 'publication protocol' that will encourage staff to publish their scientific outputs in higher impact journals. This protocol will be implemented in 2007, and coupled with AQA procedures for quality assurance of research. These improvements will prepare the Institute for the forthcoming research audit.

CAPACITY BUILDING

The total project turnover in 2006 was € 7.8 million. There was a substantial increase in research projects; 30% of all projects in 2006 were of this type, as compared to 14% in 2005. The complete overview of projects in which UNESCO-IHE was involved in 2006 is presented in Annex 4.

An important project started in 2006 was "Improving Municipal Wastewater Management in Coastal Cities in ACP Countries". This project, financed by the European Commission and UNEP, aims to improve skills, knowledge and attitudes needed in project identification, planning and financing at the municipal level in water, sanitation and wastewater management. It consists of 50 training courses in the ACP countries in the Western Indian Ocean (East Africa), West Africa, South Pacific and the wider Caribbean.

Early in 2006, a large EC financed project on integrated urban water management, entitled SWITCH, had its kick-off meeting in Delft. The 5-year project has a € 22 million budget to build capacity of local governments through the learning alliance approach. Another noteworthy development in 2006 was the acquisition of a tailor-made course on water supply and sanitation to the Nepalese department of water supply and sewerage. This six month training programme, financed by the Dutch NFP programme, combined training of engineers in Delft as well as in Kathmandu.

The second phase of the Nile Basin Capacity Building Network project started in 2006. The network was extended to Rwanda and Burundi by launching national nodes in these countries and in 2007 Congo and Eritrea will follow. International research themes were developed and have resulted in joint research activities between various countries within the network.

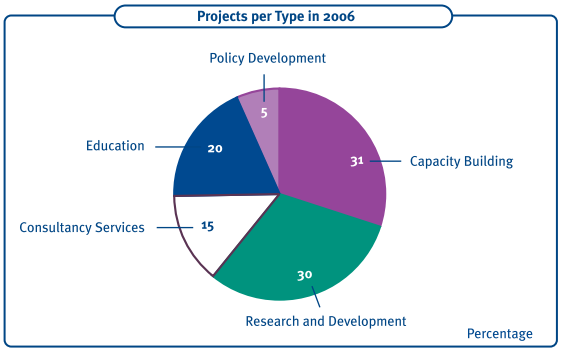
A course on Integrated Water Resource Management was delivered to high-level decision makers from the Nile Basin on request of the Applied training Project of the Nile Basin Initiative. This project can lead to follow-up projects in the near future.

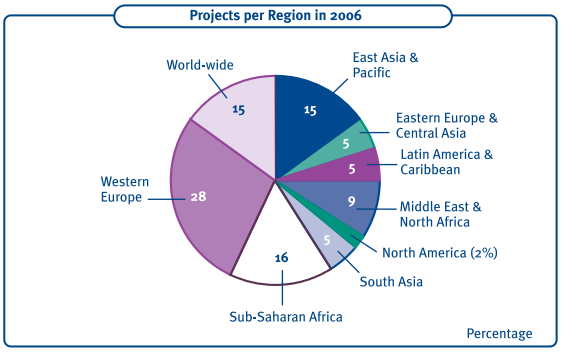
The main Dutch capacity building programme for the Institutional Strengthening of Post-Secondary Education and Training Capacities (NPT) remained the main financer of UNESCO-IHE's capacity building activities. The NPT Ghana project Capacity Building for Sustainable Development of Water Resources and Environmental Sanitation focused on the MSc programmes Water Resources Engineering and Management and Water Supply and Environmental Sanitation.

NPT WRIM Indonesia was initiated in early 2006 and includes 10 universities in Indonesia working together to improve their capacity on Water Resources and Irrigation Management to become leading training institutes for the Southeast Asian region. The major outputs in 2006 of this project were the establishment of the CKNet Knowledge Network on water resources and irrigation management, a training needs assessment in six regions and the online publication of a knowledge map with the expertise of regional universities and their experts.

Within the NPT WREM project in Rwanda the MSc programme on Water Resources and Environmental Management started with 23 participants. The interdisciplinary research group was launched in which staff, participants and professionals from the water sector collaborate.

A new NPT project in Western Guatemala took off at the end of 2006, targeting two NGOs and one university, enabling these institutions to provide training to municipal staff and authorities, technicians and secondary school students in the field of Integrated Management of Water Resources.





PARTNERSHIPS AND NETWORKS

Working in partnership has characterised the work of UNESCO-IHE in recent years. The PoWER partnership for water education and research completed its fifth year and its principles are increasingly integrated in the daily operations of the Institute. In March 2006, a comprehensive partnership model, based on the PoWER concept, was presented in Paris to UNESCO Member States. The new concept aims at a further intensification of the cooperation with institutions in the South, including the delivery of joint degree programmes, and calls for Member States to actively participate in the building of a 'powerful' global water education facility.

Established in 2002, the worldwide UNESCO-IHE Partnership for Water Education and Research (PoWER) plays a strategic role in the Institute's vision on how to mobilise and disseminate global and local knowledge for enhancing the capacity of the water sector through education and research. The Partnership is a global coalition of 18 universities and research institutes from 15 countries. The Partnership strives to develop and share innovative educational programmes under joint responsibility and conduct collaborative research. The development of online courses at the MSc level is an important component of the programme.

In 2006, PoWER developed 10 online courses (Annex 2), which are delivered in distance learning format, but are also part of the regular master programmes, tailor-made courses and workshops. The courses draw a wide range of interest and two more online courses are under development with various partners and financing arrangements.

The joint Master Programme in Hydroinformatics with Hohai University and the Nanjing Hydraulic Research Institute (China) entered its second academic year with a new intake of students. A similar joint programme is being developed with IIT Roorkee (India). PoWER started up 5 new collaborative research projects and supported 5 staff exchanges. Research projects concern 'water pricing', 'groundwater protection in urban areas', 'greenhouse gasses', 'small-scale UASB treatment' and 'water allocation'. In addition, the partnership also forms the nucleus for collaboration of staff of partner institutes in joint (capacity building project) activities of UNESCO-IHE in for example Guatemala, Rwanda, the Nile River Basin, the Mekong River Basin and Indonesia.

In 2006, the Partnership presented its programme for 2007-2011, with title "time to harvest", with objectives to further internationalise education, establish transfer of credits systems with partner institutes, enhance student mobility and staff exchange and enhance the relevance of global education by systematically incorporating local knowledge and experience.

Regional networks that received active support from UNESCO-IHE in 2006 are WaterNet, the IWRM capacity building network in Southern Africa; NBCBN-RE, the Nile Basin wide network for River Engineering closely linked to the Nile Basin Initiative; and CKNet, a grouping of 10 Indonesian universities aiming at joint development and exchange of water programmes.

With the start of SWITCH in 2006 (see chapter 'Research'), a new partnership of 32 institutions emerged. This cooperation involves universities, research institutes and municipalities in 13 different countries, together developing and implementing urban water management concepts for the city of the future.

In the Netherlands, the Institute further reinforced its networks. With Delft Cluster partners, research was undertaken in sustainable infrastructure development in densely populated delta areas. UNESCO-IHE was also actively involved in NCK (Netherlands Centre for Coastal Research), NCR (Netherlands Centre for River Studies) and the WetCap partnership for wetland capacity building. The Institute is one of the founding members of the Boussinesq Centre for Hydrology (see the section 'bilateral agreements'). The cooperation with Wetsus on the establishment of a Top Technological Institute for Water is ongoing. Initial comments received from the Netherlands Government were positive.

The UNESCO-IHP Intergovernmental Council adopted a resolution calling for the development of an efficient partnership among the various actors engaged in freshwater issues in UNESCO. This concerns in particular UNESCO-IHP, UNESCO-IHE, and the water-related UNESCO Centres and Chairs. A strategy will be developed in 2007, giving more clarity on the potential coordinating role of UNESCO-IHE in water education and capacity building.

BILATERAL PARTNERSHIPS

UNESCO-IHE has bilateral partnership agreements with more than 25 public and private organisations in support of shared interests in education, research and capacity building. The following agreements were signed in 2006:

Boussinesq Centre for Hydrology

Partners: Wageningen University, TU Delft, ITC, University of Utrecht
Signed: March 2006
Goals: Establishment of the "Boussinesq Centre", a virtual centre promoting cooperation in the field of Hydrology. The centre stimulates joint research among the members, organises specialised courses, and catalogues hydrological research in The Netherlands.

The Coca-Cola Company (TCCC)

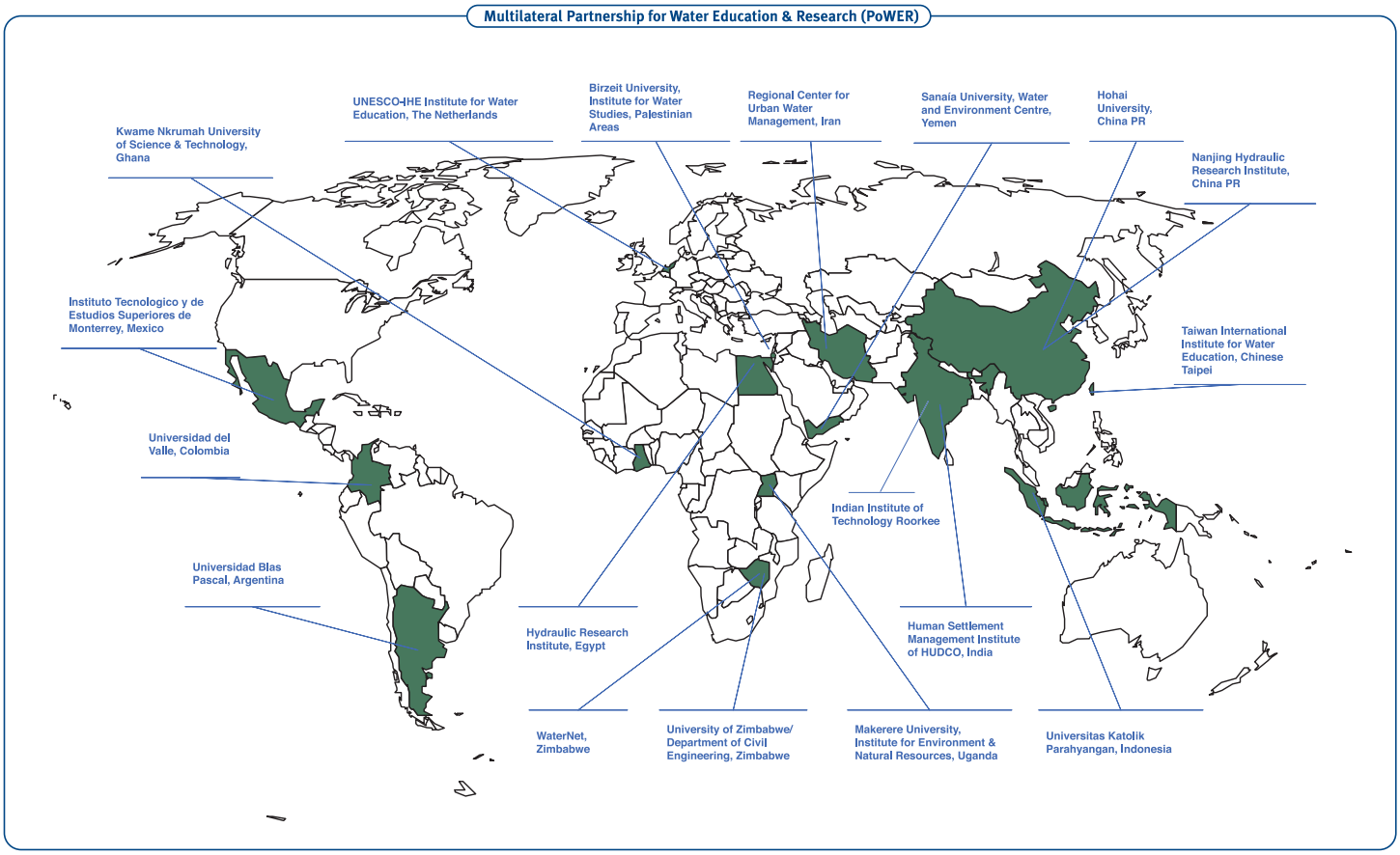
Signed: September 2006
Goals: Sponsoring of MSc and PhD fellowships by TCCC, training of TCCC staff, joint research, guest lecturing by TCCC staff, field trips to TCCC sites.

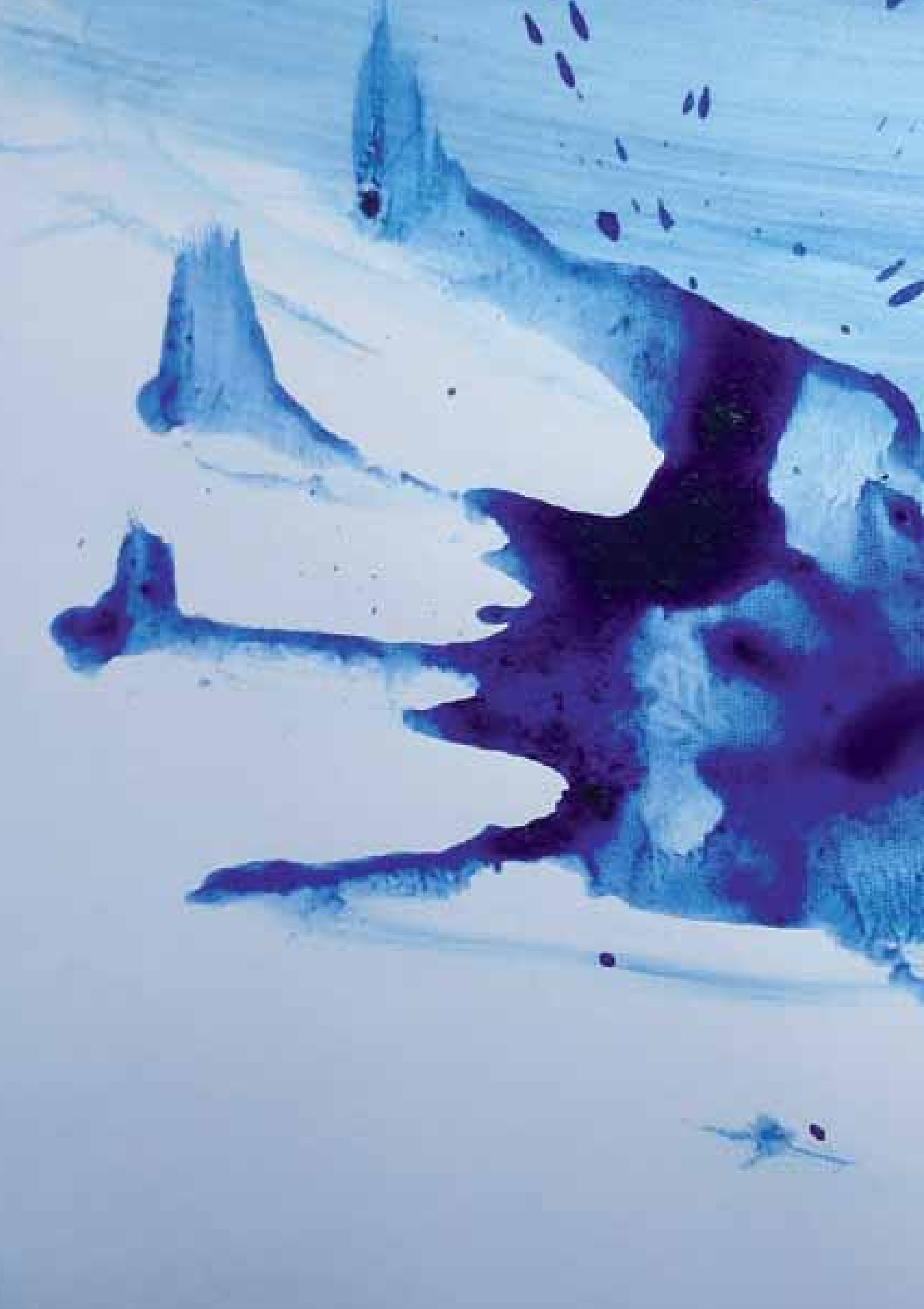
Unie van Waterschappen (Union of Water Boards)

Signed: November 2006
Goals: Making knowledge of Water Boards available to professionals in the water sector through cooperation in research (MSc and PhD), tailor-made training and capacity building. Water Boards aim at learning from water management experiences in other countries through UNESCO-IHE staff, students and partners. Activities may comprise staff exchange, guest-lecturing, joint research, field trips to sites of the Water Boards, and joint capacity building projects. The Unie van Waterschappen will stimulate individual Water Boards to sponsor MSc students at UNESCO-IHE.

Universidade de São Paulo (USP)

Signed: December 2006
Goals: Research cooperation, in particular exchange of PhD students, joint delivery of short courses and joint implementation of CB projects. Possible future membership of PoWER.





THEMATIC DEVELOPMENTS

THEMATIC DEVELOPMENTS

WATER SECURITY

Water security deals with the development and management of a sustainable balance between water availability and water demand. It involves protection against water related hazards (floods and droughts), wise use of water resources and the safeguarding of water functions and services. UNESCO-IHE is working towards these goals through integrated water resources management, integrated urban systems management, conflict management and participation in adaptation programmes related to water and climate change.

The Master Programme in Water Science and Engineering offers five specialisations: Hydrology and Water Resources, Hydraulic Engineering and River Basin Development, Hydraulic Engineering – Coastal Engineering and Port Development, Hydraulic Engineering – Land and Water Development, and Hydroinformatics. In 2006, 88 participants received their MSc diploma and 82 new participants were admitted to the programme.

Trans-boundary surface or sub-surface water resources can either catalyse development on a bi-national or sub-regional basis or lead to competition and even conflict. Regional agreements which focus on shared responsibility and investment can help nations avert conflicts and related water security issues. In 2006, UNESCO-IHE continued work in trans-boundary water sharing projects in the Middle East, the Nile Basin and Central Asia. Key notes on this subject were delivered to NATO advanced research workshops in Almaty in June and Istanbul in November.

In the Middle East, UNESCO-IHE continued support to the EXACT projects with the aim to jointly monitor and manage scarce water resources in the countries of the Jordan Basin. UNESCO-IHE teams were involved in delivery of a water supply facility near Jericho, a ground water recharge project near Nablus and development of a decision support system for water allocation and water re-use in the Middle East region. These projects are implemented in cooperation with the Water Authority of Israel, the Ministry of Irrigation of Jordan and the Palestine Hydrology Group.

In 2006 the cooperation with the Ministry of Water Resources of Iraq continued and 10 new participants started the 2006-2008 MSc Programme and 10 participants will finalise their studies in 2007. Cooperation with Iraq will be continued in 2007, when an international conference on the restructuring of the water and energy sector of Iraq is planned with the assistance of UNESCO-IHE.

For the coming years funds have again been acquired for continued support to the Nile Basin Capacity Building Network for River Engineering, and to the Nile Basin Initiative. This project is making important contributions to research and capacity building for integrated water resources management in 10 countries in East Africa and the Nile Basin. Implementation of new research projects with 7 research clusters will start in 2007.

In 2006 the water and climate related research and education programme took off with new research and training activities. UNESCO-IHE staff participated as a guest lecturer in the "JICA Regional -Focused Training course on Flood Hazard Mapping (FHM)", organised by ICHARM, Japan. ICHARM staff participated in the much appreciated new summer course on water and climate in August. The task force Water and Climate is working in very close cooperation with RIVM, RWS-RIKZ and the Cooperative Program on Water and Climate. Related projects include research work for further development of the Flood Vulnerability Index (FVI) and the post Hurricane Katrina research project on Storm Surge Modelling and Coast Line Stability that is done in cooperation with LSU, USACE and USGS.

ENVIRONMENTAL INTEGRITY

Environmental integrity addresses the balance between human development and the quality of the environment. Central issues of concern are the efficient, equitable and sustainable allocation and use of natural resources, pollution prevention and control and wise use of aquatic ecosystems. In 2006, UNESCO-IHE paid increased attention to the implications of climate change for water management - among others through the interdepartmental summer course 'Climate change in integrated water management'. Another interdepartmental activity was the formation of the working group 'Environmental Water Allocations', which aims at coordinating and harmonising issues related to environmental flows.

The Master Programme in Environmental Science offers four specialisations: Environmental Science and Technology, Environmental Planning and Management, Limnology and Wetland Ecosystems, and Water Quality Management. In 2006, 28 Participants received their MSc diploma and 50 participants were admitted to the programme.

Besides the regular educational programme, in 2006 a number of tailor made trainings were offered on water management in the Konya basin (Turkey), environmental water allocations (Mexico), municipal wastewater management (Guam, Papua New Guinea, Saudi Arabia, and Egypt) and wetlands for poverty reduction (Senegal and Kenya). The modules 'Integrated River Basin Management', 'Wetland Management' and 'Wetlands for Water Quality' were offered as an online course.

In 2006, five PhD fellows graduated under the Environmental Integrity theme: Udomlock Thampanya with a thesis entitled 'Mangroves and sediment dynamics along the coasts of southern Thailand', Esi Awuah with a thesis entitled 'Pathogen removal mechanisms in macrophyte and algal waste stabilisation ponds', Julius Kipkemboi with a thesis entitled 'Fingerponds: seasonal integrated aquaculture in east African freshwater wetlands-exploring their potential for wise use strategies', Rose Kaggwa with a thesis entitled 'Fingerponds: managing nutrients and primary productivity for enhanced fish production in Lake Victoria's wetlands, Uganda' and Nicholas Azza with a thesis entitled 'The dynamics of shoreline wetlands and sediments of northern Lake Victoria', for which he received a degree with distinction.

The European INCO research project 'The dynamics and evaluation of fingerponds in east African freshwater wetland ecotones using appropriate fish production techniques' was successfully closed with a workshop, a number of publications and practical guidelines for constructing and operating fingerponds. The DC project 'Roads and Floods in the Mekong', carried out with WWF and the Mekong River Commission, aims at developing design criteria for road construction in floodplains. Visits were made to Cambodia and Vietnam to introduce the project to the National Mekong Committees, to collect data and to prepare flood surveys. The Asia Link project 'Human resources development for the improvement and protection of environment in Asia' started with a kick-off meeting in Tianjin. The project intends to disseminate principles of green design and pollution prevention and to increase the environmental knowledge of students, university staff members and engineers in China and India.

The NPT capacity building project 'Establishment of an MSc Programme in Water Resources and Environmental Management at the National University of Rwanda' resulted in the launch of the MSc programme in May with 23 participants. The first PhD candidate started his research with the water and environment sector in Rwanda were strengthened for future cooperation. The NPT project 'Training and capacity building for integrated water resources management in West Guatemala' was reformulated and received final approval from Nuffic.

THEMATIC DEVELOPMENTS

URBANISATION

The rapid pace of urbanisation exerts enormous pressure on the local environment and on available resources and generates a high demand on infrastructure services such as water supply and sanitation. Both technological and integrated approaches to human settlements infrastructure services provision and management are important aspects of urbanisation. Under this theme, UNESCO-IHE deals with analysis and design of urban infrastructural systems, related to drinking water treatment & distribution and sanitation (sewerage, waste water treatment, drainage and urban flooding) at scales ranging from large communities to cities, including peri-urban areas.

The Master Programme in Municipal Water and Infrastructure offers three specialisations: Water Supply Engineering, Sanitary Engineering and Integrated Urban Engineering. 26 participants received their MSc diploma and 41 participants were admitted to the programme.

Several research projects were continued such has EC-Reclaim, EC-Eurombra, EC- Techneau, EC-SWITCH and Delft Cluster. A few new projects were awarded in 2006, including EC-Medina. UNESCO-IHE activities in TECHNEAU were focused on two main work areas: Membrane Technology for Water Treatment, and Knowledge Management and Dissemination. In the prior work area the main activities included integrated understanding of compound properties, membrane properties and operational conditions on removal of organics and fouling. This study is being carried out in close cooperation with KIWA Water Research, The Netherlands (Analysis) and a PhD study funded by the Delft Cluster Project. In the Delft Cluster project 'Water Quality in the 21st Century', UNESCO-IHE is involved in the topic 'water quality in distribution systems'. It involves 5 MSc research studies, of which two were carried out in 2006. The topics of their study were water quality modeling in distribution networks, and handling particle counting data in the monitoring of water quality changes.

Seven new PhD participants started their research at UNESCO-IHE under the research lines 'urban water and sanitation' and 'sustainable urban infrastructure systems'. The research activities under the Urbanisation theme are developing very well with continuation of existing activities such as arsenic removal, membrane technologies & waste water treatment, and new developments such as risk analysis of water networks and urban flood resilience.

A 12-week tailor-made training dealing with water supply and sanitation was carried out in Nepal and the Netherlands. Several short courses, tailor made training and refresher seminars were also organised: membrane technology (Delft and in Oman), advanced treatment processes (Taiwan of China and South Africa), advanced course on waste water treatment design and course on water transport and distribution (Korea), ecological sanitation (Burkina Faso), integrated urban infrastructure (Nepal), water quality control in water supply (Delft), flood resilience (Montenegro and Delft). The online course in water transport and distribution was successfully delivered twice.

The Institute reinforced and expanded its presence in capacity building projects in Africa. The capacity building programme for sustainable development of water resources and environmental sanitation in Ghana and the sub-region continued, supporting the the Kwame Nkrumah University of Science and Technology (KNUST-Kumasi).

Preparation work has been carried out to implement the training and capacity building component of the UN-Habitat Managing Water for Africa cities programme and Lake Victoria Initiative (dealing with a total of 24 cities in Africa). The UN-Habitat/UNEP Sustainable Cities Programme continued, strengthening environmental planning and management through demonstration projects. Last, but not least, in the framework of the EXACT-project, the Aqbar Jaber drinking water treatment plant in Jericho, designed by UNESCO-IHE, has been put into operation.

Several conferences and workshops were organised, such as the Association of Environmental Engineering and Science Professors (AEESP) Distinguished Lecturer Series and the UNESCO-IHP workshop on integrated urban water systems interactions.

WATER MANAGEMENT AND GOVERNANCE

The Water Management and Governance theme specialises in the broad field of integrated water resources management (IWRM) as well as water services management. The specific aim is to build capacity for sustainable management and wise use of water and environmental resources, to contribute to the delivery of water and sanitation services, and hence to the creation of access to safe and affordable water. The theme covers the linkages between the biophysical dimension of the water resource and the social-institutional dimension. Further emphasis is given to the analysis and implementation of policies and strategies aimed at the delivery of water and sanitation services. Different institutional levels are addressed ranging from local (urban and rural) users up to the level of cross-boundary international river basins. Dealing with these themes is inherently cross-cutting, integrating and multi-disciplinary and is encompassing both bottom-up and top-down approaches.

The following sub-themes were addressed:

- The global imperative of good governance, since it is being realised that water crises are often crises of governance;
- The involvement of the private sector, and private capital, in water services provision. Given the inherent monopolistic character of such services, this requires innovative institutional and regulatory arrangements;
- The increasing scarcity of the water resource and the need for increased allocation efficiency and demand management;
- The impact of climate change on water users and water using activities;
- Conflict prevention, mediation and resolution.

For the last two sub-themes interdisciplinary task groups became operational. The groups are composed of specialists from various research institutions from the North and South. Research and education activities were undertaken in all sub-themes.

The Master Programme in Water Management offers three specialisations: Water Resources Management, Water Services Management and Water Quality Management. Some 29 participants received their MSc degree and 28 participants were admitted to the programme. Three modules of the Master Programme were offered as an online course, and seven modules could also be followed separately as a short course. Five PhD fellows received their degree under this theme, and another 7 PhD participants continued their research in 2006.

In 2006, an appreciation course for decision makers in the field of IWRM was designed and conducted in Cairo in conjunction with the Nile Basin Initiative. Tailor made short courses in IWRM, conflict resolution, public private partnerships and water governance were conducted in Syria, Peru, Ecuador, Namibia and Burkina Faso respectively.

The Water Mill project provided MSc level training for water specialists in topics that are specifically oriented towards the water-related targets of the MDGs. Special seminars and dedicated course modules were designed and offered to Water Mill students. Students from the first batch (of three) presented their MSc research findings during the 4th World Water Forum in Mexico in March 2006.

The second phase of the WaterNet programme was initiated in 2006, and is now heading for self-governance, with financial contributions from SIDA (€ 2,7 million) and the Dutch Government (€ 2,5 secured and another € 2,5 million in prospect). The financial situation is secured and fosters continuity in the WaterNet programme for another 4 years. The WaterNet Association counts some 40 member institutions, of which 10 are actively involved in postgraduate IWRM education. In 2006, core educational programmes were running in Zimbabwe and Tanzania, and specialisations were taught in South Africa, Namibia and Malawi. The network of WaterNet universities and knowledge institutions gained strength in research and generated substantial knowledge about the water resources in southern Africa. WaterNet is recognised by SADC, the Southern African Development Community. A new WaterNet Trust was formed and this organisation will be the custodian of all operations including managing donor support.

INFORMATION AND COMMUNICATION SYSTEMS

The educational and research activities in the thematic area of Information and Communication Systems promote effective use of ICT in various aspects of water management, data monitoring and acquisition, computer-based modelling, and knowledge-based systems for integrated water resources management. In 2006, the Hydroinformatics specialisation was offered as a part of the Master Programme in Water Science and Engineering. Twenty-one participants received their MSc diploma and 19 participants were admitted to the specialisation. Eight water professionals from different Nile Basin countries received funding from the Nile Basin Initiative to participate in the 2006-2008 Hydroinformatics specialisation. They will acquire skills for the development of models as components of a decision support system for Water Resources Planning and Management.

In 2006 UNESCO-IHE continued with the joint Master Programme in Hydroinformatics offered in partnership with Hohai University in China. Five students from the first batch of this programme started their MSc research projects with the support of WL Delft Hydraulics. In October 2006, four students from the second batch started their first semester at Hohai University in Nanjing. In January 2007 they will continue with the programme in Delft. In 2006 negotiations took place with the Indian Institute of Technology (IIT) in Roorkee, India, to join the International Programme.

UNESCO-IHE made significant progress in developing and providing online education in coordination with its partner institutes. Ten online courses were given, and the total number of participants in 2006 increased to 135. A new initiative was taken to promote the open-source modelling software "Soil and Water Assessment Tool" (SWAT). This incorporated facilities for catchment hydrology, agricultural management and environmental assessment. UNESCO-IHE provided new developments of SWAT for the USDA-ARS project "Effects of Conservation Practices on Soil and Water Resources in the Leon River Watershed". The Institute organised a 5-day SWAT summer school that attracted 40 participants representing 19 nationalities.

In the framework of the Delft Cluster Research Programme UNESCO-IHE was involved in several projects. 'Morphodynamics of North Sea and Coast and Coastal defences,' complemented Delft 3D modelling system with data-driven models. 'Safety against Flooding' developed computational intelligence techniques to be integrated with existing hydrological models. 'Management of hydrological extremes' developed a water level forecasting system that uses ensemble precipitation forecasts. 'Integrated urban water management' addressed the integration of water quantity and quality requirements. UNESCO-IHE also participated in several EC projects. In FLOODsite the focus was on developing new uncertainty analysis frameworks to be used in flood risk management. Hydroplan EC was completed in 2006, and focussed on tools for asset management of water distribution and sewerage networks. The Institute was involved in optimising the structural and hydraulic performance of a piped network using multi-criteria approaches.

Through the St Maarten (see picture) storm water modelling project UNESCO-IHE developed an integrated storm water management information system to evaluate and implement appropriate structural and non-structural measures. Interactive animations of flood behaviour assist in the production of disaster management plans and in real-time flood warning systems. The use of digital flood GIS maps and their transformation into broadcast cell phone messages directed to specific geographical areas was investigated in the context of a flood warning system.

As part of its core activities UNESCO-IHE continued to empower its partner organisations through several regional, ICT supported partnerships. The CKNet-INA knowledge network in Indonesia (established in 2005) facilitates the collaboration of ten leading universities in the field of water, infrastructure and environmental management. In 2006, a (digital) knowledge map of the network's members and their expertise was established, and a dialogue started with the water sector through a Training Demand Assessment in six administrative regions of Indonesia.

UNESCO-IHE took the responsibility for Chapter 13, "Enhancing knowledge and capacity", of the 2nd World Water Development Report (WWDR-II). The report was presented at the 4th World Water Forum in Mexico City on 22 March 2006.

ORGANISATIONAL DEVELOPMENTS
FINANCIAL REPORT
FELLOWSHIP TRUST FUND

ORGANISATIONAL DEVELOPMENTS

PERSONNEL AND ORGANISATION

On 31 December 2006, staff equalling 145 fulltime-equivalent (fte) were employed by UNESCO-IHE, of whom 54% are academic and 46% supporting staff.

The academic department of Municipal Urban Infrastructure changed its name to Urban Water and Sanitation.

Per January 2006 new Dutch legislation and regulations took effect, which were translated to P&O policies at the Institute. These included the new health insurance act, child care policies, life span account, pension regulations, and unemployment benefits.

New policies initiated internally were the disciplinary policy, flexible working hours, the new absenteeism and reintegration policy, and the accompanying managers training. UNESCO-IHE's Staff Development and Appraisal System continues to be work in progress.

ICT DEVELOPMENTS

The possibility to reorganise UNESCO-IHE's storage and back-up systems were explored. A plan was developed and will carried out in 2007.

After an evaluation, the Institute's decided to switch their IBM software supplier. A new supplier was selected for further discussions.

The position of ICT Support Specialist was created, aiming to close the gap between the helpdesk and expert support. This new position focuses on 2nd line ICT-support and the functioning of the peripherals in the office network environment.

In 2006 terms of reference for the new UNESCO-IHE website were developed, and ICT support was given to implement a financial management system for the SWITCH project.

STUDENT AND EDUCATIONAL AFFAIRS

Due to the abolishment of the MEng programme, a growing number of the Institute's participants reside in the Netherlands simultaneously. This caused the need for expansion of housing possibilities, and in 2006 additional accommodation was found in Rijswijk.

A vision for the library was developed, a strategic plan prepared, and new services, mainly online subscriptions to scientific journals and other electronic resources, were put into operation. A visit to UNESCO HQ proved to be very successful in acquiring access to new sources of information.

Throughout the year, social evenings with international themes were organised, where participants performed and introduced their culture to fellow participants, staff and friends. Social excursions this year included trips to the Italy, Belgium and Paris. In March, participants actively participated in the International Education Sports Day at which ten International Institutes were present to compete for the challenge cup.

FACILITY MANAGEMENT

At the end of 2005, Fokkema Architects presented a detailed design for the central hall and the surrounding areas, which was constructed in the second half of 2006. The reconstruction also included the introduction of a security system, maintaining an accurate list of those present on our premises in case of an emergency.

Within the framework of ecological sanitation, UNESCO-IHE purchased and installed 11 water free urinals and one dry urine-diversion toilet. The Institute uses about 3800 m3 of water annually, of which about 50% is used for sanitation. With the water free urinals, UNESCO-IHE will reduce its total water use by about 17%.

In 2006, UNESCO-IHE faced constraints with regard to the amount of required office space. Apart from its main premises, UNESCO-IHE rented a floor in the Torenhoven building in Delft to accommodate PhD fellows, and also used a separate building at Westvest 5 to house the Management and Institutions Department (MAI) on a temporary basis. A dialogue was started with IRC on the requirements for leaving their offices before the end of their contract on the 1st of January 2009, with the aim to again accommodate the PhD fellows and MAI staff in the main building.

COMMUNICATION AND MARKETING

The World Water Forum IV in Mexico City presented a major opportunity for communication and networking. UNESCO-IHE, together with its partners IRC, Cap-Net, CPW and Streams of Knowledge coordinated the theme 'Capacity Development and Social Learning'. The Institute convened two topical sessions on 'new tools for education and capacity building to achieve the MDG's', and on 'capacity development in the irrigation and drainage sector', and delivered five courses in the Learning Centre. The Institute shared a booth at the World Water Fair with UNESCO-IHP and WWAP. UNESCO-IHE's Director, Prof. Richard Meganck, addressed the Ministerial Conference with a presentation of the findings on Capacity Development and Social Learning.

In March 2006, UNESCO-IHE presented a new partnership model at the Strategic Roundtable on the Future of UNESCO-IHE. This event was co-convened by Mr. Matsuura, the DG of UNESCO, and Mrs. Van Ardenne, the Netherlands Minister for Development Cooperation. Together, they called upon Member States to build a global coalition for water education and capacity building.

Much of the marketing efforts focused on the promotion of the Master Programmes and the online courses. A new series of brochures was designed and introduced in the summer of 2006. Terms of reference were developed for rejuvenating the Institute's website, which will be launched in June 2007. These, and other marketing efforts, lead to high numbers of applications for the MSc programmes; about 1400 for the four programmes. Progress was made in the number of online students: 135 students in 2006 versus 83 in 2005.

The PACT Cultural Committee continued promoting the UNESCO-IHE Fellowship Trust Fund for the second consecutive year. Thanks to its Cultural Ambassadors, UNESCO-IHE had the chance to raise awareness on global water issues and the need for qualified professionals at various events and performances. A special occasion was the OdeGand, a full-day cultural event organised in the framework of the Festival of Flanders. Slagerij van Kampen accepted to become a Cultural Ambassador of the Institute in 2006.

In anticipation of the 50th anniversary of UNESCO-IHE in 2007, a calendar of events was developed and a start was made with the organisation of the main activities, including a symposium, a sports event, cultural performances and an anniversary party.

FINANCIAL REPORT

UNESCO-IHE operations in 2006 showed an increase in both income and expenditures compared to 2005. The total turnover was over € 24 million. The operational result presented a deficit of € 68,000 versus a € 58,000 surplus in 2005. In relation to the turnover, the operational result declined from plus 0.2% to minus 0.3%.

INCOME

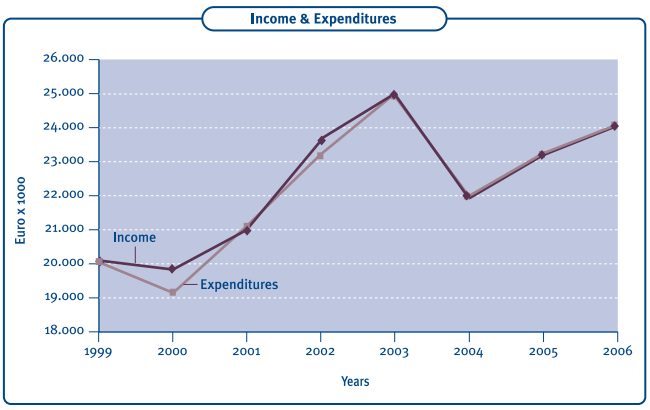
The income of the Institute derives from three major sources: the subsidy of the Ministry of Education, 'tuition fee' and 'projects'.

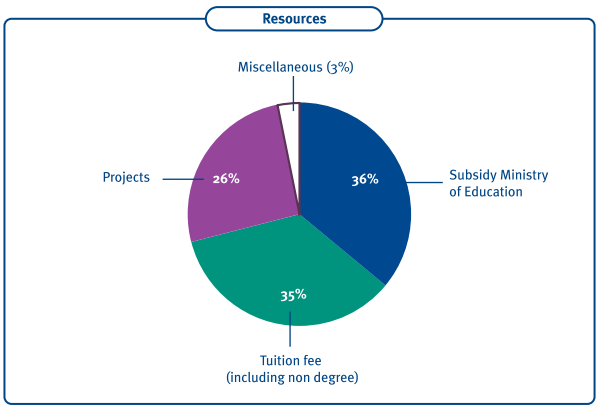
The subsidy from the Ministry of Education was increased at a rate below inflation, as the Dutch government applied an 'efficiency factor' to all higher education institutes. The tuition fee income increased by 7%, as a result of a significant raise in the student stipend. The project income in 2006 was marginally lower than in 2005 (<1%). Because the direct project costs were about 5% lower than in 2005, the project fee income increased by 8%. The top 10 projects SWITCH (EC), PoWER (DGIS), Yellow River SMFF (ORET-DGIS), NPT-Indonesia (NUFFIC), Exact (DGIS), Waternet (DGIS), China Groundwater (ORET-DGIS), KNNB-NBCBN Nile Basin-RE (DGIS), NPT-Rwanda and NPT-WRESP Ghana (NUFFIC) accounted for 35%, and the Delft Cluster projects (15) for 14% of this fee income. Other income included rental of office space and student housing to third parties. This was considerably more (49%) compared to 2005, also due to donations to the Fellowship Trust Fund of € 89.094, by Coca Cola (€ 62.983), FHI/Het instrument (€ 25.000) and several other sponsors.

EXPENDITURES

A distinction is made between programme and non-programme expenditures. Programme expenditures directly relate to outputs of the Institute, while non-programme expenditures concern indirect or overhead costs. Programme expenditures are fully linked to the items mentioned in the income section. There was a modest increase in the non-programme expenditures as a consequence of higher staff and management costs and general costs.

The staff and management costs were influenced by the regular salary increase of 1.6%, in line with the general trend at Dutch universities, an increase in social security costs, an increase of 1% in the year-end bonus, an increase of the number of staff from 144.6 fte in 2005 to 145 in 2006, and an increase in seconded staff. General costs increased sharply because of a large amount of long outstanding payments due, which lead to an increase of the reservation of uncollectible debts and an increase in hired external services (consultancy). As in 2005, the Fellowship Trust Fund paid for fellowships for the research component of 17 MSc participants. Education related costs did not deviate from 2005. Although the costs for student housing increased significantly (14%) but was compensated by more rental income and the absence of costs of accreditation. The costs of buildings did not deviate much compared to 2005. Lower costs of facilities were achieved because of less maintenance and operational costs. Acquisition and Marketing costs include an reservation set aside for the 50th anniversary of the Institute in 2007, the participation in the 4th World Water Forum conference in Mexico. The income from interest was about 10% less, due to delayed pre-payments from fellowship programmes.





BALANCE SHEET

The balance sheet shows a proportion of 11/89 between equity and borrowed capital (solvency 11%). This is lower than in 2005 and 2004 (2005:14%; 2004: 16%) due to the sponsoring of MSc fellowships from the Fellowship Trust Fund and the lack of a substantial (>4%) financial surplus. The borrowed capital includes the provision and the current liabilities. In the current liabilities reservations were made for leave hours, holiday bonuses and the costs of one lease term. The provisions are for building maintenance and redecoration. The current ratio is 1.09 (2005: 1.18; 2004 1.20), which means that on the short term the Institute is creditworthy. For the long term sustainability of the Institute our policy will be to increase the financial reserves.

STATEMENT OF INCOME AND EXPENDITURES (amounts in €000s)

	2006		2005	
Income				
Subsidy Ministry of Education	8,671		8,581	
Tuition Fee	6,969		6,511	
Projects	7,820		7,850	
Others	617		413	
Total income		*24,077*		*23,355*
Programme expenditures				
Tuition Fee (stipends, guest lecture, etc.)	4,973		4,328	
Projects	4,920		5,164	
Total programme expenditures		*9,893*		*9,492*
Non-programme expenditures				
Staff and Management	9,567		9,175	
Buildings	2,192		2,185	
Facilities	956		1,022	
Education related costs	1,310		1,311	
Acquisition and Marketing	207		216	
General Costs	258		129	
Interest	-176		-195	
Total non-programme expenditures		*14,314*		*13,843*
Overall result		**-130**		**20**
Appropriations Fellowship Trust Fund		62		38
Operating result		**-68**		**58**

BALANCE SHEET (amounts in €000s)

	31 DECEMBER 2006		31 DECEMBER 2005	
Assets				
Fixed assets	2,143		1,513	
Accounts receivable	5,917		4,516	
Cash and banks	9,430		7,803	
Total		*17,490*		*13,832*
Equity and liabilities				
Equity	1,445		1,513	
Fellowship Trust Fund	392		454	
Provision	1,531		1,443	
Current liabilities	14,122		10,422	
Total		*17,490*		*13,832*

N.B. Preliminary figures

FELLOWSHIP TRUST FUND

With the main goal of collecting money for the Fellowship Trust Fund, 12 of UNESCO-IHE's participants had the opportunity to talk about water challenges and the Institute's activities with visitors of the Festival van Vlaanderen-Ode Gand, which took place in Ghent in September. One of the biggest festivals in Europe, The Festival van Vlaanderen is a three-week music and dance festival that attracts between 20,000 – 30,000 people.

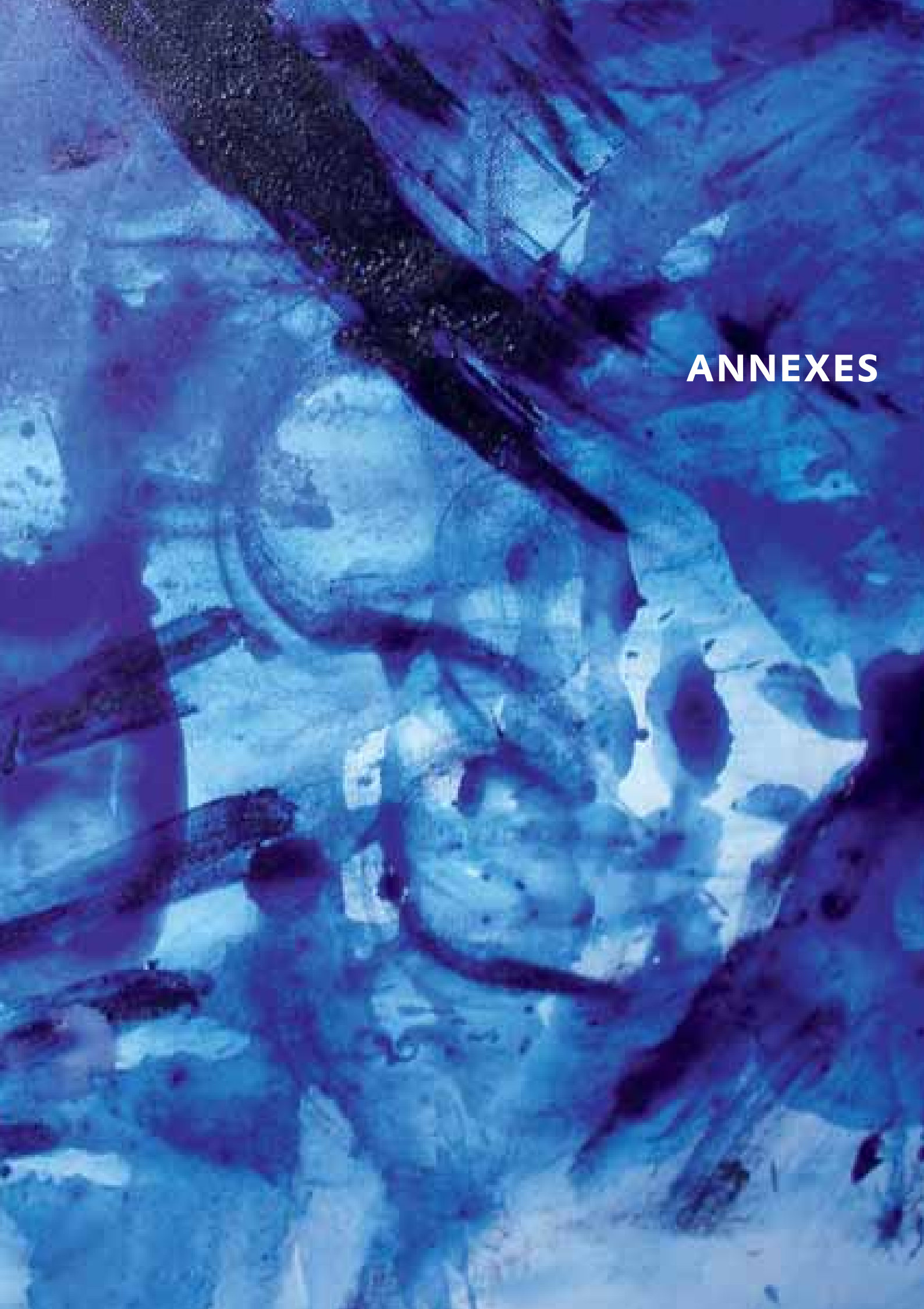
The UNESCO-IHE Fellowship Trust Fund (FTF) was created to raise funds from private and public organisations, companies, alumni and other (individual) benefactors for partial or full sponsorship of an individual's study at UNESCO-IHE. This support enables water professionals who possess the intellectual stamina and ability, but lack proper financing to receive postgraduate education at UNESCO-IHE. Every contribution is directed towards its equivalent value in terms of output.

In 2006, the FTF provided financial support to 19 students: ten from Africa, seven from Asia, one from the Middle East and one from Latin America. The name and country of origin of the students are listed in the Financial Statement below. All nineteen students started an MSc study in October 2005, and are expected to receive their MSc degree in April 2007. The Fellowship Trust Fund financed the research component of their studies.

In 2006, FHI/Het Instrument and The Coca Cola Company became new donators to the FTF. FHI/Het Instrument raised funds at the occasion of their 25th anniversary, while Coca Cola pledged their contribution in the framework of a longer term cooperation agreement with UNESCO-IHE signed in 2006. The Dutch Province of Zeeland generously offered to provide sponsoring for a full MSc fellowship. This will become visible in the financial statement 2007. The PACT Cultural Committee continued its efforts to bring the FTF under the attention of the general public. Dissemination was among other steps taken at the occasion of the ODE-Gand festival, a full day cultural event in Gent, Belgium. The awareness campaign was again supported by the Cultural Ambassadors of UNESCO-IHE, who are listed in Annex 7.

FINANCIAL STATEMENT FELLOWSHIP TRUST FUND
(amounts in €)

Fund on 1 January 2006		*454,180*
Donations		
Coca Cola	62,983	
FHI/Het instrument	25,000	
Olbina	996	
Other donations	115	
Interest	8,850	
Total		*97,944*
Fellowships		
Md Nabiul Islam, Bangladesh	12,151	
Hanington Ochieng, Uganda	11,256	
Kencho Namgyal, Bhutan	7,998	
Luz Andrea Silva Restrepo, Colombia	7,998	
Mohammed El-Sayed Mohammed Mahgoob, Egypt	7,998	
Joseph Amankwa Baffoe, Ghana	7,998	
Rohini Prasad Devkota, Nepal	7,998	
Ajani Adewale Michael, Nigeria	7,998	
Godwin James Ikpe, Nigeria	7,998	
Mário Neves Gonçalo Chilundo, Mozambique	7,998	
Daudi Maina Nyamu Kamau, Kenya	7,998	
Amie Tenorio-Rabang, Philippines	7,998	
Cecial Adhikari, Nepal	7,998	
Yitbarek Kifle Yitbarek, Ethiopia	7,998	
Dejen Zeleke Agide, Ethiopia	7,998	
Godwyll Ekow Quansah, Ghana	7,998	
Tuan Dobar Yos Simanjuntak, Indonesia	7,998	
Onuh Onuh, Nigeria	7,998	
Liyanage Rohan Harshajeeva Perera, Sri Lanka	7,998	
Total		*159,373*
Fund on 31 December 2006		*392,751*



ANNEXES

ANNEX 1 | **EDUCATIONAL STATISTICS**

REGISTERED PARTICIPANTS FOR THE ACADEMIC YEAR 2006-2007

	SOURCE OF FUNDING			REGION OF ORIGIN					GENDER		TOTAL
	Full NFP	Co-financed NFP	Other	Africa	Asia	Latin America	Middle East	Other	Female	Male	
MSc programmes *(taught part)*	**40**	**63**	**99**	**89**	**70**	**15**	**22**	**6**	**59**	**143**	**202**
- Water Science and Engineering	14	15	53	28	32	10	12	0	21	61	**82**
- Water Management	7	8	13	10	13	0	1	4	7	21	**28**
- Environmental Science	17	16	17	28	13	4	5	0	21	29	**50**
- Municipal Water and Infrastructure	2	24	16	23	12	1	4	2	10	32	**42**
MSc programmes *(thesis part)*	**8**	**70**	**112**	**75**	**70**	**14**	**21**	**10**	**49**	**141**	**190**
- Water Science and Engineering	3	20	65	25	40	5	13	5	23	65	**88**
- Water Management	1	10	18	10	9	3	4	3	6	23	**29**
- Environmental Science	2	24	18	19	16	4	3	2	14	30	**44**
- Municipal Water and Infrastructure	2	16	11	21	5	2	1	0	6	23	**29**
PhD programmes	**10**	**2**	**62**	**24**	**27**	**14**	**4**	**5**	**19**	**55**	**74**
Total	**58**	**135**	**273**	**188**	**167**	**43**	**47**	**21**	**127**	**339**	**466**
Percentage	12.4	28.8	58.8	40.3	35.8	9.4	10.0	4.5	27.5	72.5	

ANNEX 2 | **SHORT COURSES**

REGULAR SHORT COURSES

THEME	COURSE	DATE
Water Security	Applied Groundwater Modelling	19/06/06-07/07/06
	Groundwater Exploration and Monitoring	03/04/06-28/04/06
	Integrated Coastal Zone Management	03/04/06-13/04/06
	International Seminar on Port Management	24/04/06-12/05/06
	Public Private Partnerships in the Water Sector	10/07/06-28/07/06
	Wetlands for Water Quality	06/03/06-24/03/06
Environmental Integrity	Aquatic Ecosystems: Processes and Applications	19/06/06-07/07/06
	Cleaner Production and the Water Cycle	01/05/06-19/05/06
	Environmental Engineering	06/03/06-24/03/06
	Environmental Monitoring and Modelling	03/04/06-28/04/06
	Environmental Planning	03/04/06-28/04/06
	Environmental Policy Making	06/03/06-24/03/06
	Environmental System Modelling	29/05/06-16/06/06
	Managing Organisations and Change	19/06/06-07/07/06
	Service Oriented Management of Irrigation Systems	03/04/06-28/04/06
	Urban Network Infrastructure Construction and Maintenance	01/05/06-19/05/06
	Water and Environmental Law and Institutions	01/05/06-19/05/06
	Water Transport and Distribution I	19/06/06-07/07/06
	Water Transport and Distribution II	10/07/06-28/07/06
	Water Treatment Processes and Plants	01/05/06-19/05/06
Urbanisation	Decentralised Water Supply and Sanitation	10/07/06-28/07/06
	Groundwater Resources and Treatment	06/03/06-24/03/06
	Membranes in Drinking and Industrial Water Treatment	11/09/06-16/09/06
	Remediation and Handling of Contaminated Sediments	04/09/06-08/09/06
	Seminar on Dredging and Reclamation	15/05/06-19/05/06
	Solid Waste Management and Engineering	10/07/06-28/07/06
	Urban Water Systems Modelling	19/06/06-07/07/06
	Water Quality Control in Water Supply	02/10/06-13/10/06
	Water Resources Planning	06/03/06-24/03/06
Water Management and Governance	Financial Management of Water Organisations	03/04/06-28/04/06
	Modelling of Activated Sludge Wastewater Treatment	08/05/06-19/05/06
	Operations and Maintenance of Urban Infrastructure (Treatment plants)	20/11/06-01/12/06
	Sustainable Wastewater Treatment and Reuse	19/06/06-07/07/06
	Water Quality Assessment	13/02/06-03/03/06
Information and Communication Systems	Knowledge Management for Decision Makers in the Water Sector	18/04/06-29/04/06
	Surface Water Treatment: Conventional and Advanced Technology	03/04/06-28/04/06
	Watershed and River Basin Management	10/07/06-28/07/06

ONLINE COURSES

COURSE	DATE		TOTAL PARTICIPANTS
Wetland Management (WM)	01/11/06 – 01/04/07		20
Water Transport and Distribution I (WTD I)	01/03/06 – 01/07/06	01/09/06 – 01/01/07	12
Flood Modelling for Management (FMM)	01/03/06 – 10/05/06		12
Integrated Coastal Zone Management (ICZM)	01/03/06 – 01/07/06		25
Integrated River Basin Management (IRBM)	01/03/06 – 01/07/06		15
Water and Environmental Law and Policy (WELP)	01/03/06 – 01/07/06		14
Public Private Partnerships (PPP)	02/10/06 – 11/12/06		25
Service Oriented Management of Irrigation Systems (SOMIS)	01/09/06 – 01/01/07		3
Wetlands for Water Quality (WWQ)	01/03/06 – 01/07/06		9
Total			*135**

*) Last year 83 participants

REGIONAL REFRESHER SEMINARS

COUNTRY	COURSE	DATE
Burkino Faso	Ecological Sanitation to achieve Millennium Development Goals in Sub-Saharan Africa	02/10/06-07/10/06
Mocambique	Flood Management in Southern Africa: National and Transboundary Perspectives	10/12/06-15/12/06
Namibia	Public-Private Partnerships in the Southern African Water Sector	04/12/06-09/12/06
India	Urban Flood Modeling and Disaster Management	16/10/06-21/10/06
Nepal	Integrating environmental and Economic Aspects in Urban Infrastructure	09/10/06-15/10/06

TAILOR-MADE COURSES

Tailor-made courses are developed and implemented on demand. These courses serve to upgrade or refresh the knowledge and skills of experts, or to provide exposure to applications of conventional methods. All tailor made courses of 2006 are listed in Annex 4 - Projects.

ANNEX 3 | **PHD FELLOWS**

PROMOTIONS IN 2006

NAME	PROMOTION DATE	COUNTRY	PROMOTOR	TITLE THESIS
Ms. U. Thampanya	March 27, 2006	Thailand	Denny	*Mangroves and Sediment Dynamics Along the Coasts of Southern Thailand*
Mr. A.K. Chapagain	April 24, 2006	Nepal	Savenije	*Globalisation of Water: Opportunities and Threats of Virtual Water Trade*
Mr. R.K. Gupta*	April 26, 2006	India	Petry	*Analysis and Control of Flows in Pressurised Hydraulic Networks*
Mr. S.N. Ngigi	May 1, 2006	Kenya	Savenije	*Hydrological Impacts of Land Use Changes on Water Resources Management and Socio-economic Development of Upper Ewaso Ng'iro River Basin in Kenya*
Mr. N.L. Nyagwambo	June 30, 2006	Zimbabwe	Savenije	*Groundwater Recharge Estimation and Water Resources Assessment in a Tropical Crystalline Basement Aquifer*
Mr. N.U. Urrutia	September 5, 2006	Colombia	Schultz	*Sustainable Management After Irrigation System Transfer*
Ms. M. Tu	September 7, 2006	China P.R.	Uhlenbrook	*Assessment of the Effects of Climate Variability and Land Use Change on the Hydrology of the Meuse River Basin*
Mrs.E. Awuah	November 29, 2006	Ghana	Gijzen	*Pathogen Removal Mechanisms in Macrophyte and Algal Based Wastewater Stabilisation Ponds*
Ms. R.C. Kaggwa	December 20, 2006	Uganda	Denny	*Fingerponds: Managing Nutrients and Primary Productivity for Enhanced Fish Production Lake Victoria's Wetlands, Uganda*
Mr. J. Kipkemboi	December 20, 2006	Kenya	Denny	*Fingerponds: Seasonal Integrated Aquaculture in East African Freshwater Wetlands*
Mr. N.G.T. Azza*	December 20, 2006	Uganda	Denny	*The Dynamics of Shoreline Wetlands and Sediments of Northern Lake Victoria*

** with distinction*

REGISTERED PHD FELLOWS

NAME	COUNTRY	PROMOTOR	WORKING TITLE THESIS
Mrs. Abira	Kenya	Denny	*Treatment of pulp and paper mill wastewater using a constructed wetland in the tropics*
Mr. Abraham	Eritrea	Schultz	*A tradition in transition; spate irrigation in Eritrea*
Mr. Alfonso Segura	Colombia	Price	*Maximising information content from monitoring networs for optimal performance of water catchments*
Mr. van Andel	Netherlands	Price	*Anticipatory Water Management*
Mr. Ansa	Ghana	Gijzen	*Pathogen removal from wastewater*
Ms. Arano	Philippines	vVierssen	*Phylogeographic relationships as tool in managing the structurally dominant segrass "Enhalus acoroides" in Philippine coaster waters*
Ms. Azab	Egypt	Price	*Integration of GIS, Remote Sensing and Modeling for Water Quality Management in an Irrigated Watershed*
Mr. Babu	Uganda	Gijzen	*Improving nitrogen removal in algae wastewater stabilisation ponds*
Mr. Baghoth	Uganda	Amy	*Characterization of natural organic matter in water using multiple detectors*
Mr. Barretto Cordereo	Venezuela	Price	*Multi-criteria optimisation in the rehabilitation of urban drainage networks*
Mr. Bessa	Brazil	Petry	*Coupled modelling and monitoring for water quality assessment in large reservoirs - Brazilian cases*
Mr. Bin Abdullah	Malaysia	Price	*Web-based spatial decision support system for integrated urban water management*
Ms. Bremere	Latvia	Schippers	*Saving energy and ater by maximizing the conversion of membrane filtration system*
Mr. Buamah	Ghana	Schippers	*Adsorptive removal of arsenic, iron and manganese from groundwater*
Mr. Corzo Perez	Colombia	Price	*Hybrid data driven and conceptual models in operational hydrological forecasting*
Ms. Dai	China	Gijzen	*Efficiency of riverbanks in removal of contaminants from rainfall runoff in cities*
Mr. Dissanayake	Sri Lanka	Roelvink	*The role of tidal inlets in coastal erosion*
Ms. Essandoh	Ghana	Amy	*Soil aquifer treatment of wastewater: a framework for technology implementation in a developing country*
Mr. Galvis Castano	Colombia	Gijzen	*Technology selection model to pollution prevention and control from domestic wastewater in small and medium towns*
Mrs. Guio Torres	Colombia	Vairavamoorthy	*Sustainability for urban water systems*

REGISTERED PHD FELLOWS

NAME	COUNTRY	PROMOTOR	WORKING TITLE THESIS
Mr. Gupta, Ramesh	India	Savenije	*Decision support for conflict resolution in Indian river basins*
Mr. Jamil	Malaysia	Uhlenbrook	*Land use change impacts to hydrological regimes*
Mr. Jiang	China	Amy / v. Rolleghem	*Modelling of membrane bioreactor systems*
Mr. Jung	Korea	Price	*Model based decision support system for managing eutrophication in a reservoir*
Ms. Kayoza	Tanzania	Akinyemi (temp.)	*Integrated infrastructure for sustainable improvement of right-of-way safety in dynamic urban environments*
Mr. Khatri	Nepal	Vairavamoorthy / Amy	*Risk Assessment of Urban Water Systems for the City of the Future*
Mr. Kuntiyawichai	Thailand	Schultz/Uhlenbrook	*Flood management and land use in the Chi River basin, Thailand*
Mr. Lai Ko An	China R.O.C.	v Maarsseveen (TUT)	*An analysis of environmental capacity characteristics of heterogeneous traffic corridors*
Mrs. Lamei	Egypt	vd Zaag	*Decision support system for investing in integrated water resouces management inarid coastl regions*
Mr. Lesser	New Zealand	Roelvink	*Numerical modelling of waves, currents, sediment transport and coastal morphological change in three dynamic estuary mouths*
Ms. Li Hong	China P.R.	Mynett	*Spatio-temporal analysis and simulation of population dynamics in lakes and estuaries*
Mrs. Liang	China P.R.	v Dijk	*Financing and cost recovery of innovations in the urban water cycle in terms of different institutional and technological options*
Mr. Limsiri	Thailand	Schultz/Nieuwenhuis	*Very soft organic clay applied for road embankment*
Mr. Lopez Vazquez	Mexico	Gijzen/Loosdrecht	*Effect of high temperature on filamentous bulking sludge in activated sludge systems*
Mr. Love	Zimbabwe	vd Zaag/Uhlenbrook	*Land/water/livelihood strategies and water resources availability*
Mrs. Lugwisha	Tanzania	Leentvaar	*Wastewater management institutional performance and change*
Mr. Lutterodt	Ghana	Uhlenbrook	*Groundwater quality and bio-colloid transport in peri-urban areas near Accra, Ghana*
Mr. Mabiza	Zimbabwe	vd Zaag/Gupta	*IWRM, institutions and livelihoods: cases and perspectives from the Limpopo River Basin*
Mr. Maeng	South Korea	Amy	*Framework for Assessment of Performance of Riverbank Filtration System*
Mr. Makurira	Zimbabwe	Savenije	*Smallholder water system innovations for upgrading rainfed agriculture in arid and semi-arid areas*
Mr. Masih	Pakistan	Rijsberman/ Uhlenbrook	*Hydrology and water balance analysis for sustaining food security and environmental services in Karkheh River Basin, Iran*
Mr. Melesse	Ethiopia	Savenije	*Conservation tillage systems using improved implements for small holder farmers in semi-arid regions of Ethiopia*
Ms. Mohktar-Nazer	Palestine	Gijzen	*From water scarcity to sustainable water use in the West Bank, Palestine*
Mr. Morales	Mexico	Uhlenbrook	*Characterisation of mega- and macro scale heterogenity of porous media*
Ms. Mul	Netherlands	Savenije	*Balancing water for crop production and ecosystems at subcatchment and catchment scale*
Mr. Munir	Pakistan	Schultz	*Role of sediment transport in operation and maintenance of supply and demand based irrigation canals*
Ms. Nacorda	Philippines	vVierssen	*Effects of burrowing invertebrates on sediment and seagrass dynamics along a siltation gradient*
Mr. Nguyen	Vietnam	Savenije	*Study of evolution of salinity in Mekong River Delta, Vietnam*
Mr. Ntow	Ghana	Gijzen	*The use and fate of pesticides in vegetable-based agroecosystems in Ghana*
Mr. Nyarko	Ghana	van Dijk	*Ghana water and sanitation sector: drivers and performance*
Mr. Oduro-Kwarteng	Ghana	Amy	*Anaerobic digestion of municipal solid waste: batch technology assessment and transfer to a devoloing country*
Mr. Owusu-Ansah	Ghana	vd Zaag	*Near-real time monitoring of flows in the Volta basin using variational data assimilation*
Mr. Ofusu	Ghana	vd Zaag/vd Giesen	*Irrigation Development and catchment management in the White Volta Sub-Basin*
Mr. Paudel	Nepal	Schultz	*An improved approach for the design and management of irrigation canals*
Mr. Salinas Rodriguez	Bolivia	Amy	*Water characterisation and fouling prediction tools for Seawater Reverse Osmosis Systems*
Ms. Sanz Galindo	Colombia	vd Zaag/Gupta	*Developing conflict resolution as a policy tool for small and medium enterprises*
Mr. Sekomo	Rwanda	Gijzen	*Mechanisms of heavy metals removal in natural wastewater treatment systems*
Mr. Shrestha	Nepal	Price	*Computational intelligence and uncertainty modelling in flood forecasting*
Mr. Siek	Indonesia	Price	*Predicting ocean surges: multi-models, computational intelligence, chaos and uncertainty*
Mr. Silva Vinasco	Colombia	Gijzen	*Greenhouse gas emissions from ecotechnologies for sustainable domestic wastewater management in tropical regions*
Mr. Valencia	Mexico	Gijzen	*The sustainable use of bioreactor landfill techniques in the Netherlands*
Mr. Yangali Quintanilla	Peru	Amy	*under construction*
Ms. Zagonjolli	Albania	Mynett	*Uncertainty analysis and risk management in dam break modelling*

CAPACITY BUILDING

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
China	Training Courses on River Basin Water Resources Management	RNE/MoWR	DUT	Oct-04	May-06
	Special training programme for youngh professionals of the Changjiang Water Resources Commission	CWRC		Oct-06	Apr-08
	Real-Time Monitoring & Management System for Water Resources in the Yellow River Basin	ORET/MILIEV	EARS (lead), MLR, YRWCC, HOFUNG	Jan-04	Dec-07
	Capacity Building of a China Groundwater Information Center	ORET/MILIEV	TNO (lead), v. Essen, China Min. Natural Resources	Jul-03	Jun-08
Ghana	Capacity Building for Sustainable Development of Water Resources and Environmental Sanitation in Ghana and the Sub-Region	NUFFIC/NPT	DCE, Kwame Nkrumah University, IRC, TU Delft	Nov-04	Oct-08
Guatemala	Training and Development for the Integrated Management of the Water Resources in the West of Guatemala	NUFFIC/NPT	Servicios para el Desarrollo, Fundacion Solar (Guatamala). PoWER partner: Universidad del Valle (Colombia)	Jan-06	Dec-08
Indonesia	Water Resources and Irrigation Management (WRIM) Capacity Building Network Project	NUFFIC/NPT	PT-IHE Indonesia, WUR	Jan-06	Dec-09
Iraq	Long Term Training Iraqi Ministry Employees	USACE		Oct-04	May-06
	Training course in Agro-Hydrology	FAO		Mar-06	Apr-06
Korea, Republic of	Tailor-made training of the KOWACO staff in water distribution	KOWACO	KOWACO	May-06	Oct-06
Mexico	Activities during World Water Forum 4	EVD/PVW		Mar-06	Mar-06
	Modeling wastewater treatment processes: technology development and knowledge transfer to Mexico	PvW II	TU Delft, ASM Delft, CIRA	Feb-06	Oct-06
Netherlands	International conference on SWAT model	Participants		Jul-06	Jul-06
	Coastal Practice Network	EC/INTERREG IIIC	EUCC (lead)	Dec-03	Jan-07
Palestine	Capacity Building in the Environmental Sector at Birzeit University	EC/TEMPUS	PoWER partner: Birzeit University (Palestinian Auth.)	Sep-04	Sep-06
Rwanda	Rwanda NUR MSc Programme in Water Resources and Environmental Management	NUFFIC/NPT	ITC, KNUST	Oct-04	Oct-08
Syrian Arab Republic	Integrated Water Resources Management Plan Orontes Basin Syria	DHV	DHV, TNO NITG, Acacia, Elard (Syria)	Feb-06	Dec-07
Vietnam	Upgrading of Training Capacity in Coastal Engineering at the Hanoi Water Resources University, Phase 2	RNE	DUT, CICAT(lead), WL	Oct-05	Sep-09
	Institutional Strengthening of Training Capacity of the Dept. of Hydrology and Dept. of Environment at Hanoi and Ho Chi Minh Hydro-Meteorological Colleges	NUFFIC/NPT	Saxion (lead), ITC, CF	Jan-04	Dec-06
Zimbabwe	WaterNet Strategy-Phase II: 2005-2009	SIDA, DGIS	PoWER partners: University of Zimbabwe, WaterNet	Apr-05	Dec-08
Various Countries	Activities related to the project Wetlands and Poverty reduction	Wetlands International		Feb-06	Apr-06
	Low Cost Urban Mobility Demonstration Programme	UNCHS/DGIS	KUTIP, IHS	Jul-03	Apr-06
	Water programme for Africa (WPA) - Phase 1	UNESCO (IHP), Italia	VU/Acacia	Jun-04	Jun-06
	Water Data Banks - Phase 4, Middle East Region: Israel, Jordan, Palestine Authority	EC/EuropeAid	DHV (lead), DHI Water & Environment, Engicon, DHVMED, Palistinian Hydrology Group	Oct-04	Jun-08
	Improving Municipal Wastewater Management in Coastal Cities	UNEP-GPA	UNEP-GPA	Apr-06	Jun-06
	Human Resources Development for the improvement and protection of environment in Asia	Asialink/EC	TU Delft, Leiden uni, Chongqing University, Indian Institute of Technology Delhi, Tianjin University, Technical University Berlin	Jan-06	Dec-07
	Improving Municipal Wastewater Management in Coastal Cities in ACP Countries	EC/ACP-EU-Water Facility	UNEP/GPA, UN/DOALOS, GEF	Sep-05	Sep-08

CAPACITY BUILDING

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
Various Countries	Latin American-European Partnership for Water Education and Training: – A Sustainable Partnership for Water Education	EC/ALFA II A	Universidad Nacional Agraria la molina,Universidad nacional de Ingenieria, i.e.PoWER partners: Universidad del Valle (Colombia), Instituto Technologico y de Estudios Superiores de Monterrey (Mexico)	Jun-04	Jun-06
	Partnership for Water Education and Research	DGIS	Initial network of 18 knowledge institutes	Jan-02	Dec-06
	Small Scale Water Treatment Facilities for Domestic Use and Artificial Recharge with Surface Water - Middle East	DGIS	Water Commission/mekorot Water Company (Israel); Min. of Water snd irrigation (Jordan); PoWER partner: Birzeit University (Palestinian Authority)	Apr-02	Mrt-07
	Wetlands and Poverty Reduction project Training module	Wetlands International	Wetlands International	Aug-06	Mrt-07
	Knowledge Networks for the Nile Basin, using the innovative potential of knowledge networks and CoP's in strengthening human and institutional research capacity in the Nile region	DGIS/DCO	10 selected uiversities and ministries from Nile Basin Countries. PoWER partners: Hydraulic Research Institute (Egypt), Makarere University (Uganda)	Jul-05	Jul-09

ADVISORY SERVICES

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
Bangladesh	Mission in support of RWS mission to Bangladesh to observe the status of water resources management in the country	RWS		Aug-06	Sep-06
Croatia	Production of live and smoked eels in Croatia	Senter/PSO	Gebr. Kraan ea	Jul-04	Dec-07
Eritrea	Asmara wastewater management project	Kuwait Fund for Arab Economic Development (KFAED)	DHV, Gov of Eritrea	Jan-06	Apr-06
Kazakhstan	Integrated Water Resources Management for Wetlands Restoration in the Aral Sea Basin (Nothern Part)	NATO	SIC ICWC	Oct-04	Oct-06
Netherlands	Simulation of Dynamic Performance of a Biotreater	Shell Global Solutions		Sep-05	Aug-06
	Learn from foreign knowledge and experience (working group 'Kustlijnzorg')	MinV&W	Ministerie van V&W	Oct-05	Mrt-06
	WELL A3 Technical Paper on Donor Harmonization	IRC		Jul-06	Aug-06
	New approaches to adaptive water management under certainty	EC/FP6	Moench, WL Delft	Aug-06	Nov-06
	How to bring Dutch Arsenic Removal technology to the market	PvW-Samenwerking financiering (NWP)	RWB Water Services, MTW Hungary	Nov-06	Jan-07
	Notes on Gender and Social Inclusion for the Agricultural Water for Food Sourcebook update	WB		Jan-06	Apr-15
Tanzania	Study on the Role of Dar es Salaam in the Tanzanian Economy	WB		Jan-05	Jun-06
Tunisia	Tunesia Regional Water Centre	Ducth Embassy Tunis		Dec-06	Dec-06
United States	Modelling of hurricane impacts	US Army Corps of Engineers	TU Delft, WL	Mrt-06	May-08
Various Countries	Review of the ADB Cooperation Fund for the Water Sector	ADB		Dec-05	Feb-06
	Consultancy to develop of curriculum, teaching materials and delivery of an Appreciation Seminar in IWRM for the Applied Traning Project of the Nile Basin Initiative	World Bank		Jul-06	Dec-06
	Pilot River Basin Plan for Sava River (Croatia, Bosnia and Herzegovina, Serbia and Montenegro)	EC/EuropeAid	SAFEGE (Belgium, lead), Univ. of Belgrade	Nov-04	Oct-07
	Study on the current spectrum of relevant theories and practices to evaluate GDLN-type activities	WB/WBI/GDLN		May-06	Jun-06

EDUCATION AND TRAINING

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
Bahrain	Short course RO desalination, Bahrain	MEDRC	Middle East Desalination Research Center (MEDRC)	Jun-06	Jun-06
Burkina Faso	Role of Ecological Sanitation in achieving the MDG targets in West Africa	Nuffic	CREPA, WASTE	Jan-06	Dec-06
China	Support for the development of strategic co-operation between China P.R. and the Netherlands in the area of estuaries and coasts	RWS/RIZA	RWS-RIKZ, Ho Hai, Nanjing Hydraulic Research Institute, Yangtze Estuary waterway administration, Yangtze Water Resources Commision	May-06	Dec-07

EDUCATION AND TRAINING

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
China	Special Training Programme for Young Professionals of the Yellow River Conservancy Commission	Dept of Int. Cooperation, China		Oct-05	May-07
Ethiopia	Conservation Tillage Systems Using Improved Implements for Small-Scale Dryland Farmers in Ehtiopia	NWO/WOTRO		Jul-02	Jun-06
France	International Flood Initiative Programme	ICHARM or IHP France	IHP, ICHARM	Dec-05	Mrt-06
India	Urban Flood Modeling and Disaster Management	Nuffic	PoWER partner: Indian Institute of Technology, Roorkee	Jan-06	Dec-06
Indonesia	Audit of public works and projects	NEC	ARK and Min Public Works	Nov-06	Jan-07
Iraq	Short Course for MoWR Iraq 2007 as part of the training and capacity building for Water Resources Planning and Management for Iraq	Ministry of Water Resources Iraq	US army Corps of Engineers	Oct-06	Dec-07
Korea, Republic of	Advanced course on wastewater treatment design	KOWACO		Sep-06	Nov-06
Mexico	Framework Agreement between UAEMEx and UNESCO-IHE on Collaboration in Education, training and research in Pollution prevention and control	UAEMex	UAEMex	Feb-06	Feb-06
Mozambique	Flood Management in Southern Africa; National and Transboundary perspectives	Nuffic	University Eduardo Mondlane	Jan-06	Dec-06
Namibia	Public-Private Partnerships in the Water Supply and Sanitation sector	Nuffic	Polytechnic of Namibia, WaterNet	Jan-06	Dec-06
Nepal	Training Department Water Supply and Sewerage	Nuffic/NFP		Feb-06	Dec-06
	Training in Water Supply and Sanitation	Nuffic	Water Aid Nepal	Apr-06	Jun-06
Netherlands	Fund raising in support of Fellowships for UNESCO-IHE	UNESCO		Jun-05	Mrt-06
	Flood management Educational Platform	UNESCO/IHP		Dec-05	Mrt-06
	I-learning course on Process Design and Engineering of Biological Wastewater Treatment	PowER/K-water	Birzeit, Monterrey, K-Water	Dec-06	Sep-08
Taiwan of China	Taiwan Training: Advanced treatment processes	NTU (univ taiwan)	National Taiwan University, dpt of Chemical Engineering	Aug-06	Sep-06
Turkey	Towards a wiseuse of Konya Closed Basin, short term IRBM course	WWF Turkey	WWF-Turkey	Jan-06	Mrt-06
Various Countries	Water Sector capacity Building in Support of the Millenium Development Goals	DGIS		Oct-04	Mrt-08

POLICY DEVELOPMENT

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
Netherlands	Removal of natural organic material (NOM)	SENTER	TUD and others	May-06	May-10
Various Countries	Cooperation with TCCC (the coca cola company)	TCCC	TCCC	Sep-06	Sep-09
	4th World Water Forum: Coordination of the theme 'Capacity Building and Social Learning'	Secretariat of the 4th World Water Forum	IRC, CapNet, CPWC, Streams of Knowledge	Oct-05	Mrt-06
	Flood Management Simulation Game WWF4	Min V&W	Delft Hydraulics	Nov-05	Mrt-06
	Co-operative Programme on Water and Climate (CPWC)- phase III by NFWC, 2006	Stichting NFWC	WUR, KNMI	Jan-06	Dec-06

RESEARCH AND DEVELOPMENT

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
Denmark	Wave run-up and overtopping of sea dikes with and without Stilling Wave Basin under 3D wave attack	DHI-Denmark with EU support	DHI (DK), Braunschweig University (D), Ghent University (B)	Sep-05	Dec-07
Indonesia	Land & Water Management Tidal Lowlands, South Sumatra Province	DGIS	Rijkswaterstaat	Mrt-04	Jun-06
Luxembourg	Genesis of Floods	Delft Cluster		Oct-06	Dec-08
Netherlands	Intensive Programme in the Erasmus Framework	EC/Erasmus	Univ. de Nice a.o.	Jan-03	Jan-07
	Delft Cluster Phase II: Safety against Flooding: Natural Hazards, Strength of flood defence structures	NL Gov. / BSIK	Delft Cluster Partners	Jun-05	Dec-08
	Work plan 2006 under the MoU Water and Global Change	NEAA		Dec-05	Dec-06
	Helping operationalise article two in the Ntherlands: identifying research gaps	WAB	RIVM, WU, KNMI, RIKZ, RIZA, ICIS/UM	Sep-05	Sep-06
	Delft Cluster Total Systems Analysis Natural Organic Matter	Delft Cluster		Apr-04	Dec-07
	Delft Cluster Phase II: Preparation Urban Water Cycle	NL Gov. / BSIK	Delft Cluster partners	Apr-05	Apr-09
	Hydraulic Impacts of System Behaviour during Design Flow Circumstances in Dutch Rhine Branches	RIZA	Delft Hydraulics	Sep-05	Sep-06
Netherlands	Peak Flow Reduction with Retention and Detention Measures	RIZA	Min V&W	Sep-05	Sep-06

RESEARCH AND DEVELOPMENT

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
	Delft Cluster Phase II: River Morphology	Delft Cluster	WL, TUD, TNO-NITG, UT, UU	Nov-06	Dec-08
	Delft Cluster phase II: Drink Water, Top Quality for 21ste century, Water Quality in Distribution Systems	Delft Cluster	Delft Cluster Partners	Jan-04	Dec-07
	Delft Cluster phase II: Innovative Drink Water treatment, Removal of Micropollutants from drinking water	Delft Cluster	Delft Cluster partners	Jan-04	Dec-07
	Delft Cluster Phase II: Safety against Flooding: Natural Hazards, Strength of flood defence structures	NL Gov. / BSIK	Delft Cluster Partners	Sep-04	Dec-08
	Delft Cluster Phase II: Safety against Flooding: Hybrid Modelling	Delft Cluster	Delft Cluster Partners	Jan-05	Dec-08
	Management of water scarcity	IRF		May-05	Apr-06
	Delft Cluster Phase II: AWM (wateroverlast, verzilting, bodemdaling en droogte)	Delft Cluster	Delft Cluster Partners	Feb-04	Dec-08
	Delft Cluster Phase II: The development of wetlands	Delft Cluster	GeoDelft, TNO, TUD, WL	Jan-04	Dec-08
	Delft Cluster Phase II: Urban Water Management	Delft Cluster/TNO NITG	Delft Cluster Partners	Jan-04	Dec-08
	Delft Cluster Phase II: KRW Tools Knowledge exchange and dissemination of the project results on developing modelling tools	BSIK/DC	Delft Cluster Partners	Sep-05	Aug-08
Romania	in support of the implementation of the Water Framework Directive	PvW II	HydroLogic, Apele Romane, Romanian university	Aug-06	Jul-06
	Flood forecasting and management in Romania-feasibility study,				
United States	demonstration project and market analysis of operational Decision Support System implementation	Texas Agricultural Program		Jan-06	Dec-06
Various Countries	SWAT Development: Effects of Conservation Practices on Soil and Water Resources in the Leon River Watershed	EC/FP6/P6/CA	Ramboll a.o.	Nov-04	Dec-06
	Co-ordinated Action on Ocean Energy	WOTRO/SIDA/DGIS	IWMI, U Sokoine, U Natal, Stockholm U	Jul-02	Jul-06
	Smallholder System Innovations in Integrated Watershed Management	EC/DGXII/INCO	University of Dar es Salaam (Tanzania), Egerton University (Kanya), Kings College (London), ENKI (Czech Republic), PoWER partners: Makarere University (Uganda)	Aug-01	Jul-06
	The dynamics and evaluation of Finger Ponds in East African freshwater wetland Ecotones	EC/FP6/SUSTDEV	HR Wallingford Ltd. (lead), WL a.o.	Mrt-04	Dec-08
	Integrated Flood Risk Analyses and Management Methodologies	EC/FP5	AQUAFIN (lead)	Jul-04	Feb-06
	Demonstration of an European knowledge management framework for a procedure on waste- and drinking water asset management.	Delft Cluster	Delft Cluster: TNO, KIWA, GeoDelft, TUD, WL	Jan-04	Dec-08
	Delft Cluster Phase II: The Mekong Case: Developing Economically Sound and Environmentally Friendly Standards for the Planning and Design of Roads in the Mekong Floodplains	BSIK	Delft Cluster Partners	Jun-05	May-07
	Delft Cluster phase II: Morfodynamice of North Sea and coast and coastal defences	CP/CGIAR	WaterNet	Jan-04	Dec-08
	Challenge of Integrated Water Resources Management for Improved Rural Livelihoods (Limpopo)	EC/FP6	16 total, Rheinisch Westfälische Technische Hochschule Aachen is leading party	Jun-05	Dec-08
	Water reclamation technologies for safe artificial groundwater recharge				

DGIS	Netherlands Ministry of Foreign Affairs
EC	European Commission
IDB	Inter-American Development Bank
IRF	Internal Research Fund IHE
NUFFIC	Netherlands Organisation for International Cooperation in Higher Education
NWO	Nederlandse Organisatie voor Wetenschappeljk Onderzoek
RNE	Royal Netherlands Embassy
SAIL	Capacity building programme through NUFFIC
SENTER	SenterNovem, Agentschap voor duurzaamheid en samenwerking (of Ministry of Economic Affairs)
V&W	Ministry of Transport, Public Works and Water Management
WB	Worldbank

ANNEX 5 | **RESEARCH THEMES**

LIST OF RESEARCH THEMES DEPARTMENT	CORE	RESEARCH TOPIC
Environmental Resources	Pollution Prevention and Control	Cleaner production and the water cycle
		Eco-technologies
	Freshwater Ecosystems	Planning for integrated river basin management
		Wetland management
		Environmental water allocation
Management & Institutions	Water Resources Management	Bio-physical processes of the hydrological system
		Institutional dimensions of water management
		Integrative properties of water management
	Water Services Management	Institutional options for water and sanitation
		The establishment and functioning of river basin organizations
		Institutional, economic and financial aspects of the water cycle
		Organizational change in the water sector
		Strategic management of drinking water utilities
		The equity and participation issues in water services management
Municipal Infrastructure	Sustainable Urban Infrastructure	Urban water networks
		Water distribution systems
		Urban drainage
		Wastewater collection systems
		Urban flood resilience
	Urban Water Supply & Sanitation	Improving/enhancing conventional drinking water and wastewater treatment
		Natural drinking water and wastewater treatment systems
		Advanced drinking water and wastewater treatment
Water Engineering	Hydraulic Engineering & River Basin Development	Hydraulic structures and hydraulic processes
		Environmental impacts of water related projects
		Management of floods and droughts
	Coastal Engineering & Port Development	Integrated coastal modelling
		Performance and reliability of flood defence systems and coastal structures
		Integrated coastal zone management
		Ports and inland waterways
	Land & Water Development	Hydraulic structures and hydraulic systems
		Environmental impacts of hydraulic works
		Institutional aspects of system management
		Integrated lowland development
	Hydrology and Water Resources	Hydrology and climate
		Physical and biogeochemical processes of groundwater systems
Hydroinformatics & Knowledge Management	Hydroinformatics	Modelling paradigms, uncertainty and risk
		Systems engineering and optimisation
		Collaborative decision making and Internet-based computing and learning
	Capacity Building	Learning processes
		Institutional systems analysis
		ICT and networks that facilitate access to knowledge

ARTICLE IN JOURNAL

R. Al-Sa'ed, M.A. Siebel and D.W. Nazer (2006), *Reducing the environmental impact and economics of the unhairing-liming process in the leather tanning industry*, Journal of cleaner production (T/T/5), 14, p. 65-74

G. Amy and C. Jarusutthirak (2006), *Role of soluble microbial products (SMP) in membrane fouling and flux decline*, Environmental science & technology, 40(3), 969-974

G. Amy, S. Dow, B. Barbeau, U. von Gunten, M. Chandrakanth and M. Hernandez (2006), *The impact of selected water quality parameters on the inactivation of Bacillus subtilis spores by monochloramine and ozone*, Water research (T/T/66), 40(2), 373-382

G. Amy, Y. Yoon and J. Sohn (2006), *Bromide ion incorporation into brominated disinfection by-products*, Water air and soil pollution, 174(1-4), 265-277

G. Amy, B. van der Bruggen, A. Verliefde, L. Braeken, E. Cornelissen, K. Moons, J. Verberk and J. van Dijk (2006), *Assessment of a semi-quantitative method for estimation of the rejection of organic compounds in aqueous solution in nanofiltration*, Journal of chemical technology and biotechnology, 81(7), 1166-1176

L. Andersson and H.H.G. Savenije (2006), *Impact of climate change and development scenarios on flow patterns in the Okavango River*, Journal of hydrology (T/T/77), 331(1-2), 43-57

A.A. Ashagrie, P.J.M. de Laat, M.J.M. de Wit and S. Uhlenbrook (2006), *Detecting the influence of land use changes on floods in the Meuse river basin: the predictive power of a ninety-year rainfall-runoff relation*, Hydrology and earth system sciences (T/T/42), 10(5) 691-701

A.G. Ashagrie, P.J.M. de Laat, M.J.M. de Wit, Tu Min and S. Uhlenbrook (2006), *Detecting the influence of land use changes on discharges and floods in the Meuse river basin – the predictive power of a ninety-year rainfall-runoff relation*, Hydrology and earth system sciences (T/T/42), 10(5), 691-701

B. Bhattacharya and D.P. Solomatine (2006), *Machine learning in sedimentation modelling*, Neural Networks, 19(2), p. 208-214

B. Bhattacharya and D.P. Solomatine (2006), *Machine learning in soil classification, Neural networks*, 19(2), 186-195

M. Bonell, J.J. McDonnell, F.N. Scatena, J. Seibert, S. Uhlenbrook and H.A.J. van Lanen (2006), *HELPing FRIENDs in PUBs: charting a course for synergies within international water research programs in gauged and ungauged basins*, Hydrological processes, 20(8), 1867-1874

D. Brdjanovic and I. Katavic (2006), *Ambitious plans for aquaculture sector*, Eurofish magazine, 4, p. 12-15

D. Brdjanovic and I. Katavic (2006), *Dutch support to the Croatian fishery sector*, Eurofish magazine, 2(4), 1035-1048

A.K. Chapagain, A.Y. Hoekstra and H.H.G. Savenije (2006), *Water saving through international trade of agricultural products*, Hydrology and earth system sciences (T/T/42), 10(3), 455-468

A.K. Chapagain, A.Y. Hoekstra and H.H.G. Savenije (2006), *The water footprint of cotton consumption: an assessment of the impact of worldwide consumption of cotton products on the water resources in the cotton producing countries*, Ecological economics, 60(1), 186-203

V. Cherkassky, D.P. Solomatine, V. Krasnopolsky and J. Valdes (2006), *A machine learning approach to modelling sediment transport*, Neural Networks, 19 (2), 113-121

A.A. van Dam (2006), *Fingerponds: kleinschalige vijverteelt in papyrusmoerassen in Oost Afrika*, Aquacultuur, 4, 22-27

P. Denny, J. Kipkemboi, R.C. Kaggwa and H. Lamtane (2006), *The potential of fingerpond systems to increase food production form wetlands in Africa*, International journal of ecology and environmental sciences, 32(1), 41-47

N.S.M. Douben (2006), *Characteristics of river floods and flooding: a global overview 1985-2003*, Irrigation and drainage, managing water for sustainable agriculture (T/T/88), 55(suppl. 1), S9-S21

J. Drewes, G. Amy, D. Quanrud and P. Westerhoff (2006), *Organic matter in soil-aquifer treatment systems*, Journal of environmental engineering (T/T/17), 132(11), 1389-1546

J. Drewes, C. Bellona, P. Xu, T. Kim, G. Amy and M. Oedekoven (2006), *Rejection of wastewater-derived micropollutants in high-pressure membrane applications leading to indirect potable reuse*, Environmental progress, 24(4), 400-409

F. Fenicia, H.H.G. Savenije, P. Matgen and L. Pfister (2006), *Is the groundwater reservoir linear?: learning from data in hydrological modelling*, Hydrology and earth system sciences (T/T/42), 10(1), 139-150

J.W.A. Foppen and J.F. Schijven (2006), *Evaluation of data from the literature on the transport and survival of Escherichia coli and thermotolerant coliforms in aquifers under saturated conditions*, Water research (T/T/66), 40(3), 401-426

J.W.A. Foppen, S. Okletey and J.F. Schijven (2006), *Effect of goethite and humic acid on the transport of bacteriophage PRD1 in columns of saturated sand*, Journal of contaminant hydrology (T/T/110), 85(3-4), 287-301

K. Ghebremichael, K.R. Gunaratna and G. Dalhammar (2006), *Single-step ion exchange purification of the coagulant protein from moringa oleifera seed*, Applied microbiology and biotechnology, 70(5), 526-532

A. van Griensven and P.A. Vanrolleghem (2006), *The CatchMod toolbox: easy and guided access to ICT tools for water framework directive implementation*, Water science & technology (T/T/107), 53(10), 285-292

A. van Griensven, T. Meixner, S. Grunwald, T. Bishop and R. Srinivasan (2006), *A global sensitivity analysis method for the parameters of multi-variable watershed models*, Journal of Hydrology, 324 1-4, p. 10-23

A. van Griensven and T. Meixner (2006), *Methods to quantify and identify the sources of uncertainty for river basin water quality models*, Water science and technology, 53(1), 51-59

F. Kansiime, N.G.T. Azza and J. van de Koppel (2006), *Floating mats: their occurrence and influence on shoreline distribution of emergent vegetation*, Freshwater biology, 51(7), 1286-1297

D. Kasule, A.A. van Dam, F. Kansiime and R.C. Kaggwa (2006), *An initial assessment of the use of wetland plants as substrates for periphyton production in seasonal wetland fishponds in Uganda*, International journal of ecology and environmental sciences, 32(1), 63-74

P. Kelderman and P. Batima (2006), *Water quality assessment of rivers in Mongolia*, Water science and technology, 53(10), 111-119

T. Kim, C. Bellona, P. Xu, J. Drewes and G. Amy (2006), *Rejection of organic micropollutants by high pressure membranes: comparison of bench-scale versus single element tests*, Water science & technology: water supply, 6(4), 107-116

J. Kipkemboi, A.A. van Dam and P. Denny (2006), *Biophysical suitability of smallholder integrated aquaculture-agriculture systems (Fingerponds) in East Africa's Lake Victoria freshwater wetlands*, International journal of ecology and environmental sciences, 32(1), 75-83

D.W. Knight, P.G. Samuels, S. Cao, H. Liao, N.G. Wright, X. Liu and A. Tominaga (2006), *Floods: are we prepared?*, Journal of disaster research

C. Laabs, G. Amy and M. Jekel (2006), *Understanding the size and character of fouling-causing substances from effluent organic matter (EfOM) in low-pressure membrane filtration*, Environmental science & technology, 40(14), 4495-4499

P.J.M. de Laat, M. Tu, M.J.M. de Wit and S. Uhlenbrook (2006), *Toename hoogwaterfrequentie in de Maas: verandert het klimaat of verandert het stroomgebied?*, Stromingen, 12(3), 5-18

N. Lee, G. Amy and J. Crouè (2006), *Low-pressure membrane (MF/UF) fouling associated with allochthonous versus autochthonous natural organic matter*, Water research (T/T/66), 40(12), 2357-2368

M. LeMarie, P. van der Zaag, G. Menting, E. Baquete and D. Schotanus (2006), *The use of remote sensing for monitoring environmental indicators: the case of the Incomati estuary, Mozambique*, Physics and chemistry of the earth (Incorporating parts A, B and C) (T/T/92), 31(15-16), 857-863

D. Love, S. Twomlow, W. Mupangwa, P. van der Zaag and B. Gumbo (2006), *Implementing the millennium development food security goals: challenges of the southern African context*, Physics and chemistry of the earth (Incorporating parts A, B and C) (T/T/92), 31(15-16), 731-737

D. Love, M.L. Mul, W. Mupangwa, S. Twomlow and R. Moyo (2006), *Impact and sustainability of low-head drip irrigation kits, in the semi-arid Gwanda and Beitbridge districts, Mzingwane catchment, Limpopo basin, Zimbabwe*, Physics and chemistry of the earth (Incorporating parts A, B and C) (T/T/92), 31(15-16), 885-892

N. Mahmoud, G. Zeeman, H.J. Gijzen and G. Lettinga (2006), *The interaction between digestion conditions and sludge physical characteristics and behaviour for anaerobic digestion of primary sludge*, Biochemical engineering journal, 28(2), 196-200

D. Mazvimavi, A.M.J. Meijerink, H.H.G. Savenije and A. Stein (2006), *Prediction of flow characteristics using multiple regression and neural networks: a case study in Zimbabwe*, Physics and chemistry of the earth (Incorporating parts A, B and C) (T/T/92), 30(11-16), 639-647

D. Mazvimavi, D. Love, M.L. Mul and J.M. Kileshye Onema (2006), *Effects of selected dams on river flows of Insiza river, Zimbabwe*, Physics and chemistry of the earth (Incorporating parts A, B and C) (T/T/92), 31(15-16), 870-875

E. Meers, D.P.L. Rousseau, E. Lesage, E. Demeersseman and F.M.G. Tack (2006), *Physico-chemical P removal from the liquid fraction of pig manure as an intermediary step in manure processing*, Water, air and soil pollution, 169(1-4), 317-330

A. Mehari, B. Schultz and H.W.Th. Depeweg (2006), *Salinity impact assessment on crop yield for Wadi Laba spate irrigation system in Eritrea*, Agricultural water management (T/T/206), 85(1-2), 27-37

Y.A. Mohamed, W.G.M. Bastiaanssen and H.H.G. Savenije (2006), *Reply to the comments of Sutcliffe to the paper Y.A. Mohamed et al.* (J. Hydrol. 289 (2004) 145-169), Journal of hydrology (T/T/77), 314(1-4), 43-44

Y.A. Mohamed, H.H.G. Savenije, W.G.M. Bastiaanssen and B.J.J.M. van den Hurk (2006), *New lessons on the Sudd hydrology learned from remote sensing and climate modeling*, Hydrology and earth system sciences (T/T/42), 10(4), 507-518

M.S. Moussa, H.J. Lubberding, C.M. Hooijmans, H.J. Gijzen, O. Garcia Fuentes and M.C.M. van Loosdrecht (2006), *Nitrification activities in full-scale treatment plants with varying salt loads*, Environmental technology, 27(6), 635-644

M.S. Moussa, D.U. Sumanasekera, H.J. Lubberding, C.M. Hooijmans, H.J. Gijzen, M.C.M. van Loosdrecht and S.H. Ibrahim (2006), *Long term effects of salt on activity, population structure and floc characteristics in enriched bacterial cultures of nitrifiers*, Water research (T/T/66), 40(7), 1377-1388

M.S. Moussa, M.C.M. van Loosdrecht and S. Salem (2006), *Determination of the decay rate of nitrifying bacteria*, Biotechnology bioengineering, 94(2), 252-262

P.N. Muendo, A. Milstein, A.A. van Dam, G. El-Naggar, J.J. Stoorvogel and M.C.J. Vedegem (2006), *Exploring the trophic structure in organically fertilized and feed-driven tilapia culture environments using multivariate analyses*, Aquaculture research, 37(2), 151-163

M.L. Mul, H. Makurira, A. Senzanje and J. Mutiro (2006), *Water productivity analysis for smallholder rainfed systems: a case study of Makanya catchment, Tanzania*, Physics and chemistry of the earth (Incorporating parts A, B and C) (T/T/92), 31(15-16), 901-909

F.A. Nasr, F.A. El-Gohary, N.P. van der Steen, H.J. Gijzen and A. El-Shafai Saber (2006), *Toxicity of heavy metals to duckweed-based wastewater treatment ponds with different depth*, Management of environmental quality, 17(3), 313-322

S. Neelz, G. Pender, I. Villanueva, M. Wilson, N.G. Wright, P. Bates, D. Mason and C.D. Whitlow (2006), *Using remotely sensed data to support flood modelling*, Water management, 159(1), 35-43

S.N. Ngigi, J. Rockstrom and H.H.G. Savenije (2006), *Assessment of rainwater retention in agricultural land and crop yield increase due to conservation tillage in Ewaso Ng'iro river basin, Kenya*, Physics and chemistry of the earth (Incorporating parts A, B and C) (T/T/92), 31(15-16), 910-918

Nguyen Anh Duc and H.H.G. Savenije (2006), *Salt intrusion in multi-channel estuaries: a case study in the Mekong Delta, Vietnam*, Hydrology and earth system sciences (T/T/42), 10(5), 743-754

W.J. Ntow, H.J. Gijzen, P. Kelderman and P. Drechsel (2006), *Farmer perceptions and pesticide use practices in vegetable production in Ghana*, Pest management science, 62(4), 356-365

L. Pfister and H.H.G. Savenije (2006), *Leonardo da Vinci's scriptires as benchmark papers in hydrology*, Hydrological processes, 20(7), 1653-1655

K. Prasad, K. Strzepek and B. van Koppen (2006), *Addressing socioeconomic objectives through enhanced decision support systems for water resources management: vision, gaps and challenges in South Africa*, Journal of systemics, cybernetics and informatics, 3(6)

K. Prasad, B. van Koppen and K. Strzepek (2006), *Equity and productivity assessments in the Olifant river basin, South Africa*, Natural resources forum, 30(1), 63-75

S. Rosenberger, C. Laabs, B. Lesjean, G. Amy, M. Jekel, R. Gnirss and J. Schrotter (2006), *Impact of colloidal and soluble organic material on membrane performance in membrane bioreactors for municipal wastewater treatment*, Water research (/T/66), 40(4), 710-720

H.H.G. Savenije (2006), *Comparison of two model approaches in the Zambezi river basin with regard to model reliability and identifiability*, Hydrology and Earth System Sciences, 10, p. 339-352

H.H.G. Savenije (2006), *Comment on "a note on salt intrusion in funnel-shaped estuaries": application to the Incomati estuary, Mozambique by Brockway et al.* 2006, Estuarine, coastal and shelf science, 68(3-4), 703-706

H.H.G. Savenije and R.G. Kamp (2006), *Optimising training data for ANNs with genetic algorithms*, Hydrology and earth system sciences (T/T/42), 10(4), 603-608

H.H.G. Savenije, D.A. Hughes, L. Andersson and J. Wilk (2006), *Regional calibration of the Pitman model for the Okavango River*, Journal of hydrology (T/T/77), 331(1-2), 30-42

M. Schouten and K. Schwartz (2006), *Water as a political good: implications for investments*, International environmental agreements: politics, law and economics, p. 1-15

B. Schultz (2006), *Flood management under rapid urbanisation and industrialisation in flood prone areas: a need for serious consideration*, Irrigation and drainage, managing water for sustainable agriculture (T/T/88), 55(suppl. 1), S3-S8

D.L. Shrestha and D.P. Solomatine (2006), *Experiments with AdaBoost.RT, an improved boosting scheme for regression*, Neural computation, 18(7), 1678-1710

D.L. Shrestha and D.P. Solomatine (2006), *Machine learning approaches for estimation of prediction interval for the model output*, Neural networks, 19(2), 225-235

D.P. Solomatine and M.B.L.A. Siek (2006), *Modular learning models in forecasting natural phenomena*, Neural networks, 19(2), 215-224

M.J. Spijker and A.H. Lobbrecht (2006), *Naar een efficiënt integraal waterbeheer met 'het nieuwe modelleren'*, H2O (T/T/13), 39(14/15), 24-25

U. Thampanya, J.E. Vermaat, S. Sinsakul and N. Panapitukkul (2006), *Coastal erosion and mangrove progradation of Southern Thailand*, Estuarine, coastal and shelf science, 68(1-2), 75-85

N. Tilch, S. Uhlenbrook, J. Didszun, J. Wenninger, Kirnbauer R., B. Zillgens and Ch. Leibundgut (2006), *Hydrologische prozessforschung zur hochwasserentstehung im Löhnersbach-Einzugsgebiet (Kitzbüheler Alpen, Österreich)*, Hydrologie und wasserbewirtschaftung, 50(2), 67-78

N. Tilch, B. Zillgens, S. Uhlenbrook, Ch. Leibundgut, Kirnbauer R. and B. Merz (2006), *GIS-gestützte ausweisung von umsatzräumen und prozessen im Löhnersbach-Einzugsgebiet (Nördliche Grauwackenzone, Salzburger Land)*, Oesterreichische wasser- und abfallwirtschaft, 58(9-10), 14

N. Trifunovic (2006), *Water demand: quantaties, patterns and trends*, Journal for water and sanitary technology, 5

J. Turner, H-J. Albrechtsen, M. Bonell, J-P. Duguet, B. Harris, R. Meckenstock, K. McGuire, R. Moussa, N. Peters and S. Uhlenbrook (2006), *Future trends in transport and fate of diffuse contaminants in catchments, with special emphasis on stable isotope applications*, Hydrological processes, 20(8), 205-213

S. Uhlenbrook (2006), *Catchment hydrology - a science in which all processes are preferential*, Hydrological processes, 20(16), 3581-3585

V. Vandenberghe, A. van Griensven, Bauwens W. and P.A. Vanrolleghem (2006), *Effect the selection of different river water quality model concepts used for river basin management decisions*, Water science and technology, 53(10), 277-284

I. Villanueva and N.G. Wright (2006), *Linking Riemann and storage cell models for flood prediction*, Water management, 159(1), 35-43

S. Vishnudas, H.H.G. Savenije, P. van der Zaag, K.R. Anil and K. Balan (2006), *The protective and attractive covering of a vegetated embankment using coir geotextiles*, Hydrology and earth system sciences (T/T/42), 10(4), 565-574

Preecha Wandee, B. Schultz and T. Tingsanchali (2006), *Optimisation of water management in urban polders: case studies of the Netherlands and Thailand*, Lowland technology international (T/T/87), 8(1), 11-20

I.N. Widyatmika, M.S. Moussa, H.J. Gijzen, P.A. Vanrolleghem, U. Zaher and N.P. van der Steen (2006), *Modelling anaerobic digestion acclimatisation to a biodegradable toxicant: application to cyanide*, Water science and technology, 54(4), 129-137

H.C. Winsemius, H.H.G. Savenije, A.M.J. Gerrits, E.A. Zapreeva and R. Klees (2006), *Comparison of two model approaches in the Zambezi river basin with regard to model reliability and identifiability*, Hydrology and earth system sciences (T/T/42), 10(3), 339-352

P. Wolski and H.H.G. Savenije (2006), *Dynamics of floodplain-island groundwater flow in the Okavango Delta, Botswana*, Journal of hydrology (T/T/77), 320(1-2), 283-301

P. Wolski, H.H.G. Savenije, M. Murray-Hudson and T. Gumbricht (2006), *Modelling of the flooding in the Okavango Delta, Botswana, using a hybrid reservoir-GIS model*, Journal of hydrology (T/T/77), 331(1-2), 58-72

N.G. Wright and D.M. Hargreaves (2006), *On the use of the k-?Õ model in commercial CFD software to model the neutral atmospheric boundary-layer*, Journal of wind engineering and industrial aerodynamics

P. Xu, J. Drewes, T. Kim, C. Bellona and G. Amy (2006), *Effect of membrane fouling on transport of organic contaminants in NF/RO membrane applications*, Journal of membrane science, 279(1-2), 165-175

T. Yang, N.G. Wright, D.W. Etheridge and A.D. Quinn (2006), *A comparison of CFD and full-scale measurements for analysis of natural ventilation*, International journal of ventilation, 4(4), 337-348

BOOK

D. Brdjanovic and I. Katavic (2006), *Dutch support to the Croatian fishery sector*, Economische Voorlichtingsdienst, Den Haag

E. von Münch, C. Werner, C. Maksimovic, A. Scheinberg, R. Schertenleib, W.H. Gilbrich, A.R Panesar and P. Bracken (2006), *Capacity building for ecological sanitation: concepts for ecologically sustainable sanitation in formal and continuing education*, Unesco International Hydrological Programme, Paris

M. Pena, D. Mara, I. Restrepo and H.J. Gijzen (2006), *Agua 2003 - multiple uses of water*, IWA Publishing

M. Sivapalan (ed.), T. Wagener (ed.), S. Uhlenbrook (ed.), E. Zehe (ed.), V. Lakshmi (ed.), X. Liang (ed.), Y. Tachikawa (ed.) and P. Kumar (ed.) (2006), *Predictions in ungauged basins: promises and progress*, IAHS Press, Wallingford

N. Trifunovic (2006), *Introduction to urban water distribution*, Taylor & Francis, London

S. Uhlenbrook (2006), *Catchment hydrology with satellites, models and rubber boots,* UNESCO-IHE, Delft

Y. Zhou, J.C. Nonner and L. Wenpeng (2006), *Strategies and techniques for groundwater resources development in northwest China*, China Land Publishing House, Beijing

CHAPTER IN BOOK

G. Amy (2006), *Integrated comparison of biofiltration in engineered versus natural systems*, Recent advances in slow sand and alternative biofiltration processes, p. 3-12, IWA Publishing

B. Bhattacharya, I.K. Deibel, S.A.M. Karstens and D.P. Solomatine (2006), *Neural networks in sedimentation modelling for the approach channel of the port of Rotterdam*, Estuarine and coastal fine sediments dynamics: INTERCOH 2003, J. Maa, L. Sanford and D. Schoellhamer, p. 465-480

A.A. van Dam, F. Kansiime, P. Kelderman, M. Saunders, S. Loiselle, A. Cozar and S. Simonit (2006), *Tools for wetland ecosystem resource management in East Africa : focus on the Lake Victoria papyrus wetlands*, Wetlands and natural resource management, J.T.A. Verhoeven, B. Beltman, R. Bobbink and D.F. Whigham, p. 97-121

A.A. van Dam, R.C. Kaggwa and J. Kipkemboi (2006), *Integrated pond aquaculture in Lake Victoria wetlands*, Integrated irrigation and aquaculture in West Africa : concepts, practices and potential, M. Halwart and A.A. van Dam, p. 129-134, FAO, Rome

A.A. van Dam (2006), *The UNESCO-IHE Institute for Water Education : capacity building and research in integrated water resources management*, Integrated Irrigation and Aquaculture in West Africa : concepts, practices and potential, M. Halwart and A.A. van Dam, p. 167-168, FAO, Rome

M.P. van Dijk and G.E. Tegegne (In press), *Decentralisation, urban service delivery and rural-urban linkages and inequality in developing countries, emerging trends*, Chapter 1: 5

M.P. van Dijk (In press), *What explains success of entrepreneurs in African countries? New theories of local economic development*, Proceedings of a workshop in Addis Abba, B. Helmsing, 12 pp.

J.W.A. Foppen, Herwerden M. van and J.F. Schijven (2006), *Characteristics of straining of Escherichia coli in saturated porous media*, Recent progress in slow sand and alternative biofiltration processes, R. Gimbel, N. Graham and M.R. Collins, p. 113-122, IWA Publishing

S. Franks, S. Uhlenbrook and P. Etchevers (2006), *Hydrological simulation modelling*, Hydrology 2020 : an integrating science to meet world water challenges, T. Oki, C. Valeo and K. Heal, p. 105-122

A. van Griensven (In press), *Monitoring in rural areas*, Wastewater Quality Monitoring and Treatment

A. van Griensven, V. Vandenberghe and P.A. Vanrolleghem (In press), *Monitoring for water quality modelling*

M. Halwart and A.A. van Dam (2006), *Development of integrated irrigation and aquaculture in West Africa: the way forward*, Integrated irrigation and aquaculture in West Africa: concepts and potential, M. Halwart and A.A. van Dam, p. 169-174, FAO, Rome

K. Heal, J. Kuylenstierna and S. Uhlenbrook (2006), *Introduction*, Hydrology 2020 : an integrating science to meet world water challenges, T.Oki, C. Valeo and K. Heal, p. 1-4

C.M. Hooijmans, D. Brdjanovic, H.J. Gijzen, M.C.M. van Loosdrecht and C.M. Lopez-Vazquez (2006), *Competition between phosphorus-accumulating organismss (PAOs) and glycogen-accumulating organisms (GAOs) in a mixed culture*, Young researchers 2006, R. Stuetz and L. Teik-Thye, p. 475-485

S. Hubbard, C. Valeo and S. Uhlenbrook (2006), *Hydrological challenges: scientific, technological and organizational bottlenecks*, Hydrology 2020 : an integrating science to meet world water challenges, T. Oki, C. Valeo and K. Heal, p. 141-154

M. Jekel and G. Amy (2006), *Arsenic removal during drinking water treatment*, Interface science in drinking water treatment, G. Newcombe and D. Dixon, 193-207

J. Luijendijk, R.K. Price and K.C. Robertson (2006), *Enhancing knowledge and capacity*, World water development report : water, a shared responsibility, p. 433-462

C. Madera, N.P. van der Steen and H.J. Gijzen (2006), *Comparison of agronomic quality of effluent from conventional and duckweed waste stabilization ponds for reuse in irrigation*, AGUA 2003 – multiple uses of water, M. Pena varon et al: IWA. - (IWA WEMS ; 11), p. 226-235

E. von Münch and C. Maksimovic (2006), *Capacity building - education and training in ecological sanitation*, Capacity building for ecological sanitation: concepts for ecologically sustainable sanitation in formal and continuing education, p. 32-47

R.K. Price (2006), *Research, education and information systems in the context of a framework for flood management*, Transboundary floods: reducing risks and enhancing security through improved flood management planning: proceedings of the NATO Advanced Study Workshop, Baile Felix, (Oradea), Romania, 4-8 May, 2005 / ed. by J. Marsalek, G. Stancalie and G. Balint

R.K. Price (2006), *Engineering and technical aspects of managing floods : hazard reduction, operational management and post-event recovery*, Frontiers in flood research = Le point de la recherche sur les crues : Kovacs colloquium, I. Tchiguirinskaia, K. Ni Ni Thein and P. Hubert, p. 73-91, Unesco, Paris

D.P.L. Rousseau and E. Lesage (2006), *Constructed wetlands for polishing secondary wastewater*, Water reuse system management manual – AQUAREC, D. Bixio and T. Wintgens

M. Schouten and M.P. van Dijk (2006), *The European water supply and sanitation markets*, Water and liberalisation : European water scenarios, M. Finger, J. Allouche and P. Luis-Manso, p. 23

S. Uhlenbrook, S. Franks, K. Heal, S. Hubbard, H. Karambiri, T. Oki and C. Valeo (2006), *Key messages, recommendations and concluding remarks*, Hydrology 2020 : an integrating science to meet world water challenges, T. Oki, C. Valeo, K. Heal, p. 155-158

C. Valeo, P. Etchevers, S. Franks, K. Heal, S. Hubbard, H. Karambiri, T. Oki and S. Uhlenbrook (2006), *Hydrological measurement*, Hydrology 2020 : an integrating science to meet world water Challenges, T.Oki, C. Valeo and K. Heal, p. 69-104

R.L. Welcomme, P. Denny, R.C. Kaggwa, J. Kipkemboi, R.E. Brummet, M.R. Hasan, N.S. Mattson, V.V Sugunan and K.K. Vass (2006), *Water management and wise use of wetlands: enhancing productivity*, Wetlands and natural resource management, J.T.A. Verhoeven, B. Beltman, R. Bobbink and D.F. Whigham, p. 155-180

TECHNICAL REPORT

S. Booth, C. Fonseca, J. Sutherland, P. Carlson and G. Amy (2006), *DBP control in high bromide water while using free chlorine during distribution*, AwwaRF report, AWWA Research Foundation

L. Gordon, H. Makurira, M.L. Mul, Y. Bhatt, D. Bossio, E. Enfors, V. Kongo, J.R. Kosgei, K. Masuki and S.D. Tumbo (2006), *Smallholder system innovations in integrated watershed management (SSI): strategies of water for food and environmental security in drought-prone tropical and subtropical agro-systems*, IWMI - International Water Management Institute, Colombo

J.G. Jacangelo, N.L. Patania Brown, A. Madec, K. Schwab, D. Huffman, G. Amy, C. Mysore, J. Leparc and A. Prescott (2006), *Micro- and ultrafiltration performance specifications based on microbial removal*, AwwaRF report 91089F, AWWA Research Foundation

J.H. O'Keeffe, M. Gudas, M. Meiners Ocha and L. Zhang (In press.), *Local capacity building for healthy watersheds*, International Conference on Local Capacity Building for Healthy Watersheds, University of Wisconsin

P. Westerhoff, w. Lee, J. Crouè, H. Gallard and G. Amy (2006), *Organic nitrogen in drinking water and reclaimed wastewater*, AwwaRF report 91116F, AWWA Research Foundation

PHD THESIS

E. Awuah (2006), *Pathogen removal mechanisms in macrophyte and algal based wastewater stabilisation ponds*, Taylor & Francis, Leiden

N.G.T. Azza (2006), *The dynamics opf shoreline wetlands and sediments of northern Lake Victoria*, Taylor & Francis, Leiden

A.K. Chapagain (2006), *Globalisation of water: opportunities and threats of virtual water trade*, Taylor & Francis, Leiden

R.K. Gupta (2006), *Analysis and control of flows in pressurised hydraulic networks*, Taylor & Francis, Leiden

R.C. Kaggwa (2006), *Fingerponds: managing nutrients and primary productivity for enhanced fish production in Lake Victoria's wetlands, Uganda*, Taylor & Francis, Leiden

J. Kipkemboi (2006), *Fingerponds: seasonal integrated aquaculture in east African freshwater wetlands: exploring their potential for wise use strategies*, Taylor & Francis, Leiden

S.N. Ngigi (2006), *Hydrological Impacts of Land Use Changes on Water Resources Management and Socio-economic Development of Upper Ewaso Ng'iro River Basin in Kenya*, Taylor & Francis, Leiden

N.L. Nyagwambo (2006), *Groundwater recharge estimation and water resources assessment in a tropical crystalline basement aquifer*, Taylor & Francis, Leiden

U. Thampanya (2006), *Mangroves and sediment dynamics along the coasts of southern Thailand*, Taylor & Francis, Leiden

M. Tu (2006), *Assessment of the Effects of Climate Variability and Land Use Change on the Hydrology of the Meuse River Basin*, Taylor & Francis, Leiden

N.U. Urrutia (2006), *Sustainable management after irrigation system transfer*, Taylor & Francis, Leiden

PAPER IN PROCEEDINGS

(In press.), *Living with Floods in the Mekong Basin: on international cooperation and hydroinformatics technologies*, International Conference on "Advances in Integrated Mekong River Management" October 25-27, Vientiane, Lao PDR, October

(2006), *Communicating the Issues of the Aral Sea Basin Long Term Vision for the Aral Sea Basin*. The Aral Sea Basin Management Model (ASB-mm), NATO ARW, NATO Advanced Research Workshop on Facilitating Regional Security in Central Asia through Improved Management of Transboundary Water Basin Resources, Florida State University

M.B. Abbott, Z. Vojinovic and B.M. Tumwesigye (2006), *The fifth generation of modelling in Hydroinformatics*, Proceedings of the 7th International Conference on Hydroinformatics, Nice, France, 4-8 September, 2006

R.J. Abrahart, L.M. See and D.P. Solomatine (2006), *Neural network hydrological modelling: all that glisters is not gold?*, Geophysical research abstracts, EGU General Assembly, Vienna, Austria, April 2006

G. Amy, E. von Münch and J. Fesselet (2006), *Ecosan can provide sustainable sanitation in emergency situations with benefits for the millenium development goals*, IWA World Congress, Beijing, China, September 10-14, 2006

G. Amy, A. Verliefde, N. van Vliet, B. van der Bruggen and J. van Dijk (2006), *A semi-quantitative method for predicting the rejection of uncharged organic micropollutants with nanofiltration*, IWA World Congress, Beijing, China, September 10-14, 2006

G. Amy, B. Heijman, J. Lozier, J. Jacangelo and C. Mysore (2006), *Investigating NOM fouling of low pressure membranes*, AWWA Water Quality Technology Conference, Denver, USA, November 2006

G. Amy, S. Nam and S. Krasner (2006), *Differentiating effluent organic matter (EfOM) from natural organic matter (NOM): impact of EfOM on drinking water sources*, 6th International Symposium on Advanced Environmental Monitoring, Heidelberg, Germany, June 27-30, 2006

S.J. van Andel and A.H. Lobbrecht (2006), *Ensemble weather forecasts and operational management of regional water systems*, 7th International Conference on Hydroinformatics, Nice, France, 4-8 September, 2006, p. 1351-1358

B. Bhattacharya, R.K. Price and D.P. Solomatine (2006), *An approach to assess uncertainty of sediment transport models*, 7th International Conference on Hydroinformatics, Nice, France, 4-8 September, 2006, p. 1261-1268

B. Bhattacharya and D.P. Solomatine (2006), *Improving empirical models with machine learning*, International Joint Conference on Neural Networks, Vancouver, Canada, 16-21 July, 2006

D. Brdjanovic, D. Solomatine and Z. Vojinovic (2006), *Optimal model-based rehabilitation of urban drainage systems and the use of computational intelligence*, 7th International Conference on Urban Drainage Modelling and 4th International Conference on Water Sensitive Urban Design, Melbourne, Australia, 3-7 April, 2006

D. Brdjanovic, C.M. Hooijmans and H.J. Gijzen (2006), *Competition between Phosphorus Accumulating Organisms (GAOs) Study of a Designed Mixed Culture*, 3rd IWA Biennial International Young Researchers Conference, Singapore

Q. Chen and A.E. Mynett (In press.), *Hydroinformatics techniques in eutrophication modelling*, Proceedings of the 6th International Conference on Ecohydraulics, Madrid.

Q. Chen and A.E. Mynett (In press.), *Predicting Phaeocystes globosa blooming in Dutch coastal waters*, 4th International Conference on Environmental Hydraulics, November 29, 2004, Hong Kong., IAHR Asian Pacific Division

G.A. Corzo Perez and D.P. Solomatine (2006), *Base flow separation in building local data-driven models for hydrologic forecasting*, 7th International Conference on Hydroinformatics, Nice, Paris, 4-8 September, 2006

G.A. Corzo Perez and D.P. Solomatine (2006), *Learning hydrologic flow separation algorithm and local ANN committee modeling*, International Joint Conference on Neural Networks, Vancouver, Canada, 16-21 July, 2006

G.A. Corzo Perez and D.P. Solomatine (2006), *Multi-objective optimization of ANN hybrid committees based on hydrological knowledge*, Geophysical research abstracts, EGU General Assembly, Vienna, Austria, April 2006.

K. Ghebremichael (2006), *Natural resources for appropriate water treatment*, 32nd WEDC International Conference on Sustainable Development of Water Resources, Water Supply and Environmental Sanitation, Colombo, Sri Lanka, November 13-17, 2006, p. 516-521

S. Grünheid, G. Amy, C. Remy and J. Schumacher (2006), *Impact of ozonation on river bank filtration*, IWA World Congress, Beijing, China, September 10-14, 2006

K.R. Gunaratna, c. Andersson, K. Ghebremichael and G. Dalhammar (2006), *Purification and immobilization of natural coagulant for water treatment*, 2nd International Conference Groundwater for Sustainable Development: problems, perspectives and challenges (IGC 2006), New Delhi, India, 1-4 February, 2006

R.M.M. Hassan and M. Young (2006), *Grass cover layer failure on the inner slope of dikes*, 30th International Conference on Coastal Engineering, San Diego, USA, 3-8 September, 2006

R.M.M. Hassan and Akram Madi (2006), *Use of indicators in ICZM, case study Gaza coastal strip*, 8th International Conference LITTORAL2006: coastal innovations and initiatives, Gdansk, Poland, 18-20 September, 2006

B. Heijman, A. Verliefde, B. van der Bruggen and J. van Dijk (2006), *Influence of hydrophobicity and charge on removal of trace organic pollutants with high pressure membranes*, AWWA Water Quality Technology Conference, Denver, USA, November 2006

Y. Huang, J.L. de Kok and A.E. Mynett (In press.), *Application of appropriate modeling to assess flood risk*, 4th International Conference on Environmental Hydraulics, November 29, 2004, Hong Kong., IAHR Asian Pacific Division

A. Jonoski and Y. Guan (2006), *Towards a global partnership for hydroinformatics education and research: the development of the joint international masters in hydroinformatics*, 7th International Conference in Hydroinformatics, Nice, France, 4-8 September, 2006

P. Kelderman, Zhu Wei and S. Verwey (In press.), *Modelling phosphorus sediment-water exchange in Lake Taihu (China P.R.) using the OOMAS model*, 4th IWA World Congress, Marrakech

C.W.H. Keuls, J. Luijendijk and K. Prasad (2006), *Monitoring and evaluation of capacity development programs at UNESCO-IHE: reflections from selected cases*, IPTRID/ICID International Workshop on Monitoring and Evaluation of Capacity Development Programmes, Kuala Lumpur, Malaysia, 14 September, 2006

T. Kim, C. Bellona, P. Xu, J. Drewes and G. Amy (2006), *Rejection of organic micropollutants by high pressure membranes: comparison of bench-scale versus single elements tests*, IWA World Congress, Beijing, China, September 10-14, 2006

P. Königer, Ch. Leibundgut, S. Uhlenbrook, M. Schwientek and W. Krause (2006), *Tritiumbilanz im Wesergebiet durch Koppelung von TRIBIL mit dem hydrologischen modell TAC-D*, Chemisches Kolloquium: radiologische untersuchungen an bundeswasserstrassen als teil der radiologischen umweltueberwachung, Koblenz, Germany, September 27, 2006, p. 70-80

M. Konz, H. Escher-Vetter, L. Braun, S. Uhlenbrook and S. Demuth (2006), *Impact of climate change on high mountain hydrology: comparison of the Himalayas and the European Alps*, Critical environmental approaches for 21st century: proceedings of 15th Annual General Meeting of the West Bengal Academy of Science and Technology: perspectives in environmental management, Kolkata, India, November 25-26, 2005, p. 15

T. Koster, G.E Sereafy, H.F.P. van den Boogaard, A.W. Heemink and A.E. Mynett (In press.), *Input correction in rainfall runoff models using the ensemble Kalman filter*, 4th International Conference on Environmental Hydraulics, Hong Kong, November 29, 2004

A. Lamei, E. von Münch, E. Imam and P. van der Zaag (2006), *A model for calculation of water demand by the tourism industry in arid coastal regions: the case of Sharm El Sheikh, Egypt*, International Congress on Integrated Water Resources Management and Challenges of the Sustainable Development, Marrakech, Marocco, May 23-25, 2006

A.H. Lobbrecht, S.J. van Andel and F.E. van Kruiningen (2006), *Operational management of hydrological extremes using global-scale atmospheric models: climate variability and change - hydrological impacts*, 5th FRIEND World Conference Water Resources Variability: processes, analyses and impacts, Havana, Cuba, 27 November - 1 December, 2006

D. Love, S. Uhlenbrook, E. Madamombe, S. Twomlow and P. van der Zaag (2006), *An evaluation of climate and run-off variability and associated livelihood risks in the Mzingwane catchment, Limpopo basin, Zimbabwe*, Water Institute of Southern Africa Biennial Conference and Exhibition, Durban, South Africa, May 21-25, 2006, p. 14

J. Luijendijk and D.F. Mejia-Velez (2006), *Knowledge networks for capacity building: a tool for achieving the MDG's?*, Workshop proceedings on Design and Implementation of Capacity Development Strategies, 56th IEC Meeting and 19th Congress of the ICID, Beijing, China 10-18 September 2005, p. 113-131

H. Makurira, H.H.G. Savenije, S. Uhlenbrook, J. Rockstrom and A. Senzanje (2006), *Water balance analysis for small holder rainfed agricultural systems: a case study of Makanya catchment, Tanzania*, 7th WATERNET/ WARFSA/ GWP-SA Symposium Mainstreaming IWRM in the Development Process, Lilongwe, Malawi, November 1-3, 2006, p. 12

M. Maskey and R.G.W. Venneker (2006), *A distributed hydrological modelling approach to flow forecasting of a large river basin*, 7th International Conference on Hydroinformatics HIC 2006, Nice, France ed. by P. Gourbesville, J. Cunge, V. Guinot and Liong, S.-Y., Vol. II, p. 1471-1478

M.B.E. Moustafa and R.M.M. Hassan (2006), *Hydraulic impacts and environmental effects of ship movement in restricted waterways*, 8th International Conference LITTORAL2006: coastal innovations and initiatives, Gdansk, Poland, 18-20 September, 2006

M.L. Mul, H.H.G. Savenije and S. Uhlenbrook (2006), *Spatial rainfall variability and runoff response during an extreme event in a small catchment in the South Pare Mountains, Tanzania*, 7th WATERNET/ WARFSA/ GWP-SA Symposium Mainstreaming IWRM in the Development Process, Lilongwe, Malawi, November 1-3, 2006, p. 9

E. von Münch (2006), *Financial and institutional challenges to make faecal sludge management integrated part of Ecosan approach: case study of Kumasi*, Ghana, IWA Beijing Biennal Congress, Beijing, China, 10-14 September, 2006

E. von Münch (2006), *The potential of Ecosan to provide sustainable sanitation in emergency situations and to achieve quick wins in MDG's*, IWA Beijing Biennial Congress, Beijing, China, 10-14 September, 2006

E. von Münch, G. Amy, A. Ochs, H. Mwase and J.F. Fesselet (2006), *Provision of sustainable sanitation in emergency situations: role of Ecosan*, 32nd WEDC International Conference, Colombo, Sri Lanka, 13-17 November, 2006

A.E. Mynett, V. Babovic and Q. Chen (In press.), *Artificial Intelligence Techniques in Environmental Hydrodynamics: the role of expert knowledge – keynote address*, 4th International Conference on Environmental Hydraulics, November 29, 2004, Hong Kong., IAHR Asian Pacific Division

I. Popescu, A. Jonoski and F. Wang (2006), *Modelling compound channels with Sobek*, Conference of the General Assembly of the European Geoscience Union , Vienna, Austria, 2-7 April 2006

I. Popescu, A. Jonoski and A.H. Lobbrecht (2006), *Decision support systems for Romanian water sector*, 2nd International Symposium on Preventing and Fighting Hydrological Disasters, Timisoara, Romania, 29 June - 1 July, 2006

R.K. Price, I. Popescu, N.C. Jung and S. Jeong (2006), *Planning and operational model for strategic management of reservoir water quality*, 7th International Conference on Hydroinformatics, Nice, France, 4-8 September, 2006, p. 2645-2652

R.K. Price, N.C. Jung, S. Jeong and S.Y. Park (2006), *Decision support process for reservoir water quality management being short of data*, Proceedings of the 7th International Conference on Hydroinformatics, Nice, France, 4-8 September, 2006, p. 2597-2604

R.K. Price, I. Popescu, A. Jonoski and D.P. Solomatine (2006), *Engineering and technical aspects of managing floods: hazard reduction, operational management and post-event recovery*, 7th International Conference on Hydroinformatics, Nice, France, 4-8 September, 2006, p. 3101-3108

R.K. Price, W.A.Y.S. Fernando and D.P. Solomatine (2006), *Inverse modelling for flood propagation*, 7th International Conference on Hydroinformatics, Nice, France, 4-8 September, 2006, p. 361-368

J.A. Roelvink, M. van der Wegen and G. Lesser (2006), *Morphological modelling of the wet-dry interface at various timescales*, Advances in hydroscience and engineering, 7th International Conference on Hydroscience and Engineering (ICHE 2006) ed. by M. Piasecki, Philadelphia, USA, September 10-13, 2006

B. Schultz (2006), *Opportunities and threats for lowland development: concepts for water management, flood protection and multifunctional land-use*, EnviroWater 2006: 9th Inter-regional Conference on Environment-Water: concepts for water management and multifunctional land-uses in lowlands, Delft, the Netherlands, 17-19 May, 2006

B. Schultz (2006), *Need for integrated water resources management: but how to achieve it?*, International Expert Consultation-cum-Conference: towards integrated river basin management, Casta-Papiernicka, Slovakia, 29 May - 2 June, 2006

B. Schultz and K. Prasad (2006), *Development and management of drylands: the need for adapted education and knowledge sharing*, International Scientific Conference "The Future of Drylands", Tunis (Tunisia), 19-21 June, 2006

S.K. Sharma, K. Vairavamoorthy and L.M. Than (2006), *Water loss management: a case study of Ho Chi Minh City, Vietnam*, 32nd WEDC International Conference, Colombo, Sri Lanka, 13-17 November, 2006, p. 348-351

S.K. Sharma, B. Petrusevski, J.C. Schippers and R.G. Fernandez (2006), *Arsenic removal from groundwater using ferric chloride and direct filtration*, As 2006 International Congress on Natural Arsenic in Groundwaters of Latin America, Mexico City, Mexico, June 20-24, 2006

D.L. Shrestha and D.P. Solomatine (2006), *A novel method to estimate the model uncertainty based on the model errors*, iEMSs 3rd Biennial Meeting: summit on environmental modelling and software, ed. by A. Voinov, A. Jakeman and A. Rizzoli, Burlington, USA, July 2006

M.A. Siebel, H.J. Gijzen, L. Rodic and C.T. Chang (2006), *Life cycle impact assessment: proposal for quantifying social impact*, Environmental Technology and Management Conference 2006 "Improving the quality of life through a better environment", Bandung, Indonesia, September 7-8, 2006

N.P. van der Steen, M.M. Mushi, C.M. Hooijmans, H.J. Gijzen and M.A. Babu (2006), *Nitrification in bulk water and biofilms of algea wastewater stabilization ponds*, 7th International IWA Conference on Waste Stabilisation Ponds, Bangkok, Thailand, September 25-27, 2006

F.X. Suryadi, B. Schultz, H. Suprianto, S.G. Irianto and R.H. Susanto (2006), *Potentials and constraints of water management measures for tidel lowlands in South Sumatra: case study in a pilot area in Telang I*, EnviroWater2006: 9th Inter-Regional Conference on Environment-Water, Delft, the Netherlands, May 17-19, 2006

Tu Min, P.J.M. de Laat, M.J.M. de Wit and S. Uhlenbrook (2006), *Has the risk of flooding in the Meuse increased due to climate variability and/or land use change?*, EnviroWater2006: 9th Inter-Regional Conference on Environment-Water, Delft, the Netherlands, May 17-19, 2006, p. 80

S. Uhlenbrook and J. Wenninger (2006), *Identification of flow pathways along hillslopes using electrical resistivity tomography (ERT)*, Predictions in ungauged basins: promises and progress, 7th IAHS Scientific Assembly, Foz do Iguacu, Brazil, April 2005, ed. by M. Sivapalan, T. Wagener, S. Uhlenbrook, E. Zehe, V. Lakshmi, X. Liang, Y. Tachikawa and P. Kumar, p. 15-20

S. Vishnudas, H.H.G. Savenije and P. van der Zaag (2006), *Participatory watershed development practices in India: a case study in Kerala*, 2005 Watershed Management Conference "Managing watersheds for human and natural impacts: engineering, ecological, and economic challenges", ed. by G.E. Moglen , Williamsburg, Virginia, USA, July 19-22, 2005, p. 1029-1040

Z. Vojinovic and D. McConnell (In press.), *Application of Data-Driven Models and Computational Intelligence in Hydrology and Hydraulics*, 8th National Conference on Hydraulics in Water Engineering, IEA and NCWE, Gold Coast, Queensland, Australia.

Z. Vojinovic, R.K. Price, D.P. Solomatine and W.J. Barreto (2006), *Approaches to multi-objective multi-tie optimisation in urban drainage planning*, 7th International Conference on Hydroinformatics, Nice, France, 4-8 September, 2006, p. 2481-2488

M. van der Wegen, J.A. Roelvink and Dang Quang Thanh (2006), *Bank erosion and morphodynamic evolution in alluvial estuaries using a process based 2D model*, Advances in hydroscience and engineering: 7th International Conference on Hydroscience and Engineering (ICHE 2006), ed. by M. Piasecki, Philadelphia, USA, September 10-13, 2006

Y.P. Xu, M.J. Booij and A.E. Mynett (In press.), *Uncertainty analysis for the Elbe Decision Support System*, Netherlands Centre for River Research

Y.P. Xu and A.E. Mynett (In press.), *Application of uncertainty and sensitivity analysis in river basin management*, Proceedings International Conference Watermatex Conference, Beijing, China, November 3-5, 2004.

Yangxiao Zhou (2006), *Groundwater regime zoning as a tool to design regional groundwater level monitoring networks*, 34th Congress of the International Association of Hydrogeologists: groundwater-present status and future task, Beijing, China, 9-13 October, 2006

Yangxiao Zhou and M.K. Hagos (2006), *GIS-based vulnerability assessment and mapping for the protection of the Dire Dawa groundwater basin, Ethiopia*, 34th congress of the International Association of Hydrogeologists: groundwater-present status and future task, Beijing, China, 9-13 October, 2006

OTHER

N.S.M. Douben (2006), *Climate variability and water systems*, LN274/06/1, Unesco-IHE, Delft

N.S.M. Douben (2006), *Research methodologies: principles and guidelines for applied scientific research*, 0317/06/01, UNESCO-IHE, Delft

E. von Münch (2006), *Introduction to ecological sanitation lecture notes*, UNESCO-IHE, Delft

E. von Münch, P. van der Zaag and A. Lamei (2006), *Water supply and demand forecasting models for the tourism industry in arid coastal regions: Sharm El Sheikh, Egypt*

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Festival van Vlaanderen - OdeGand
Gastprogrammering Het Muziektheater
Handelsbeurs Concertzaal Gent
Les Ballets C de la B
Lucien den Arend sculptor
Marjorie Ryerson photographer and orchestrator
Rotterdam Philharmonisch Orkest
Slagerij van Kampen
Troubleyn | Jan Fabre performing arts

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Prospective candidates are suggested to contact the local Alumni Association before they leave their own countries. UNESCO-IHE fervently encourages all its Alumni to partake in the Institute's aim to deepen and strengthen Alumni networking world-wide.

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"I have always been interested in the physical expressions of emotions. I used photography, paintings and videos in my choreographies, evolving into new tools to express instinct, emotion and intellect encountering new faces, new places, playing with I, you, we, he, she, it, they, touch, say, move, remember, see, articulate, feel, poetry, dance, feeling, anatomy, image, thoughts, personal history, not personal history."

Catherine Massin has been a Cultural Ambassador of UNESCO-IHE since 2005

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