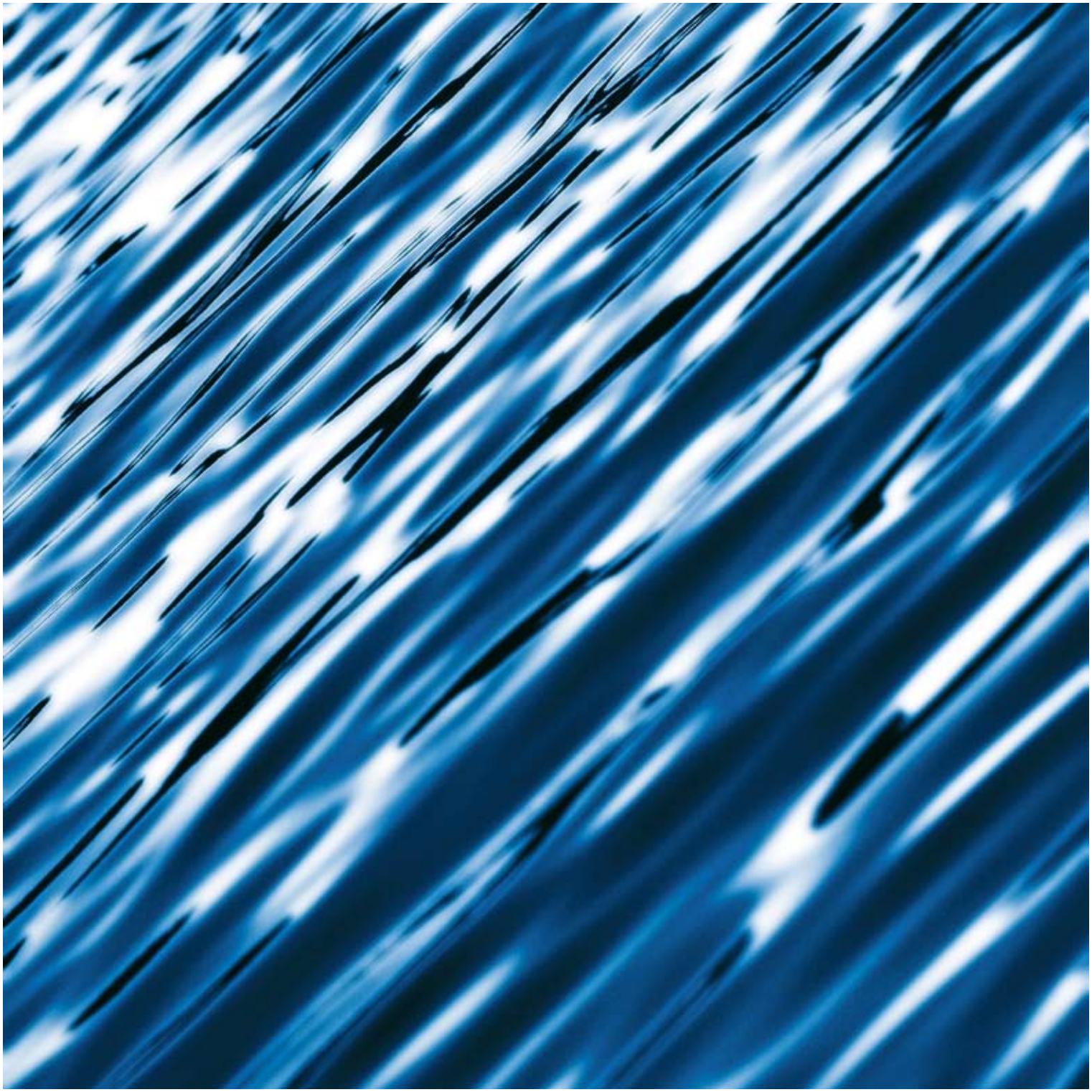


UNESCO-IHE
Institute for Water Education

ANNUAL REPORT 2008

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.

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 13,500 water professionals
from 162 countries, the vast majority from the developing world. More than 60 PhD candidates were promoted, and numerous research and capacity building projects were carried out throughout the world.
Alumni reach senior positions in their home countries and become nationally and internationally recognised experts in their fields of expertise. 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 International Hydrological Programme, the World Water Fora, the World Summit on Sustainable Development, and the Commission on Sustainable Development.

RECTOR'S STATEMENT

We consider 2008 a milestone year for several important reasons; chief among those is that we completed five years as a UNESCO Category I Institute stronger in every sense of the word. If we recall the words of the Director General in July 2003, that "UNESCO-IHE represents a new organizational and management model for UNESCO, one that builds on the substantive record of a well established post-graduate training institution, but which will also catalyze new and creative ways of delivering a world-class, cutting-edge education in a sector fundamental to sustainable development", we are also obligated to take stock of how well we have complied with these lofty goals.

Without question we have confronted many challenges – academic, managerial, financial but I believe it a fair statement that we have produced logical responses to these very issues – all with an eye toward the opportunities that challenges represent in the long-term.

What distinguishes us from other parts of UNESCO and even other post graduate venues throughout the world is that the level of commitment of the staff of UNESCO-IHE permits us to encounter challenge and quite literally see opportunity. We were challenged to improve both the quantity and quality of our scientific outputs. We did so by markedly increasing the numbers of peer-reviewed scientific publications as well as the numbers of PhD research fellows studying at the Institute. This, in turn, helped revitalize the very spirit of the academic staff. We were challenged financially, particularly in terms of meeting our operating costs and fellowships.

Once again, with what we refer to as our normal level of determination, we were able to help stabilize our base subsidy together with the support from our host Government and renew our operational and cooperation agreements for an additional five-year period. Additionally, the numbers of qualified MSc applicants continues to grow in spite of the increased competition for fellowships. We were challenged to remain a state-of-the-art institution in a physical sense. Our reaction was to develop a prioritized and phased plan to remodel the physical facilities of the Institute, upgrade our ICT delivery systems and increase our internal connectivity. Finally, we were challenged to deliver more of our products to our partners. Our response? Increase the flexibility of our academic offerings, develop a plan for inter-institutional credit transfer, and assigning credits to both short courses and distance learning offerings, among many other adjustments.

All of this progress does not come about without a dedicated and motivated staff. I am confident that returning alumni will not recognize the Institute in three years when our business plan is fully implemented. This gives me hope that our 'new model' will continue to challenge us and continue to offer us the opportunity to strive for excellence.

Finally, this will be the last opportunity for me to reflect of the outputs of a full year of work at this Institute as I will retire in mid-2009. I am absolutely confident that the future is bright and that when I receive future years' annual reports I will reflect back on these early formative years of UNESCO-IHE, filled with challenge and opportunity and leading to excellence in output – no one can ask for more.

Professor Richard A. Meganck, MSc, PhD
Rector

2008 AT A GLANCE

UNESCO-IHE IN NUMBERS

- 152 fulltime-equivalents of which 51% academic and 49% supporting staff
- 4 Water and Environment related Master Programmes with 15 specialisations
- 172 new MSc participants from 78 countries
- 162 MSc degrees awarded
- 81 registered PhD fellows
- 6 PhD graduations
- 468 water sector professionals in short courses
- 233 participants in 10 online courses
- 2 refresher seminars held for alumni
- 267 scientific publications
- 106 capacity building projects
- Total turnover of € 27 million, overall negative result of € 48,000

EDUCATION

- The MSc-specialisation in Water Conflict Management was offered for the first time.
- Ten new online courses were developed.
- A system was set in place to allocate ECTS points for regular short courses, starting January 2009.
- An extensive teachers training programme started with the aim of catalyzing more student-centred learning.

RESEARCH

- A self-evaluation of UNESCO-IHE's research programme was performed, following the protocol from the Dutch Royal Academy of Sciences.
- Within the SWITCH project, 8 PhD and 10 MSc participants were active at UNESCO-IHE, the City of the Future symposium series was initiated, a film documentary was created and the SWITCH training website was launched.
- Seven research project started with a total € 4 million funding from the newly created UNESCO-IHE Partnership Research Fund.

CAPACITY BUILDING

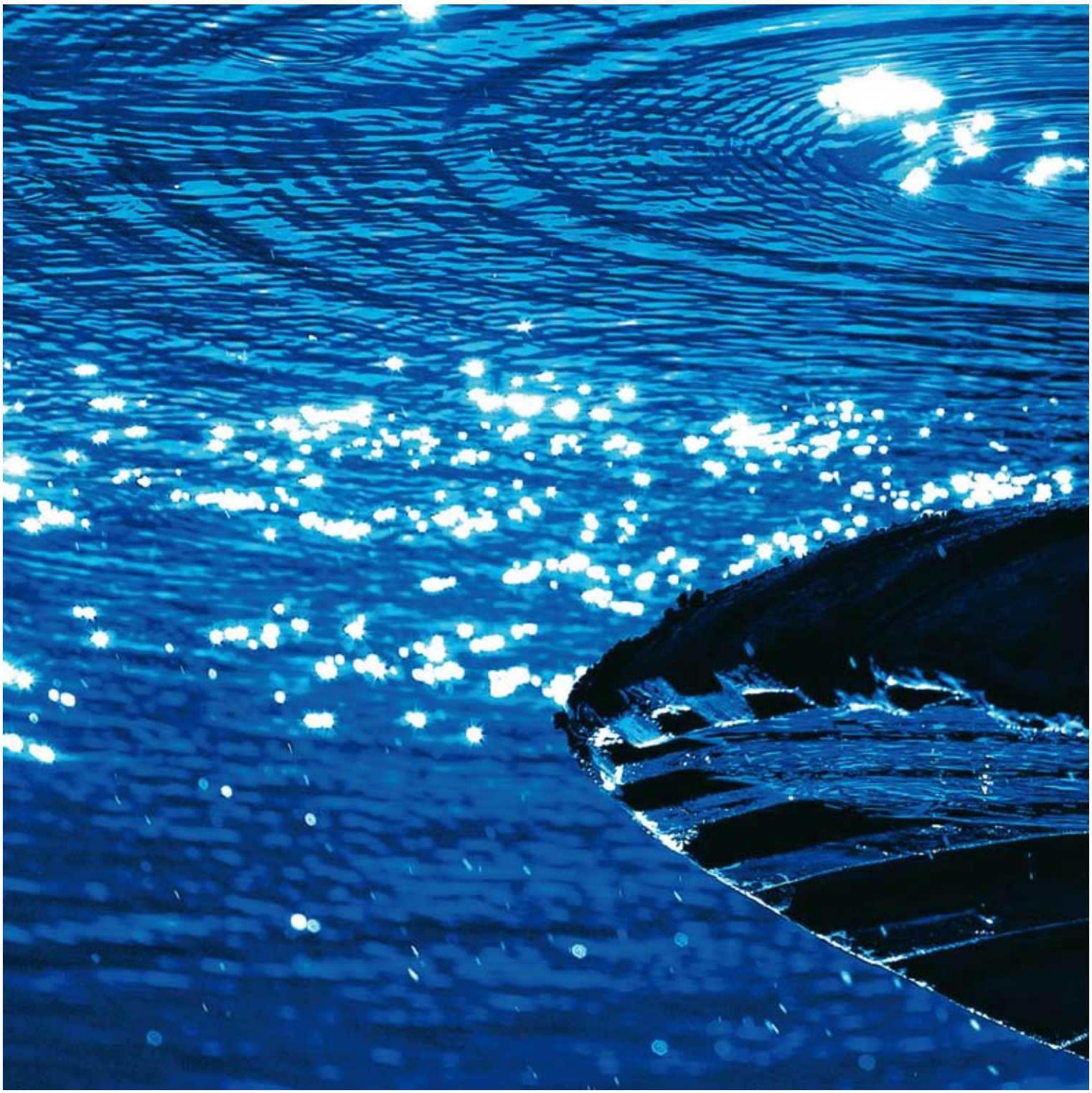
- Total turnover of € 10 million in capacity building projects and a fee income of € 3.2 million.
- Start of a multi-year programmatic cooperation between DGIS and UNESCO-IHE, replacing the former project-based collaboration.
- The proceedings of UNESCO-IHE's 50th anniversary symposium 'Water for a changing world - developing local knowledge and capacity development' were published.
- More than 20 tailor-made courses were delivered to water sector professionals in Iran in the framework of a capacity development project for the water and wastewater sector.

PARTNERSHIPS AND NETWORKING

- The 'Workplan for Tertiary Water Education' was developed with UNESCO's International Hydrology Programme (IHP) to outline the cooperation between IHP and IHE.
- The internal UNESCO-IHE Partnership Research Fund (UPaRF) was established and a first call for research proposals was launched.
- The UNESCO-IHE Global Partnership for Water Education and Research website and collaborative platform *www.powerwaterknowledge.net* went online.
- A launch event for the Asia-Pacific Water Forum Regional Network of Knowledge Hubs took place in Singapore.

OVERALL DEVELOPMENT OF THE INSTITUTE

- The first 5-year period of existence as a UNESCO Institute was completed. Further to the positive evaluation, the agreements with UNESCO and the Government of the Netherlands were renewed for a second 5-year term.
- An improved subsidy arrangement for the period until 31 December 2013 was signed with the Netherlands Ministry of Education, Culture and Science.
- IRC, NWP and CPWC relocated to The Hague in anticipation of the overall refurbishing of the main premises of UNESCO-IHE and the regrouping of all staff and students in one building.

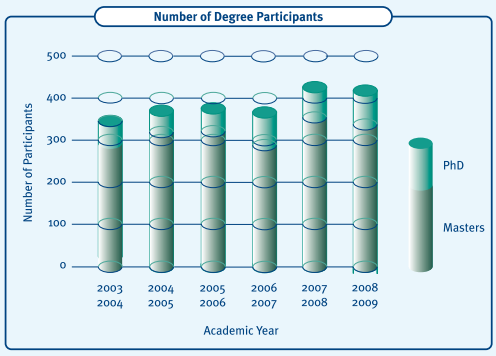


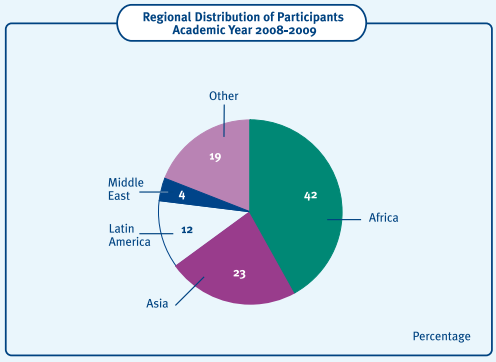
CORE ACTIVITIES

MASTER PROGRAMMES AND SPECIALISATIONS OFFERED IN 2008

MSc Programmes	Specialisations
Environmental Science	Environmental Science & Technology
	Environmental Planning & Management
	Limnology & Wetland Ecosystems
	Water Quality Management
Water Management	Water Conflict 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 2007-2009	2008-2010
Environmental Science	39	41
Water Management	26	24
Municipal Water & Infrastructure	36	34
Water Science & Engineering	54	73
Total	**155**	**172**





Following changes in previous years, in 2008 the degree programmes offered at UNESCO-IHE consolidated into the 18-month Master of Science (MSc) and the 4-year Doctor of Philosophy (PhD) programmes. Some 172 participants started the MSc programme in October 2008 bringing the total number of MSc and PhD participants registered in the Institute to 415. These participants come from nearly 80 countries. The trend in the numbers of registered degree participants in recent years is shown below. This year represents a welcome increase compared to the downturn in 2007, but efforts to acquire scholarship funds and to secure them for the long-term will continue to be a challenge.

In addition to the degree programmes, UNESCO-IHE delivered an extensive programme of short courses, online courses and tailor-made training courses. In order to serve the continuing professional development of the Institute's alumni, two refresher seminars were given, one in Indonesia on 'Climate Change and Coastal Lowland Development in (Sub)-Tropical Environments: Improving opportunities and daily livelihood conditions for people at risk)' and one in and Uganda entitled 'Decentralised Water Supply and Sanitation: A key approach to achieving the Millennium Development Goals'. A policy and procedure were developed with the aim issuing European Credit Transfer System (ECTS) points to participants who successfully pass the examination for a short or online learning course; credits for these courses can be earned starting in 2009.

In recent years UNESCO-IHE made an effort to increase the number of PhD participants from target countries and in 2008, 20 new PhD participants were registered. This is viewed as a vital part of capacity building as, once promoted, many of the PhD participants return to their home countries to strengthen their own institutes.

Partner institutes were involved in the Institute's work either through delivering courses that feed into Delft-based MSc programmes, or through UNESCO-IHE delivered courses in the partner institutes. Examples of this are the Limnology and Wetland Ecosystems specialisation with the Institute of Limnology in Mondsee, Austria, the double degree MSc specialisation in Lowland Development with Sriwijaja University in Indonesia, and the MSc specialisations in Hydroinformatics and in Coastal Engineering with Hohai University in China. The new specialisation Water Conflict Management was offered for the first time with the University of Dundee in Scotland and the UNESCO programme Potential Conflict to Cooperation Potential (PCCP).

In 2008, ten new online courses were developed jointly with more than twenty partner institutes from twelve countries. Together with the African Sanitation Knowledge net, the sanitation courses will be modified to be used as specific professional training materials. These new online courses are:

- Industrial Wastewater Treatment and Residuals Management
- Urban Drainage and Sewerage
- Sustainable Sanitation
- Modelling Sanitation System
- Management of Sanitation Systems
- Urban Water Systems Modelling
- Urban Flood Modelling and Disaster Management
- Integrated River Basin Management (upgrade and expansion)
- Simulation Game on Water Utility Management
- Simulation Game on River Basin Planning

The Institute continued to developed plans for innovation in its teaching programme to increase both efficiency and quality. These plans include substantial investments training for teaching staff. The Institute decided to align itself to the Dutch university policy for the Basic Teaching Qualification system. A first training course on student centred learning was given, and steps were made toward increasing flexibility in the Institute's educational programmes; participants can now earn ECTS points for short courses. Increased flexibility will allow participants to follow a programme more tailored to their needs, studying part-time over a number of years and studying both online, in regional hubs or in Delft.

Over the last few years, UNESCO-IHE has made research one of its top priorities.Apart from continuing demand-driven research activities in 2008, the sum of research activities and outputs undertaken at the Institute was further increased during the year. The graphic below shows the number of research outputs, and Annex 3 lists the PhD promotions and registered PhD fellows in 2008.

Research efforts are centred around UNESCO-IHE's five themes, namely 'Water Security', 'Environmental Integrity', 'Urbanisation', 'Water Management and Governance', and 'Information and Communication Systems'. Annex 5 shows how UNESCO-IHE's research lines relate to these five themes. Most research contributes to the capacity building efforts of the Institute as it is carried out in collaboration with junior researchers at partner institutions. Thus, undertaking joint research is one important way to increase the research capacity in the South.

After the Institute became a member of the Dutch research school SENSE (Socio-Economic and Natural Sciences of the Environment) in 2007, a self-evaluation of its research in 2008 following the self-evaluation protocol (SEP) from the Dutch Royal Academy of Sciences (KNAW) was implemented. This included an inventory of research input and output, a reflection on the societal relevance and academic reputation, and a SWOT analysis of all core groups and the Institute as a whole. This prepared the Institute for a research assessment by an external committee – including a visitation – upcoming mid-2009. The self-evaluation showed that about 60% of the research is funded by third parties as contract research, while about 35% of the research is financed by the Institute and only 5% of research is funded by the Dutch Science Foundation (NWO).

Research Outputs	Numbers	
	2007	2008
Journal articles	102	134
Books	5	4
Chapters in books	18	23
Paper in proceedings	102	79
PhD thesis	5	6
Other publications	4	43
Total	236	289

In 2008, many research proposals were submitted to funding agencies including the EC, ADB, and NWO-WOTRO. Within the 7th framework programme of the EC a number of research proposals were submitted, and the proposal entitled 'A novel bioprocess coupling wastewater treatment with electricity production to remediate metal polluted aquatic environment' was approved.

In 2008, the programmatic framework collaboration with DGIS began, which stimulates interdisciplinary and cross-core research projects. A first call for the internal UNESCO-IHE Partnership Research Fund (UPaRF) projects resulted in 42 pre-proposals. The proposals covered the following themes: Integrated management of water supply and sanitation, sustainable management of aquatic ecosystems and land use, water allocation and decision processes in river basins, and mitigation and adaptation for climate change. Seven projects noted below were selected for funding.

- Low-cost drinking water treatment in developing countries: use of indigenous materials and affordable adsorbents
- Research on sediment and sediment transport from upstream to estuary
- The ecology of livelihoods in East African Papyrus wetlands
- Upscaling small-scale land and water system innovations in dryland agro-ecosystems for sustainability and livelihood improvements
- Risk-based operational water management for the Incomati River basin
- Integrated approaches and strategies to address the sanitation crisis in unsewered slum areas in African mega-cities
- Partnerships in the water supply and sanitation sector

A total of nearly € 4 million was awarded to these research projects, involving 23 partner institutes from 13 countries. These projects allow existing research lines to be further strengthened through the inclusion of research partners from other disciplines, and investigation in new research lines.

In 2008, the project 'In Search of Sustainable Catchments and Basin-wide Solidarities; Transboundary Water Management of the Blue Nile River Basin' started. Six PhD researchers and one post-doc were appointed to the project, representing a wide range of water-related disciplines. The projects involves Southern and Northern partners, including the International Water Management Institute (IWMI), Addis Ababa University, Khartoum University, the Eastern Nile Technical Regional Office of the NBI, several Ministries in Sudan and Ethiopia, the Institute of Environmental Studies of the Free University Amsterdam and the Hydrology group at the Delft University of Technology .

In 2008, UNESCO-IHE was involved in several large-scale EC funded projects, including the WetWin river basin twinning initiative, in which implementation of IWRM in various basins in Europe and Africa are studied in compliance with the EU Water Initiative objectives and Millennium Development Goals targets.

The research activities within the transboundary water management project in the Blue Nile (Ethiopia & Sudan) started in 2008. The project will search for basin-wide solidarities for sustainable river basin management.

The EC co-funded SWITCH project focussed on integration and dissemination with action research, demonstrations and training activities in 13 global cities. Six cities agreed on a Vision for 2030 and three cities selected a set of Sustainability Indicators to monitor progress towards that vision. PhD work was ongoing in 2008, including 8 PhD fellows at UNESCO-IHE, and about 40 in the consortium as a whole. PhD research is supported by a number of MSc participants, of which 10 study at UNESCO-IHE. Other noteworthy activities in 2008 included the creation of a film documentary, the launch of the SWITCH training website, presentations at EXPO 08 and IWA World Water Congress, and the initiation of the City of the Future symposium series. To date SWITCH has delivered over 200 reports, which are now being translated into policy briefing notes and training materials. For further dissemination of research results continuing after the end of the project, the International Research School for Urban Water Management (IRS-UWM) was established in 2008, in cooperation with IHP. The 5-year project on integrated urban water management has a € 24 million budget to build capacity of local governments through the learning alliance approach in various locations in the world. In total 32 partners are involved in the research and demonstration activities.

The total project turnover in 2008 was € 9,3 million. Capacity Building and Research projects together represent the majority of UNESCO-IHE's projects (respectively 47% and 28%). Research projects continued to increase from a turnover of €1,8 million in 2007 to €2,6 million in 2008. The complete overview of projects in which UNESCO-IHE was involved in 2008 is presented in Annex 4.

In 2008 the first research projects were initiated under the UNESCO-IHE Partnership Research Fund (UPaRF). Through a competitive selection process seven projects were awarded funding for research activities involving partner institutions in Africa and Asia. The research chapter includes more information on UPaRF.

Within the framework of the programmatic cooperation between UNESCO-IHE and DGIS (DUPC), research was initiated to articulate the theoretical framework of Knowledge and Capacity Development. This research will identify key indicators, best practices and benchmarking mechanisms that will assist development and government agencies to prioritise their investments in water sector development and to monitor and track impact of knowledge development and capacity building interventions.

A noteworthy acquisition in 2008 concerned a capacity building project for water programs in higher education in the Caribbean funded by the EC´s Edulink Programme. The institutional and academic capacity will be built at the University of the West Indies in Trinidad and Tobago and the University of Guyana. Activities will include the identification of water-related research themes for the Caribbean, strengthening the Bachelor curricula, joint development of Master curricula in water education, and providing assistance to supporting facilities including the enhancement of administration and planning.

UNESCO-IHE also secured funding from UN-Habitat for the Lake Victoria Region Water and Sanitation Initiative to train and build capacity of local municipalities in utilities management and urban catchment management in Uganda, Kenya, and Tanzania. The Institute obtained funding from Nuffic for tailor-made trainings in Armenia and Georgia on water resource management in agri-ecosystems and for the Addis Ababa Water and Sewerage Authority in Ethiopia on water and sanitation.

In Iran, the Institute delivered capacity building activities for professionals in the water and wastewater sector in the framework of a World Bank sponsored project. UNESCO-IHE delivered 25 tailor-made courses, and organised four study tours in Europe for Iranian delegations. The project aims to train 2,100 professionals and will run until the third quarter of 2009.

The project 'Improving Municipal Wastewater Management in Coastal Cities in ACP Countries' was implemented in collaboration with UNEP-GPA. This project is funded by European Union's ACP Water Facility and UNDP-GEF. The project improves skills, knowledge and attitudes needed in project identification, planning and financing at the municipal level in water, sanitation and wastewater management in East and West Africa, the South Pacific and the Caribbean. In 2008 the Institute presented four short courses and tailor-made courses in Ghana, Nigeria, Jamaica and Trinidad and Tobago.

WaterNet - a regional network of 56 partners in Southern Africa - reached a milestone as the WaterNet Trust took over executive responsibilities from UNESCO-IHE and now functions as an autonomous network organisation building capacity in IWRM. As founding member UNESCO-IHE will remain actively involved in harmonising the capacity building efforts and integrating the educational activities. WaterNet´s outputs in 2008 included the delivery of more that 40 MSc graduates from core educational programmes in Zimbabwe, South Africa and Tanzania and specialisations in Namibia and Malawi.

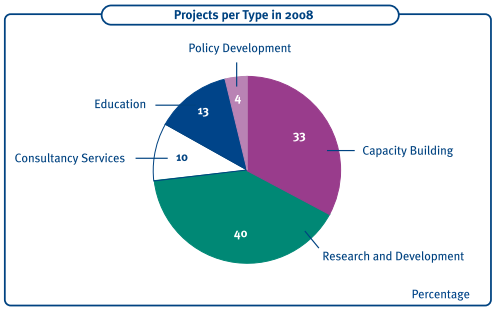
The Nile Basin Capacity Building Network (NBCBN) project focused on stimulating collaborative applied research among water experts in the ten Nile basin countries, giving training and sharing knowledge between partners through Internet-based collaborative working platforms. In 2008, UNESCO-IHE kicked-off the research line on the 'impact of climate change on the water resources of the Nile Basin', and twenty research projects were started within this theme. In October, the NBCBN network published its first volume of the Nile Water Science and Engineering Magazine.

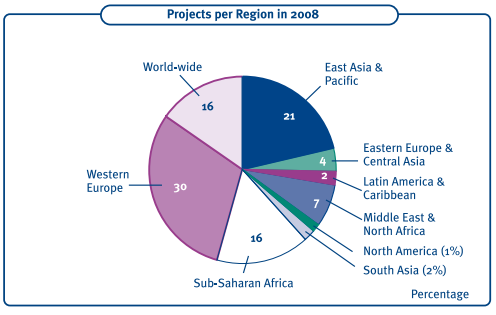
The Dutch capacity building programme for the Institutional Strengthening of Post-Secondary Education and Training Capacities (NPT) remained an important funding source of the Institute´s capacity building activities, with on-going projects in Ghana, Rwanda, Indonesia and Guatamala.

In the NPT project in Ghana, 15 participants were admitted to the Water Resources and Environmental Programme for the 2008/09 academic year. The 22 participants admitted the previous academic year completed their taught courses and initiated their MSc research. UNESCO-IHE organised a short course in Water Quality Control in Water Supply, with 35 participants from Ghana and the sub-region. Regional collaboration was further explored through visits to and from the International Institute for Environmental Engineering in Burkina Faso.

The first batch of twenty participants within NPT project in Rwanda graduated from the MSc programme in Water Resources and Environmental Management. A second batch of 16 participants will complete the taught part of the programme in early 2009. Through interdisciplinary research projects initiated under the project, the National University of Rwanda is boosting its research capacity and strengthening the links with national and regional partners to address regional needs.

During 2008 the NPT project in Indonesia continued to strengthen the CKNet-INA network through the delivery of short courses and workshops on Performance Management and Benchmarking, Economic and Financial Instruments in IWRM, Capacity Building Network Development and Management. The network partners are became increasingly active in delivering course modules to regional water sector professionals, and organising Regional Network conferences on IWRM. The network's website www.cknet-ina.org was launched.





Under the aegis of the UNESCO-IHE Global Partnership for Water Education and Research, the Institute made consistent progress towards conducting activities in close cooperation with partner institutes and established strategic alliances in 2008. The most notable activities in support of this policy were the establishment of the UNESCO-IHE Partnership Research Fund, the start of establishing Transfer of Credit Systems with a number of Educational Institutes to facilitate the issuing of double or joint degrees, the joint development of educational material in an online learning structure to facilitate the incorporation of local knowledge and experience and support to water sector networks and capacity building of institutes. The partnership website and collaborative platform www.powerwaterknowledge.net was established.

The UNESCO-IHE Partnership Research Fund (UPaRF) was established early 2008. The UPaRF funded projects are interdisciplinary and and include significant Southern partner contributions; a minimum of 10% of the funding of each project goes directly to these partners, further intensifying collaborative research with partners. More information about UPaRF can be found in the Research chapter.

UNESCO-IHE aims to conduct its educational activities increasingly with partner institutes. New agreements were made for a joint degree in Urban Water Engineering and Management with the Asian Institute of Technology, starting in 2009. An agreement was reached with the Mondsee Institute of Limnology in Austria and the Egerton University in Kenya to transfer part of the joint master programme specialisation on Freshwater Ecosystems to Egerton. A basic agreement was completed to establish credit transfer systems and joint educational programmes in water supply and sanitation with Universidad del Valle in Colombia, Kwame Nkrumah University of Technology in Ghana and Birzeit University in Palestine. The double degree programme in Lowland Development with Sriwijaja University in Indonesia continued with the arrival of the first participants at UNESCO-IHE. A new specialisation in Water Conflict Management under the Institute's MSc Programme in Water Management started in cooperation with Dundee University's Centre for Water Law, Policy and Science in the United Kingdom.

In 2008, UNESCO-IHE continued its active support to the water knowledge sharing networks in Indonesia (CK-Net), in Southern Africa (WaterNet), in the Nile Basin (NBCBN-RE) and in the Asia-Pacific region (APWF-Network). An MoU was signed with the WaterNet Trust to confirm the continued capacity building collaboration, also after the network transformed from a project organisation into a legal entity in 2007.

Activities in the framework of the establishment of an 'Asia-Pacific Water Forum Regional Network of Knowledge Hubs' gained momentum in 2008 and led to a launch event in Singapore in June. The network grew quickly and now includes 15 regional centres of excellence (Hubs). UNESCO-IHE provided assistance in the organisation of regional meetings and developed a website with collaborate workspaces for the network. A Centre for Hydroinformatics for River Basins was established at the Yellow River Conservancy Commission in Zhengzhou, China.

In order to stimulate further synergies between the Institute's and other UNESCO programmes and centres, the Institute developed – together with the secretariat of the IHP Programme – a 'Workplan for Tertiary Water Education'. The document was endorsed by the IHP Council and highlights four main activities: the creation of a UNESCO-based trust fund for fellowships for studies at UNESCO-IHE, the implementation of a global water education and training needs assessment, stock-taking of best practices in tertiary water education, including the organisation of a regional workshop for Europe and North America, and the dissemination of best practices.

In the Netherlands, a framework agreement was signed with TTIW/ Wetsus which sets out the administrative and financial arrangements for collaboration in applied research. At the invitation of the City of Delft, the Institute was one of the main partners in the design of a business case for the establishment of a Delft Water Knowledge / Delta technology Demonstration and Promotion Centre.

BILATERAL PARTNERSHIPS

UNESCO-IHE has bilateral partnership agreements with more than 30 public and private organisations in support of shared interests in education, research and capacity building. The following Memoranda of Understanding were signed in 2008:

UNESCO-HidroEx, Minas-Gerais, Brazil

Signed: January 2008

Goals: Strengthening of HidroEx and VERdeMinas as education and research institutions and development of joint activities in education (including online course) and research in the field of hydro-resource management.

WaterNet Trust, Botswana

Signed: May 2008

Goals: Cooperation in capacity building in integrated water resources management in Southern Africa. Specific objectives include the training of staff of the WaterNet Trust organisation and its members and the development of joint education and research programmes with members of the WaterNet network. It was also agreed that UNESCO-IHE will remain an active "supporting member" of WaterNet, and that WaterNet will remain an active member of the UNESCO-IHE Global Partnership for Water Education and Research.

National University of Rwanda

Signed: May 2008

Goals: Conducting and facilitating the development of academic exchanges and collaborations. Activities may include short and long term training of university staff by UNESCO-IHE, exchange of staff and students, exchange of lecture notes and publications, joint research, and the organisation of scientific meeting

International Centre for Water Hazard and Risk Management (ICHARM) Japan

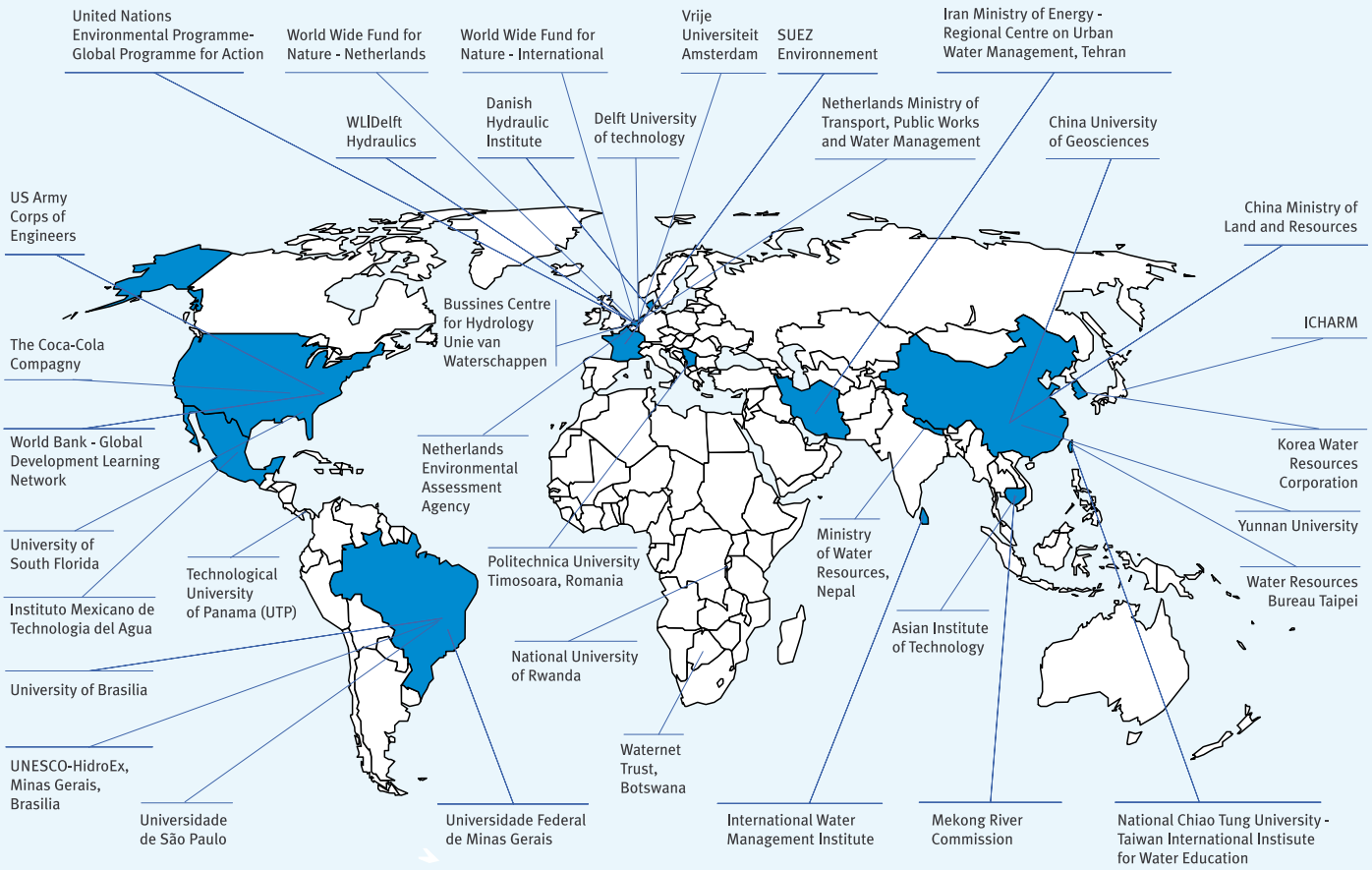
Signed: June 2008

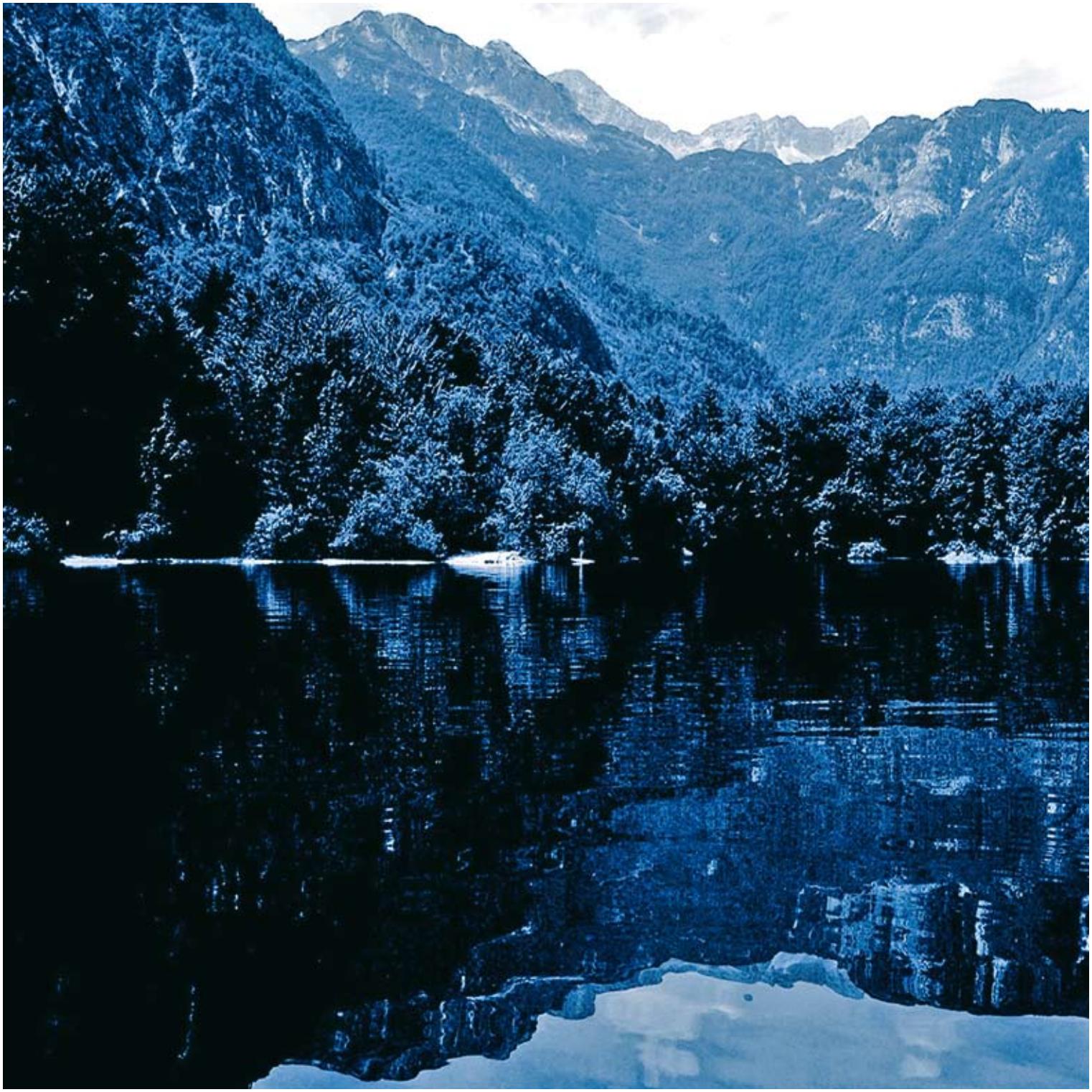
Goals: Development and implementation of joint post-graduate training in the field of Climate Change, including guest lecturing and developing joint online learning and tailor-made modules. Collaborative research in the context of Climate Change, including research on the 'flood vulnerability index', early warning systems for floods, and possibly on the development of a 'climate index'.

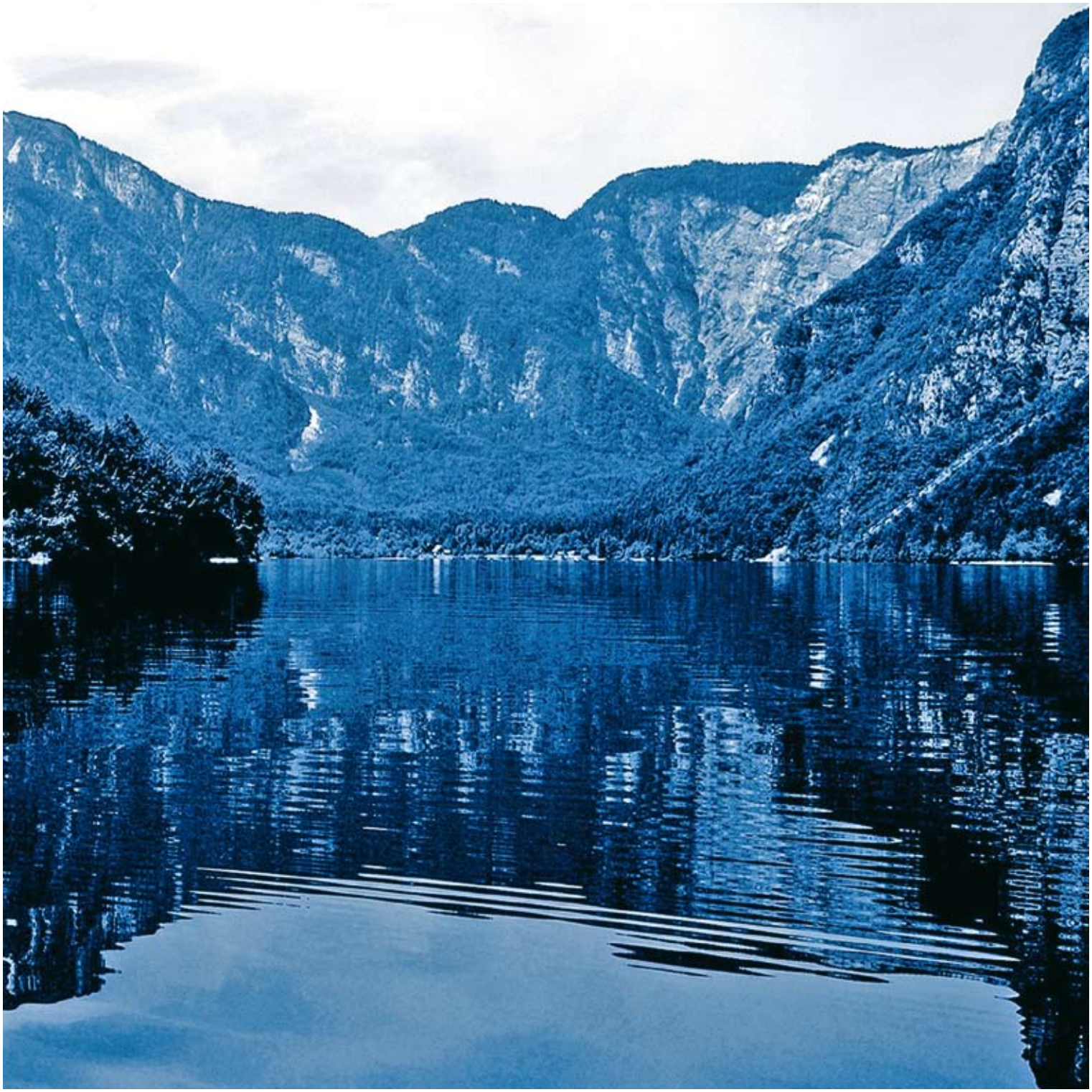
Technological University of Panama (UTP)

Signed: July 2008

Goals: Promotion of academic cooperation between both institutions, including the exchange of students and staff for joint research and learning, the organisation of tailor-made short courses and training of UTP-staff at UNESCO-IHE.







THEMES

Water Security is about sustaining a balance between water availability and demand. It involves protection against the extremes of floods and droughts by reducing the associated hazards, the wise use of water resources, and enlarging access to safe and reliable water services.

The topic of Flood Resilience of Urban Systems moved to the Hydraulic Engineering and River Basin Development core. This move allows for enhancing research on flood vulnerability and techniques for mitigating flood risks in river basins and urban areas.

Internally at UNESCO-IHE, Chris Zevenbergen, Professor of Flood Resilience of Urban Systems moved from the Sustainable Urban Infrastructural Systems core in the Urban Water Systems department to the HERBD core in the Water Education department.
This move will enhance the cooperation of continued research on flood vulnerability and techniques for mitigating flood risks in river basins and urban areas.

In the context of protection against floods, the modelling of flash floods and the development of flood vulnerability indices was given much attention. The latter activity is carried out in close cooperation with the UNESCO-Category II institute ICHARM in Japan. ICHARM staff was exchanged with UNESCO-IHE staff for the presentation of modules and short courses, and the development of common research.

A number of PhD fellows undertook research on the hydrological process and modelling research in agro-ecosystems in Tanzania, Zimbabwe and Rwanda, as well as time series and modelling research at the regional scale in river basins in Iran, Thailand and Malaysia. A new interdisciplinary research project in the Blue Nile river basin started, in which two PhD researchers are working on catchment hydrological problems including large-scale, process-based modelling and the control of land use on the hydrological system. Highlights within the investigation of groundwater systems with special focus on artificial recharge and bio-colloid transport were the finalising of a big groundwater data base project in China, the start of a new PhD research on shallow groundwater dynamics in Rwanda, and the significant progress on the bacteria transport investigation in large soil columns. Moreover, research on artificial recharge in the Middle East continues. The effect of the construction of four retention dams in Jordan on the artificial recharge with surface water was investigated, and the hydrological study for building a retention structure in the West Bank was completed. All these research results provide a better knowledge base about the generation and prediction of hydrological extremes like floods and droughts and the sustainable use of clean water.

A project was initiated with UPaRF funds to develop modelling tools that can be used to assess deposition and erosion processes of fine sediments throughout river basins, from upstream reservoirs to floodplains and estuaries. A second UPaRF project addressed sanitation and environmental problems of slum areas including a component on the hydrological processes in urban slums.

The research project entitled 'Strengthening Tidal Lowland Development' was completed in 2008. The applied research resulted in a methodology to improve the water management and agricultural production conditions in the reclaimed tidal lowlands of Indonesia. The methodology was adopted by the Indonesian Government for the improvement of in total four million ha tidal lowlands.

In preparation for the 5th World Water Forum topic on Water and Food for Ending Poverty and Hunger a study was carried out to investigate how the required increase in food production compares to the present trend of increase and its implications for water management. Research on spate irrigation continued and resulted in various publications.

New research projects included 'Climate Change Impacts on Australian Coasts' and 'the Long-term Morphological Modelling of the Marsdiep Inlet'. The latter research is conducted by Ali Dastgeib, who received the IADC-Award for the best paper written by a young author, at the 2008 PIANC-COPEDEC VII Conference.

Ongoing research included the projects on hurricane impact modelling, the impact of sea level rise on tidal inlets, the long-term effects of climate change and changing water distribution on the northern part of San Francisco Bay, and the development of the Community Sediment Transport model and the Generic Morphological Model.

Of the 26 PhD fellows with research related to Water Security, seven started in 2008. Two PhD-fellows successfully defended their theses on 'The Use of Very Soft Clay for Road Embankment', and 'Salt Intrusion, Tides and Mixing in Multi-Channel Estuaries'. The inaugural address entitled 'Engineering, Education, Empowering' was given in October. The Water Security related research output includes more than 30 peer-reviewed journal papers and numerous other publications.

The Master Programme in Water Science and Engineering (WSE) 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 2008, 75 participants defended their MSc thesis successfully, and 72 new participants were registered for the academic year 2008-2010. The curricula of the specialisations within WSE were further integrated, resulting in two common modules for all participants of the Master Programme.

Environmental Integrity recognises the complementary needs of societal development and of the consequent quality of the aquatic environment. Core issues are the equitable allocation and use of natural resources, the prevention and control of pollution, and the sustainable use of aquatic ecosystems.

The Master Programme in Environmental Science offers four specialisations: Environmental Science and Technology, Environmental Planning and Management, Water Quality Management and Limnology and Wetland Ecosystems (implemented jointly with the Institute for Limnology, Austrian Academy of Sciences, Mondsee, Austria). In 2008, 46 participants defended their MSc thesis successfully, 39 started their MSc research project and 41 were registered for the academic year 2008-2010.

A poster on 'Environmental Impact Assessment Research Activities at UNESCO-IHE´, which was based on the results of four MSc theses, received 'The Best Poster at the Conference' award at the International Association of Impact Assessment Conference held in Perth in May 2008. More than 60 participants followed a short course within the Environmental Integrity theme.

Four online courses were organised with a total of 56 participants, of which 'Climate change in integrated water management' was organised for the first time in 2008. A number of UNESCO-IHE partners, including UniValle, ICHARM, Cap-Net and WMO contributed to the content of this course.

The SWITCH project on integrated urban water management continued to be the major research project in 2008. Other ongoing research activities included developing design criteria for road construction in floodplains (Roads and Floods in the Mekong) and green design and pollution prevention (Human Resources Development for the improvement and protection of environment in Asia). The EU funded project BIOTRAC on speciation of metals in anaerobic environments, like bioreactors for anaerobic wastewater treatment, started with the appointment of a post doctoral fellow for two years. Preparations for a research project on wetland conservation and utilisation in the context of local and global change in East Africa started after UPaRF funding was secured.

Fifteen PhD participants were involved in research under the Environmental Integrity theme, of which two were new PhD fellows and four successfully defended their thesis on 'The Use and Fate of Pesticides in Vegetable-based Agroecosystems in Ghana', 'A Pilot Constructed Treatment Wetland for Pulp and Paper Mill Wastewater: performance, processes and implications for the Nzoia River, Kenya', 'Enhanced Stabilisation of Municipal Solid Waste in Bioreactor Landfills' and 'Burrowing Shrimps and Seagrass Dynamics in Shallow –Water Meadows off Bolinao (NW Philippines)'.

A number of multi-year capacity building projects extended into 2008, such as the NPT projects in Rwanda and Guatemala and the water quality management project in Manado, and solid waste project in Malang, both in Indonesia.

The Netherlands and Western Balkans Environmental Network project (NEWEN) started with a kick-off workshop in November. This project aims at strengthening the environmental science curricula at a number of universities in the Balkan. Other project activities included short and tailor-made training programmes. Thus a number of courses were again organised under the MoU's with UNEP/GPA and WWF.

New activities included a course on modelling of wastewater treatment in Toluca, Mexico, a course on water quality assessment for specialists from Nigeria, the IWRM short course for Iraq senior water professionals and an introductory course on Integrated Flood Risk Management concepts and planning in the Lower Mekong Basin.

Urbanisation is concerned with the enormous political and social pressures placed on local governments to expand services and infrastructure related to water supply, treatment and distribution, wastewater collection and treatment, storm drainage and solid waste, while minimising the impact on the environment.

The Master Programme in Municipal Water and Infrastructure offers three specialisations: Waters Supply Engineering, Sanitary Engineering, and Integrated Urban Engineering. In 2008, some 40 participants graduated, while some 35 participants enrolled in the 2008-2010 programme that commenced in October 2008. The MSc programme now includes a newly developed module on Flood Resilience of Urban areas, in line with the increased attention for climate change and its impacts. During 2008 a start was made with developing a double degree programme in Urban Water Engineering and Management to be offered jointly with AIT Bangkok from 2009 onwards.

Work continued on the SWITCH project with has the objective of developing sustainable and effective water management schemes for the 'city of the future', taking account of global change pressures, such as urbanisation and climate change. The project integrates urban water research, demonstration and training activities. The alpha-version of City Water, a DSS tool to guide the cities' Learning Alliances in science-based strategic planning, is being finalised and expected to be ready in early 2009. The first training activity by the school was held in Accra, on the subject of Water Demand Management. More information about the SWITCH project can be found in the Research chapter.

A research proposal on the impacts of climate change on urban water supply and sanitation was formulated in the context of the EC 7th Framework Programme, together with a consortium of European partners. Also in the European context, the Institute became involved in the Water Supply and Sanitation Science and Technology Platform (WSSTP). It was asked to advise on how research questions relevant in the MDG context can be embedded in and addressed by the WSSTP research agenda.

A noteworthy development in 2008 was the initiation of a new research project into the technological and institutional options for providing sanitation in slums. This project involves three PhD participants and staff from all of UNESCO-IHE's academic departments.

Together with its partner the Power and Water University of Technology in Tehran, the Institute embarked on a substantial capacity building project in Iran. The project aims at improving the performance of the entire Iranian water supply and sanitation companies. It involves the training of more than 2000 professional staff through tailor -made courses delivered in Tehran on the state-of-the-art in water supply and wastewater treatment. Also, 250 Iranian senior technical, financial and managerial staff will take study tours to water supply and wastewater treatment plants in the Netherlands, Germany and France.

Water Management and Governance identifies the multi-disciplinary nature of water management and the need for a holistic view of the complex water based systems that are the subject of such management. Maintaining the integrity of natural resources can only be achieved with the involvement of the natural and mathematical sciences, engineering and technology, health and medical sciences, and the social and behavioural sciences including law, politics and institutional development and management.

In 2008 research strategies were developed in the following sub-themes:
- 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 and the strategic management thereof;
- 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 and adaptation approaches for local communities;
- Conflict prevention, mediation and resolution.

All research priorities are covered by research projects with a variety of sponsors (DGIS, EU, WOTRO, SIDA and a lot of local donors and partners). In 2008 research projects on the following themes were continued or kicked off:
- Trans-boundary river basin management and catchment protection of the Blue Nile River
- Water system innovation in dry-land agro ecosystems for sustainability and livelihood improvement in Tanzania and South Africa
- Characteristics of partnerships in the water and sanitation sector
- Operational management of the Incomati River in Mozambique, Swaziland and South Africa
- Formal water rights for informal communities (Ghana, Mozambique)

In 2008, some 25 PhD participants were involved in the above noted programmes. Academic outputs in 2008 included 29 peer reviewed articles. A major output was the topic of Private Sector Involvement in Drinking Water in the International Journal of Water.

There was continuous involvement in major capacity building programmes as DUPC, WaterNet and Iran Capacity Building.

The Masters Programme in Water Management offered four specialisations: Water Resources Management, Water Services Management, Water Conflict Management and Water Quality Management. Some 27 participants received their MSc degree in 2008, and 26 participants were admitted to the programme. Three modules of the Masters programme were also offered as online learning courses and eight modules as short courses. The Water Conflict Management specialisation is conducted in conjunction with Clingendael Institute, Dundee University and UNESCO Paris.

Information and Communication Systems addresses the opportunities provided by advances in information and communication technologies for monitoring and acquiring data, computer-based modelling, decision-support, and knowledge-based systems for integrated water resources management. In parallel is the ongoing concern to enhance the corresponding knowledge base through research, and the effective sharing and transfer of knowledge.

In 2008, the Hydroinformatics specialisation was offered as a part of the Master Programme in Water Science and Engineering. Nineteen participants received their MSc diploma, 15 participants started with their MSc research, and 20 participants were admitted to the specialisation. Ten of them were water professionals from different Nile Basin countries funded by the Nile Basin Initiative that joined the Hydroinformatics specialisation to acquire in particular skills for the development of decision support systems for Water Resources Planning and Management of the Nile basin.

UNESCO-IHE continued with the Joint Master Programme offered in partnership with Hohai University in China. Over the past three years this collaboration offered a Master Programme in Hydroinformatics. In 2008 the programme was expanded, and for the first time it offered subjects of coastal engineering and port development. In October 2008, five participants from the third batch started their MSc research with the support from Deltares, the Dutch Ministry of Transport, Public Works and Water Management and the Delft Cluster research programme.

In the framework of the Delft Cluster Research Programme the Institute was involved in four projects. The 'Integrated Urban Water Management' project developed new algorithms of optimal water systems monitoring and control. The 'Morphodynamics of North Sea and Coast and Coastal defences' project developed a methodology to complement physically-based modelling systems with data-driven techniques. The 'Safety against Flooding' project developed new approaches to complementing hydrological models by data-driven ones. The 'Management of Hydrological Extremes' project developed strategies for operational water management enhancing the use of weather forecasts.

In the EC-funded FLOODsite project the focus was on developing new uncertainty analysis frameworks to be used in flood risk management. An Internet-based platform was developed to disseminate the research findings of the project

The Institute started a new EC-funded project aimied at developing an innovative information system that contains both a web-based and a mobile phone interface to provide information about water quantity and quality, air quality and related health risks to the public. The project includes governmental, academic and commercial partners from the Netherlands, Portugal, Italy, France and Poland.

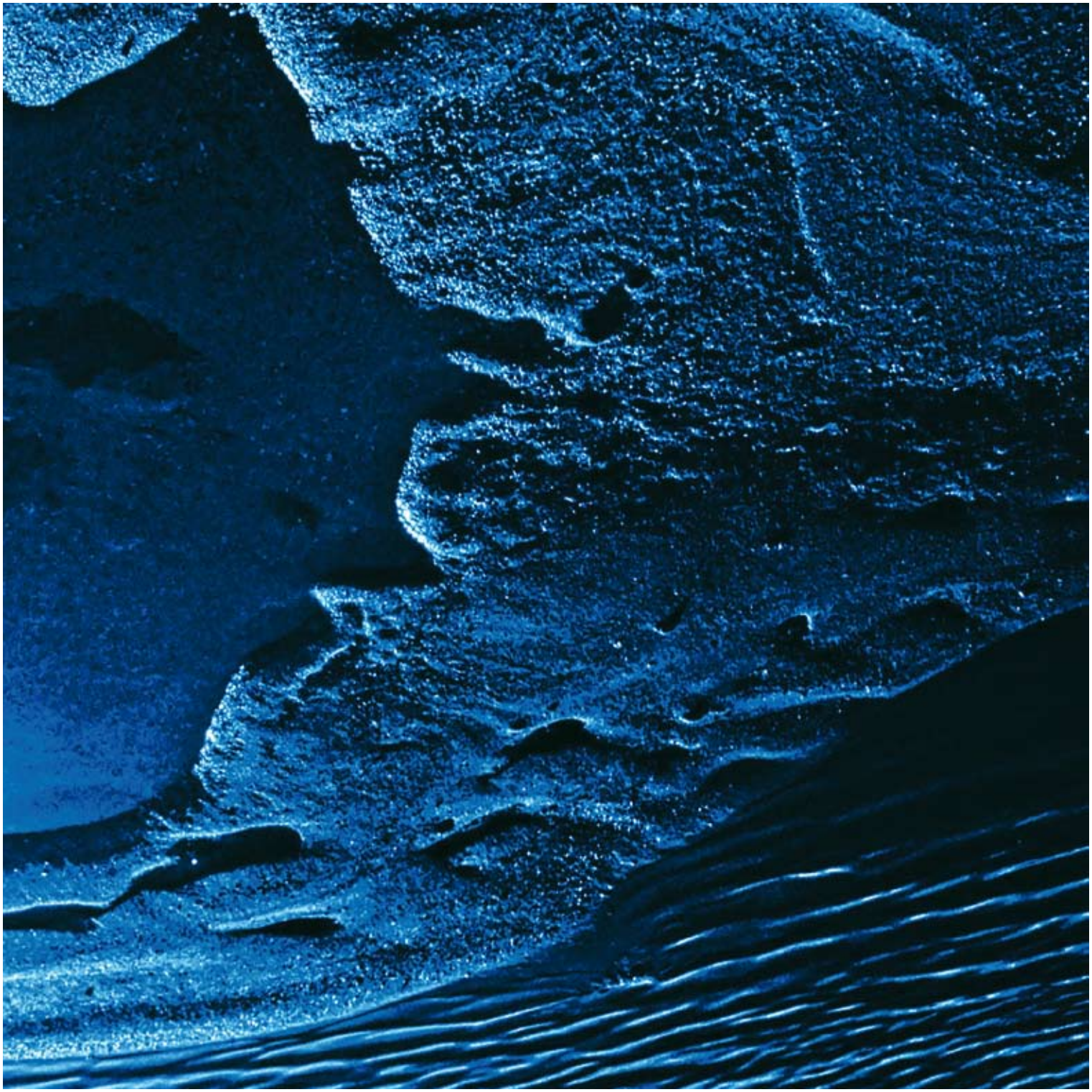
The year 2008 also marked the successful initiation of the large EC-funded research project EnviroGRIDS, which aims at the development of an integrated catchment observation and monitoring system for the Black Sea Region. UNESCO-IHE joined the consortium of 26 partners and is responsible for the work packages related to model development, prototyping the environmental observation and assessment systems for citizens and dissemination and training.

Within the context of the EC-funded SWITCH project, application of Hydroinformatics technologies enabled the modelling of the different phases of the urban water cycle to optimise their functioning and to develop more effective strategies. More information on the SWITCH project is given in the Capacity Building chapter.

Research efforts were also directed towards optimising the structural and hydraulic performance of drainage networks using novel techniques, developing new optimisation, machine learning and uncertainty analysis algorithms, and testing software architectures for running and optimising models on clusters of PCs.

Within the EC TenCompetence project, the online course Flood Modelling for Management was run as a pilot during autumn 2008 with the Personal Development Planner tool (PDP) that was delivered by the project. The PDP enables participants to take more control over their learning process. The online course attracted 90 participants of which more than half achieved a Certificate. In 2009 more tools will become available that will be tested in other courses.

As part the cooperation with the Asia Development Bank and Singapore PUB, the Institute supported further development of the 'Asia-Pacific Water Forum Regional Network of Knowledge Hubs'. In cooperation with ADB the network's website www.apwf-knowledgehubs.net was launched. In October the first Knowledge Hub on ´Decision Support Systems for River Basin Management´, hosted by the Yellow River Conservancy Commission, was launched in Zhengzhou. A Workshop on New Concepts of Urban Water Management was organised during the Singapore International Water Week in June. More information on this network is given in the Partnerships chapter.



ORGANISATIONAL DEVELOPMENTS
FINANCIAL REPORT
FELLOWSHIP TRUST FUND

ORGANISATIONAL DEVELOPMENTS

INSTITUTIONAL ARRANGEMENTS

In 2008, the initial term of the agreements signed by UNESCO, the Government of the Netherlands and the IHE-Delft Foundation on the establishment and operation of the UNESCO-IHE Institute for Water Education as integral part of UNESCO, was completed. In accordance with the Statutes, an external evaluation of the functioning of the Institute was performed in 2007. The results of this evaluation served as the basis for the agreement reached in 2008 by the aforementioned parties to renew the cooperation for the period until 31 December 2013. The new agreements guarantee a continuation of the integration into the UN-system and provide a solid financial basis for the Institute for the coming five years.

PERSONNEL AND ORGANISATION

On 31 December 2008, staff equalling 152 fulltime-equivalents (fte) were employed by UNESCO-IHE, of whom 51% were academic and 49% supporting staff. Sickness levels at the Institute in 2008 were below the national average for most departments.

Competency descriptions for the support staff were completed in 2008, supporting the Institute's Staff Development and Appraisal System (SDAS) system. Further staff development activities in 2008 included the organisation of an in-house English course for the Institute's staff and support to organising the BKO (Basic Teaching Qualification) process.

Policies in the field of employee benefits developed in 2008 include the financial consequences of long term illness of staff and a proposal for a new commuting policy. An Institute-wide 'Vitality check' was carried out, with follow-up on results to be initiated in 2009. The Complaints Procedure was revised and a new Complaints Committee was installed.

COMMUNICATION AND MARKETING

With over 1,500 academically qualified applicants for the MSc programme 2008 - 2010, and with a record number of participants in short courses, the Institute was successful in the promotion of its educational offerings. Growing numbers of participants found their way to UNESCO-IHE via the website; the Institute's alumni continue to be excellent ambassadors. These were findings of a marketing survey performed amongst present-day participants. In order to take full advantage of the Internet as a powerful promotion channel, the Institute sharply increased its web-based advertising activities.

In support of the strategic priority to increase the impact of its research programme, the Institute invested in more research and in increasing the dissemination thereof. A special research brochure was produced and emphasis was put on publishing scientific articles in refereed journals. These efforts paid off as the number of publications in peer-reviewed journals steadily increased over the years, now double the 2004 figure.

Several initiatives were taken to intensify the communications with alumni. One concerns the simplification of the access to the web-based 'virtual alumni community'. This portal now offers alumni direct access to the library and allows them to download full-text versions of all MSc theses produced at UNESCO-IHE in recent years. The Alumni E-Newsletter was introduced as a new communication tool in mid-2008 and since then issued three times. Efforts are ongoing to explore how the alumni community and the AKVO-initiative (an Internet-based tool to share knowledge and finance small-scale water and sanitation projects) can be beneficial to each other.

A continuing challenge is the raising of funds in support of fellowships. In 2008, a proposal to establish the trust fund 'Tertiary Water Education Grants Programme' was developed in close collaboration with the IHP-Secretariat and was endorsed by the IHP-Council. The fund allows Member States and other organisations and individuals to receive public credits for their donations. Initial steps were taken to promote the fund among Member States. This will require additional efforts in the coming years.

Noteworthy are the publication of the book 'Biological Wastewater Treatment: Principles, Modelling and Design' by Prof. Damir Brdjanovic et al, handed over to HRH the Prince of Orange at the occasion of the closing of the International Year of Sanitation in Amsterdam, and the proceedings of the international symposium 'Water for a Changing World – Enhancing Local Knowledge and Capacity' organised by UNESCO-IHE in June 2007.

ICT

A wireless network was installed throughout the Institute's premises, which allows staff, participants and visitors to have reliable access to wireless internet.

Forty MSc participants were provided with a laptop computer as a pilot that intends to stimulate and facilitate new ways of learning. The results of this pilot will be evaluated in 2009, in preparation for distribution of laptops to all new MSc participants.

The collaborative platform BCSW – used for the electronic distribution of learning materials and project collaboration – became fully supported in 2008.

STUDENT AND EDUCATIONAL AFFAIRS

In October 2008 a new batch of participants in the 18 month Master of Science programme started their studies. The number of new MSc participant this year is was 20% higher than last year. The number of non degree participants increased by 40%, with a remarkable increase of the numbers for online courses participants by 140%.

The price of accommodation (rent plus service and maintenance costs) went up significantly in July 2008; the Institute decided to further subsidise the cost of housing significantly to keep the accommodation for participants affordable in view of the unchanged monthly stipends. Since the NFP stipends will go up in January 2009, this additional cost will be partially compensated.

The library further improved the quality of the collection, especially expanding access to online journals. Access to online journals and information was acquired efficiently in collaboration with other libraries and consortia. Through the SURF Foundation, which represents a consortium of Dutch Universities, Colleges and Research Institutions, the UNESCO-IHE Library obtained access to a number of relevant online information resources, such as Springer Link), Wiley Interscience and Thompson's Web of Science.

FACILITY MANAGEMENT

In 2008 a pilot classroom was developed and completed. The classroom is fitted with an electronic whiteboard, which facilitates new ways of learning and creates a modern and flexible learning environment. There will be an evaluation with users of the room to determine its success and to investigate possible improvements to be made.

By the end of 2008 a plan regarding the refurbishment of UNESCO-IHE was completed. This plan will be evaluated early 2009 and some implementation is expected to start in the same year, depending on the evaluation results and planning priorities.

At the end of 2008 the Institute's in-house partners vacated the premises as a result of rapid growth and insufficient space to meet the needs of all the partner organisations. As a result, the PhD fellows returned to the main building, and the remaining space will give room for refurbishing activities.

UNESCO-IHE operations in 2008 showed an increase both in revenues and expenditures as compared to 2007. The total turnover increased to slightly over € 27 million. The overall result shows a deficit of € 48,000. This corresponds to an operational result decrease against turnover of approximately 1 %. A main target issue is to secure financing for fellowships, which is a continuous concern for UNESCO-IHE.

INCOME

The income of the Institute originates from three main sources, which are the base subsidy of the Ministry of Education, the tuition fees for students, short course participants and PhD's and project revenues. Other income includes rental of office space and student housing to in house partners and third parties and was approximately similar to last year (±4%). Incidental revenues in 2007 include some major one-time events such as the sale of the Westvest 3-5 building and a VAT reimbursement over 2003.

The subsidy from the Ministry of Education has been increased with 1.5 million per year as a result of the renewed operational agreement between the Ministry of Education (OCW) and UNESCO HQ. The contract was signed mid 2008 and therefore the new conditions apply for the second half of this year only. The subsidy increase is in support of innovation of the educational programmes, co-funding of research and to compensate for (non billable) work done for UNESCO and other UN bodies. The tuition fee income decreased marginally (±2%) despite a significant drop in student years (±8%). At the same time education programme related expenditures decreased by ±7% with the result that cost recovery for non-programme expenditures improved markedly over the year.

Project income from both research and capacity building projects in 2008 was ±28% above 2007, but direct project costs (programme expenditures) also increased by ±28%. As a result the net income from project fees improved with ±26%. The top 10 projects SWITCH (EC), Delft Cluster #14 (BSIK/Internal Research Fund-IRF), TCBWWI (WB Iran), ten tailor made training courses (NUFFIC/Third parties), DGIS/ UNESCO-IHE Partnership Cooperation activities (DGIS), EXACT (DGIS), fifteen online courses (Third parties/internal funds), China Groundwater Centre (TNO-ORET-Miliev), Blue Nile hydro solidarities (WOTRO/DGIS/IRF) and KNNB-NBCBN Nile Basin-RE (DGIS) accounted for 50% of this fee income.

EXPENDITURES

UNESCO-IHE makes a distinction between programme expenditures and non-programme expenditures. Programme expenditures relate to the direct outputs of the main activities of the Institute, while non-programme expenditures concern general topics such as staff cost and indirect or overhead costs. Programme expenditures are therefore directly linked to the revenue items (education, training, projects) mentioned in the income section. In 2008, there was a marked increase in the non-programme expenditures as a consequence of the increase in staff salary costs, staff studies (staff development), insufficiently funded fellowships and student housing.

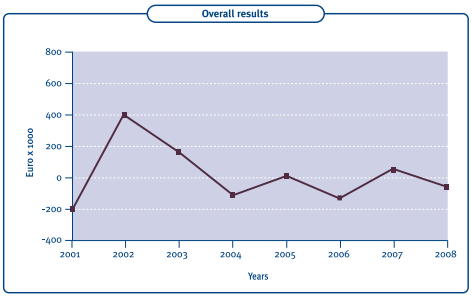
The staff and management costs were influenced by the regular salary increase in line with the general trend at Dutch universities. UNESCO-IHE is a participant in the Collective Labor Agreement (CAO) of Dutch Institutions for Higher Education. In addition the increases in social security costs, introduction of the end-of-year bonus (+1.5%), and an increase in the average number of staff (from 139.9 fte in 2007 to 143.5 fte in 2008) have contributed to this cost increase. The overall costs for operation and maintenance of the building and facilities remained constant.

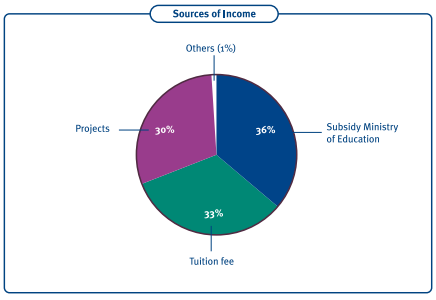
Education related costs are a constant concern for the Institute and increased again in 2008. Main causes this year are the increased non occupied student housing rate (±22%) because of lower student numbers, and fellowship costs for which no sponsors could be identified.

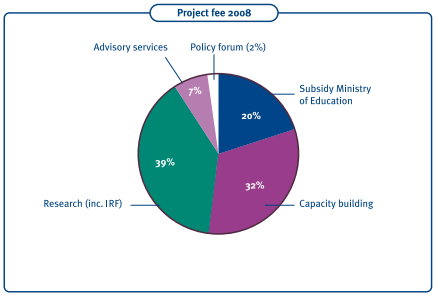
Education is the key activity of UNESCO-IHE and, the policy of the Institute includes efforts to maximize the number of fellowship opportunities in order to keep the yearly influx of MSc students around 200. This is partly done on the basis of business targets whereby the Institute commits itself to find sponsors for the MSc research phase and allows students to start with their study without having the full 18-months contract period covered. In 2008 this policy resulted in about € 340,000 of missed revenues and unforeseen costs.

Acquisition and marketing costs in 2008 were considerably less compared to 2007. This was partly due to the one-time organisation of the Institute's 50th Anniversary celebrations in 2007. Also, since the Institute entered into some long-term project contracts (for example DUPC) the need for acquisition efforts decreased. An issue is to integrate the costs of the project office which plays an ever-increasing, vital role in acquisition of both projects and fellowships.

General costs were significantly less as compared to the previous year, due to the payment of long outstanding debts owed to the Institute, which in turn has led to a decrease of the required reservation for uncollectible debts. This positive development compensated for the increase in the required hiring of external services such as for example for ICT and Virtual Learning Environment consultancy and legal advice when the operational and cooperation agreements were re-negotiated.







BALANCE SHEET

The balance sheet shows a ratio of 8 / 92 between equity and borrowed capital which corresponds to a solvency if 8%. The solvency ratio has decreased against previous years and is still far below the targeted 20%. Nevertheless, this reduction was expected and the improved subsidy arrangements and long term programmatic funding contracts give the opportunity to improve the solvency ratio in the coming years. The borrowed capital includes provisions and current liabilities. In the current liabilities, reservations have been made for leave hours, holiday bonuses and the cost of one term of payment for the lease of the building. The provisions include a wide array of items including jubilee payments to staff, long term building maintenance in accordance with the lease contract, and a special project for refurbishing of the offices and classrooms. The current ratio is at a level of 1.09 (was 1.14 in 2007), which means that in the short term the Institute remains creditworthy. For the long term financial sustainability of the Institute the focus will be on increasing the financial reserves as foreseen in the current business plan.

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

	2008		2007	
Income				
Subsidy Ministry of Education	9,872		8,826	
Tuition Fee	6,856		7,016	
Projects	10,057		7,867	
Others	362		1,186	
Total income		*27,147*		*24,895*
Programme expenditures				
Tuition Fee (stipends, guest lecture, etc.)	4,330		4,675	
Projects	6,871		5,334	
Total programme expenditures		*11,201*		*10,009*
Non-programme expenditures				
Staff and Management	10,565		9,540	
Buildings	2,302		2,349	
Facilities	1,099		1,049	
Education related costs	1,665		1,086	
Acquisition and Marketing	292		446	
General Costs	389		474	
Interest	-242		-164	
Total non-programme expenditures		*16,070*		*14,780*
Operating result		**-124**		**106**
Extraordinary charges/Appropriations from Fellowship Trust Fund		76		-52
Overall result		**-48**		**54**

BALANCE SHEET (amounts in €000s)

	31 DECEMBER 2008		31 DECEMBER 2007	
Assets				
Fixed assets	1,735		1,837	
Accounts receivable	8,544		7,002	
Cash and banks	12,632		7,017	
Total		*22,911*		*15,856*
Equity and liabilities				
Equity	1,450		1,498	
Fellowship Trust Fund	369		445	
Provision	1,695		1,630	
Current liabilities	19,397		12,283	
Total		*22,911*		*15,856*

FELLOWSHIP TRUST FUND

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 2008, the FTF provided financial support to eight students; the names and countries of origin of the students are listed in the adjoining Financial Statement. Among the eight students who received FTF-support, five received a full 18-month MSc fellowship, one received sponsorship for a 6-month MSc research period, and two were awarded smaller contributions enabling them to complete there MSc studies at UNESCO-IHE.

In 2008, the 'Zeeland werkgroep' continued to donate to the FTF, while 'SUEZ Environnement' became a new donor. Individual donations by staff members and others added up to over € 1600.

FINANCIAL STATEMENT FELLOWSHIP TRUST FUND

(amounts in €)

Fund on 1 January 2008		*445,101*
Gifts		
SUEZ, France	75,584	
Zeeland werkgroep	33,696	
Christmas contribution staff	1,238	
Bax Willems	250	
Weddinggift Don van Galen	96	
Interest	13,191	
Total		*124,055*
MSc Fellowships		
Zinabu Tebeje Zewdu, Ethiopia, 2006/2008	40,745	
Handy Salim, Indonesia, 2008/2010	38,517	
Emmanuel Adekunle Johnson, Ghana, 2006/2008	37,653	
Dian Suci Hastuti, Indonesia, 2007/2009	37,067	
Mir Abdus Subhan, Bangladesh, 2008/2010	32,517	
Jotham Ivan Sempewo, Uganda, 2006/2008	12,063	
Mohammad Asadul Bari, Bangladesh, 2006/2008	1,179	
Noordiah Helda, Indonesia, 2006/2008	458	
Total		*200,199*
Fund on 31 December 2008		*368,957*

ANNEXES

ANNEX 1 | EDUCATIONAL STATISTICS

REGISTERED PARTICIPANTS FOR THE ACADEMIC YEAR 2008-2009

	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) 08/10*	**76**	**0**	**96**	**76**	**43**	**18**	**6**	**29**	**56**	**116**	**172**
- Water Science and Engineering	26	0	47	29	24	7	3	10	18	55	**73**
- Water Management	10	0	14	11	7	2	0	4	6	18	**24**
- Environmental Science	25	0	16	21	5	5	1	9	18	23	**41**
- Municipal Water and Infrastructure	15	0	19	15	7	4	2	6	14	20	**34**
MSc programmes *(thesis part) 07/09*	**34**	**52**	**76**	**70**	**35**	**17**	**6**	**34**	**57**	**105**	**162**
- Water Science and Engineering	10	20	26	20	16	7	2	11	12	44	**56**
- Water Management	4	6	16	7	6	4	0	9	13	13	**26**
- Environmental Science	19	5	19	22	6	5	3	7	25	18	**43**
- Municipal Water and Infrastructure	1	21	15	21	7	1	1	7	7	30	**37**
PhD programmes	**11**	**3**	**67**	**28**	**18**	**13**	**6**	**16**	**24**	**57**	**81**
Total	**121**	**55**	**239**	**174**	**96**	**48**	**18**	**79**	**137**	**278**	**415**
Percentage	29.2	13.3	57.6	41.9	23.1	11.6	4.3	19.0	33.0	67.0	

ANNEX 2 | SHORT COURSES

REGULAR SHORT COURSES

THEME	COURSE	DATE
Water Security	Applied Groundwater Modelling	09/06/08–27/06/08
	Groundwater Exploration and Monitoring	07/04/08–25/04/08
	Integrated Coastal Zone Management	07/04/08–18/04/08
	International Port Seminar	07/04/08–25/04/08
	Remediation and Handling of Contaminated Sediments	08/09/08–09/05/08
	Seminar on Dredging and Reclamation	05/05/08–09/05/08
	Service Oriented Management of Irrigation Systems	07/04/08–25/04/08
	Tracer Hydrology and Flow System Analysis	28/04/08–16/05/08
Environmental Integrity	Aquatic Ecosystems: Processes and Applications	09/06/08–27/06/08
	Cleaner Production and the Water Cycle	28/04/08–16/05/08
	Environmental Engineering	03/03/08–21/03/08
	Environmental Monitoring and Modelling	07/04/08–25/04/08
	Environmental Planning and Implementation	07/04/08–25/04/08
	Environmental Policy Making	03/03/08–21/03/08
	Modelling of Activated Sludge Wastewater Treatment	06/05/08–16/05/08
	Sustainable Wastewater Treatment and Reuse	07/04/08–25/04/08
	Water Quality Assessment	11/02/08–29/02/08
	Watershed and River Basin Management	07/07/08–25/07/08
	Wetlands for Water Quality	03/03/08–21/03/08
Urbanisation	Decentralised Water Supply and Sanitation	07/07/08–25/07/08
	Groundwater Resources and Treatment	03/03/08–21/03/08
	Membranes in Drinking and Industrial Water Treatment	06/10/08–10/10/08
	Solid Waste Management and Engineering	07/07/08–25/07/08
	Surface Water Treatment : Conventional and Advanced Technology	07/04/08–25/04/08
	Water Quality Control in Water Supply	29/09/08–10/10/08
	Water Treatment Processes and Plants	28/04/08–16/05/08
Water Management and Governance	Climate Change in Integrated Water Management	01/09/08–12/09/08
	Financial Management of Water Organisations	07/04/08–25/04/08
	Managing Organisations and Change	16/06/08–04/07/08
	Public Private Partnerships in the Water Sector	07/07/08–25/07/08
	Water and Environmental Law and Institutions	28/04/08–16/05/08
	Water Resources Planning	03/03/08–21/03/08
Information and Communication Systems	Environmental System Modelling	28/04/08–16/05/08
	GIS and Remote Sensing	03/11/08–14/11/08
	Soil and Water Assessment Tool	15/09/08–20/09/08
	Urban Flood Modelling and Disaster Management	28/04/08–16/05/08
	Urban Water Systems Modelling	16/06/08–04/07/08
	Water Transport and Distribution I	16/06/08–04/07/08
	Water Transport and Distribution II	07/07/08–25/07/08

ONLINE COURSES

COURSE	DATE	TOTAL PARTICIPANTS
Wetland Management (WM)	01/03/08 – 01/07/08	15
Water Transport and Distribution I (WTD I)	12/09/08 – 26/02/09	11
Flood Modelling for Management (FMM)	01/03/08 – 15/05/08 22/09/08 02/12/08	11/90
Integrated Coastal Zone Management (ICZM)	01/03/08 – 30/06/08	7
Integrated River Basin Management (IRBM)	01/03/08 – 30/06/08	22
Water and Environmental Law and Policy (WELP)	01/04/08 – 01/07/08	16
Public Private Partnerships (PPP)	01/09/08 – 22/12/08	10
Ecological Sanitation (ES)	26/03/08 – 21/07/08	33
Constructed Wetlands for Wastewater Treatment (CWWWT)	01/09/08 – 31/12/08	11
Solid Wastes Management and Engineering (SWME)	17/09/08 – 31/01/09	14
Sanitation Related Urban Groundwater Pollution (SRUGP)	01/03/08 – 30/06/08	12
Water and Climate Change (WCC)	01/10/08 – 04/01/09	13
Total		*164*

REGIONAL REFRESHER SEMINARS

COUNTRY	COURSE	DATE
Indonesia	Climate Change and Coastal Lowland Development in (Sub)-Tropical Environments: Improving opportunities and daily livelihood conditions for people at risk	21/07/08 – 25/07/08
Uganda	Decentralised Water Supply and Sanitation: A key approach to achieving the Millennium Development Goals	22/09/08 – 27/09/08

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 2008 are listed in Annex 4 - Projects.

ANNEX 3 | PHD FELLOWS

PROMOTIONS IN 2008

NAME	PROMOTION DATE	COUNTRY	PROMOTOR	TITLE THESIS
Mr. W.J. Ntow	January 17, 2008	Ghana	Gijzen	*The Use and Fate of Pesticides in Vegetable-based Agroecosystems in Ghana*
Mrs. M.A. Abira	January 23, 2008	Kenya	Denny	*A pilot constructed treatment wetland for pulp and paper mill wastewater: performance, processes and implications for the Nzoia River, Kenya*
Mr. A. Nguyen	February 22, 2008	Vietnam	Savenije	*Salt Intrusion, Tides and Mixing in Multi-Channel Estuaries*
Mr. C. Limsiri	March 11, 2008	Thailand	Schultz & Nieuwehuis	*Very Soft Organic Clay Applied for Road Embankment: Modelling and Optimisation Approach*
Mr. R. Valencia Vázquez	July 3, 2008	Mexico	Gijzen	*Enhanced Stabilisation of Municipal Solid Waste in Bioreactor Landfills*
Mr. H.M. Nacorda	September 26, 2008	Philippines	v Viersen	*Burrowing Shrimps and Seagrass Dynamics in Shallow – Water Meadows off Bolinao (NW Philippines)*

REGISTERED PHD FELLOWS

NAME	COUNTRY	PROMOTOR	WORKING TITLE THESIS
Mr. Mr. Alfonso Segura	Colombia	Price	*Maximising information content from monitoring networs for optimal performance of water catchments*
Mr. Ali	Sudan	Wright	*In search of sustainable catchments and basi-wide solidarities, transboundary water management of the Blue Nile River Basin*
Mr. Andel Van	Netherlands	Price	*Anticipatory Water Management*
Mr. Ansa	Ghana	Gijzen	*Pathogen removal from wastewater*
Mr. Arias Hidalgo	Ecuador	Solomatine	*Development of an integrated wetland and catchment analytical framework*
Ms. Azab	Egypt	Price	*Integration of GIS, Remote Sensing and Modelling for Water Quality Management in an Irrigated Watershed*
Mr. Babu	Uganda	Gijzen	*Improving nitrogen removal in algae wastewater stabilization ponds*
Mr. Baghoth	Uganda	Amy	*Characterization of natural organic matter in water using multiple detectors*
Ms. Balica	Romania	Wright	*Applying the Flood Vulnerability Index as a knowledge base for flood risk assessment*
Mr. Barreto Cordereo	Venezuela	Price	*Multi-criteria optimisation in the rehabilitation of urban drainage networks*
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*
Mr. Demessie	Ethiopia	Uhlenbrook	*under construction*
Mr. Dissanayake	Sri Lanka	Roelvink	*The role of tidal inlets in coastal erosion*
Mrs. Donoso	Panama	Roelvink	*Analysis of the upper ocean thermal structure of the eastern tropical Pacific: establishing correlations with precipitation in Latin America*
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*
Mr. Gebrekristos	Ethiopia	Uhlenbrook	*Impact of impoved Land management practices on hydrology in Blue Nile River Basin / Up-scaling of Hydrological model*
Mr. Gichamo	Ethiopia	Solomatine	*Adaptive modelling in heterogeneous data environments*
Mr. Ha	South Korea	Amy	*Optimization of the Application of Ceramic Microfiltration Membranes for Surface Water Treatment*
Ms. Halem Van	Netherlands	Amy/v Dijk	*Drinking water supply for developing countries and specifically the subsurface removal of arsenic from groundwater*
Mr. Jamil	Malaysia	Uhlenbrook	*Modelling effects of land use changes on the hydrological regime in Peninsular Malaysia*
Mr. Junaidi	Indonesia	Schultz	*Optimisation of the Urban Drainage and Flood Protection of Padang City, Indonesia*
Mr. Jung	Korea	Price	*Model based decision support system for managing eutrophication in a reservoir*
Mrs. Kassa	Ethiopia	vd Zaag	*Gender, Environment and Sustainable Development-Understanding the Linkages. The case of Blue Nile river basin*
Ms. Kayoza	Tanzania	Vairavamoorthy	*Integrated infrastructure for sustainable improvement of right-of-way safety in dynamic urban environments*

REGISTERED PHD FELLOWS

NAME	COUNTRY	PROMOTOR	WORKING TITLE THESIS
Mr. Khatri	Nepal	Vairavamoorthy	*Risk Assessment of Urban Water Systems for the City of the Future*
Mr. Komakech	Uganda	vd Zaag	*Agent-based modelling for collaborative catchment water resources management in the Pagani river basin, Tanzania*
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	*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*
Mrs. Latteman	Germany	Amy	*Development of an environmental impact assessment and decision support system for seawater desalination plants*
Mr. Lesser	New Zealand	Roelvink	*Numerical modelling of waves, currents, sediment transport and coastal morphological change in three dynamic estuary mouths*
Mr. Li	China P.R.	Mynett	*Multi-reservoir-based Flood Control for Yellow River in China*
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*
Mrs. Lin Yuqing	China P.R.	Mynett	*under construction*
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	*Effects of surface characteristics of Escherichia coli on transport in saturated porous media*
Mr. Mabiza	Zimbabwe	vd Zaag / Gupta	*IWRM, institutions and livelihoods: cases and perspectives from the Limpopo River Basin*
Mr. Maeng	South Korea	Amy	*Multiple objective treatment aspects 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	Uhlenbrook	*Hydrology and water balance analysis for sustaining food security and environmental services in Karkheh River Basin, Iran*
Mr. Mburu	Kenya	Lens	*Modelling studies for optimal design of horizontal subsurface flow constructed wetlands*
Ms. Mohktar - Nazer	Palestine	Gijzen	*From water scarcity to sustainable water use in the West Bank, Palestine*
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*
Mr. Munyaneza	Rwanda	Uhlenbrook	*Assessment and prediction of water resources availability in Rwandan Catchments*
Mr. Mutikanga	Uganda	Vairavamoorthy	*Decision Support Tools for Water Loss Management in Kampala City*
Mr. Oduro-Kwarteng	Ghana	van Dijk	*Managing urban solid waste services: assessment of performance of private companies in five cities in Ghana*
Mr. Ofosu	Ghana	vd Zaag/vd Giesen	*Developing a catchment management strategy for sustainable irrigation development in the White Volta Sub-Basin*
Mr. Owusu-Ansah	Ghana	vd Zaag/vd Giesen	*Near-real time monitoring of flows in the Volta basin using variational data assimilation*
Mr. Paudel	Nepal	Schultz	*An improved approach for the design and management of irrigation canals*
Mr. Ritzema	Netherlands	Schultz	*Subsurface drainage practices in irrigated agriculture in semi-arid and arif regions*
Mr. Salinas Rodriguez	Bolivia	Amy	*Water characterisation and fouling prediction tools for Seawater Reverse Osmosis Systems*
Mr. Sanchez Torres	Colombia	Solomatine	*The use of agent-based models for integrated urban water management*
Ms. Sanz Galindo	Colombia	vd Zaag/Gupta	*Developing conflict resolution as a policy tool for small and medium enterprises*
Mr. Sekomo	Rwanda	Lens	*Mechanisms of heavy metals removal in natural wastewater treatment systems*
Mr. Shrestha	Nepal	Price	*Computational intelligence and uncertainty 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. Smit	Netherlands	vd Zaag	*under construction*
Mr. Solomon	Ethiopia	Price	*Integrated urban water systems modelling*
Ms. Tabatabai	Iran	Amy	*under construction*
Ms. Umuhire	Rwanda	Uhlenbrook	*Groundwater potential and groundwater management in Kagitumba basin, Rwanda*
Mrs. Uwamariya	Rwanda	Amy	*Assessment of ground as source of drinking water in Rwanda*
Mr. Velez Quintero	Colombia	Price	*Real time control in integrated urban water management*
Mr. Verma	India	vd Zaag	*Groundwater recharge movement in India*
Mrs. Villa Gomez	Mexico	Lens	*Biogenic sulfide production and selective metal precipitation in an innovative reactor configuration: the inverse fluidized bed reactor*
Mr. Waly	Egypt	Amy/Schippers	*Minimize the use of chemicals in sea water reverse osmosis: impact on scaling & concentrate disposal*
Mr. Wong	Malaysia	Uhlenbrook	*Assessment and modelling of large-scale hydrological variability in Peninsular Malaysia*
Mr. Yangali Quintanilla	Peru	Amy	*Rejection of pharmaceutically active and endocrine disrupting compounds by low and high pressure membranes*
Mr. Ye	China P.R.	Roelvink	*A generic morphodynamical model and its validation*
Mr. Zhou	China P.R.	Vairavamoorthy	*under construction*
Ms. Zhu	China P.R.	Mynett	*Web-based virtual enviroment for decicison support in water based system*

CAPACITY BUILDING

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
China	Real-Time Monitoring & Management System for Water Resources in the Yellow River Basin	ORET/MILIEV	EARS (lead), MLR, YRWCC, HOFUNG	Jun-04	Dec-08
	Special training programme for young professionals of the Changjiang (Yangtze) Water Resources Commission			Oct-06	Apr-08
	Groundwater in Beijing	Honor Power Foundation		Jun-07	Jun-09
Egypt	Alexandria Lake Mariuot Integrated Management	SMAP	Medcities (lead), EUCC	Jan-06	Dec-08
Ghana	Capacity Building for Sustainable Development of Water Resources and Environmental Sanitation in Ghana and the Sub-Region		DCE, Kwame Nkrumah University, IRC, TU Delft	Jan-06	Oct-08
Guatemala	Training and Development for the Integrated Management of the Water Resources in the West of Guatemala		Servicios para el Desarrollo, Universidad del Valle Guatemala, Fundacion Solar (Guatamala). PoWER partners: Universidad del Valle (Colombia)	Jan-06	Dec-08
Indonesia	Water Resources and Irrigation Management (WRIM) Capacity Building Network Project		P.T. IHE Indonesia, WUR	Nov-05	Dec-09
	Double Degree MSc Program on Integrated Lowland Management between UNESCO-IHE, UNSRI, Indonesia, BAPPENAS, NEC	Bappenas	UNSRI	Oct-06	Oct-09
	Implementation of a Master Program for Staff of the Ministry of Public Works (Directorate General of Water Resources, DGWR)	WB		Oct-07	Apr-08
	Strengthening Capacity in Water Sector with special focus on Ministry of Public Works	PvW III	DHV	Oct-07	Apr-08
	Capacity Building on Waste Management & Sustainable Energy in Indonesia	Indonesia facility	BGP Engineers, Muhammadiyah University Malang, TNO, Afvalzorg NV	Oct-07	Jun-09
Iran, Islamic Republic of	Training and Capacity Building for the Water and Wastewater sector in Iran		PWUT	Nov-07	Jun-09
Iraq	Training and Capacity Building for Water Resources planning and Management for Iraq	Iraq-MWR		Oct-06	Apr-08
Mexico	Modelling of Waste Water Treatment processes in Mexico		TU Delft, ASM Design	Apr-07	Apr-08
Nepal	Tailor made training on Planning and Management of water resources in outer villages in Dhading district			Mar-07	Apr-08
Netherlands	Short course in River Basin Restoration	MoU	Deltares, Wageningen	Sep-08	Dec-08
Rwanda	Rwanda NUR MSc Programme in Water Resources and Environmental Management		ITC, KNUST	Jan-06	Oct-09
Tanzania, United Republic of	World Bank Workshop Tanzania Roleplay Facilitation	WB			Apr-08
Tunisia	Establishment of a Library for the new Regional Water Centre in Tunis			Feb-08	May-08
Uganda	Refresher Course on Decentralized Water Supply and Sanitation: key approach to achieve the MDG's	NUFFIC-NFP		Jan-08	Dec-08
Vietnam	Upgrading the Training Capacity in Coastal Engineering of the Hanoi Water Resources University, Phase 2		DUT, CICAT(lead), WL	Oct-05	Sep-09
Zimbabwe	WaterNet Strategy-Phase II: 2005-2009	DGIS	PoWER partners: University of Zimbabwe, WaterNet	Jan-06	Dec-08
Various Countries	Water Data Banks - Phase 4, Middle East Region: Israel, Jordan, Palestine Authority		DHV (lead), DHI Water & Environment, Engicon, DHVMED, Palistinian Hydrology Group	Jan-04	Mar-08

CAPACITY BUILDING

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
Various Countries	Improving Municipal Wastewater Management in Coastal Cities in ACP Countries	ACP-EU-Water Facility	UNEP/GPA, UN/DOALOS, GEF	Sep-05	Sep-08
	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	DCO	10 selected uiversities and ministries from Nile Basin Countries. PoWER partners: Hydraulic Research Institute (Egypt), Makarere University (Uganda)	Jan-06	Jul-09
	Small Scale Water Treatment Facilities for Domestic Use and Artificial Recharge with Surface Water - Middle East	DUPC	Water Commission/mekorot Water Company (Israel); Min. of Water and irrigation (Jordan); PoWER partner: Birzeit University (Palestinian Authority)	Jan-06	Mar-10
	Technology enabled universal access to safe water	EC/FP6	21 partners including Kiwa, SINTEF, Riga Tech.Uni. EAWAG, NTNU, TZW, LNEC	Jan-06	Jan-11
	EU-Medina Desalination Membrane-based Desalination: an Integrated Approach		Universita della Calabria, Italy; Kiwa, IWW, Ben Gurion University and others	Dec-06	Dec-09
	A knowledge Network for solving real-life water problems in developing countries		Dep.Architecture & Urban Planning, LeAF, SMI, IMTA, ENGREF, CSE, IIMA, RSPMU	Apr-07	Mar-10
	Asian Pacific Water Forum - Capacity Development			Jun-07	Jun-09
	Integrated Urban Waste Water System Data Network			Aug-07	Jan-08
	Anticipating and resolving flood issues, differences and disputes in the Lower Mekong Basin	MRC		Aug-08	Mar-09
	Support to Ramsar Capacity Building Framework	MoU		Sep-08	Sep-08
	Module transfer of the Limnology program and Wetlands Ecosystem Specialisation to Egerton Univeristy			Nov-08	Nov-08
	UNESCO-IHE AIT Double Degree program			Dec-08	Dec-08
	Lake Victoria Region Water and Sanitation Initiative: Training and Capacity Building Components of Utilities management and Urban Catchment management		SNV, FCM, GWA	Jan-09	Jan-09

CONSULTANCY

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
Bangladesh	Participatory Small Scale Water Resources Project (the PPTA)			Jun-08	Jun-08
China	EU-China River Basin Management Programme: Membership of the Programme Advisory Group	na	DHV	Oct-07	Dec-11
Egypt	APP Water Board Taskforce Egypt			Nov-07	Jun-08
Netherlands	Modification to LIBRA as Role-Play for IWRM training			Aug-08	Mar-09
Netherlands Antilles	Drainage Review for Valley Estate and Mary's Fancy	R.O.B.		Oct-08	May-09
	Second opinion on the review of the design of WWTP Illidgeroad in Philipsburg			Nov-08	May-09
Sri Lanka	Studying Alternative Infrastructure for Disposing Waste from Underprivileged Urban Settlements in Colombo		Sevanatha (local NGO)	Nov-07	Feb-08
Sudan	Progress towards MDG7 (Ensure Environmental sustainability) focusing on water resources in the context of the ongoing Darfur crises			May-08	Aug-08
Various Countries	Forum facilitator for the provision of technical and mangerial assistance/advice for the organisation and implementation of the 5th Annual Mekong Flood Forum (AMFF-5)			Feb-07	Jun-08
	TA 6149-REG/MekongRiver Commission/FMMP Component 2: Structural Measures and Flood Proofing		Haskoning, WL	Oct-07	Dec-08
	IFAD Options paper on Spate Irrigation and Climate Change	IFAD		Dec-07	Mar-08
	CPWC assistance to WWC and the 5th WWF obn Topic Water and Climate	WWC		Mar-08	Dec-08
	WSSTP Stakeholder Event - MDG Research			May-08	Aug-08
	Facilitator 7th Annual Mekong Flood forum			Oct-08	Jul-09

EDUCATION AND TRAINING

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
Egypt	Surface Energy Balance Technique Course	HRI		May-08	Jul-08
	ToT Course on IWRM and Climate Change	CapNet		Oct-08	Nov-08
Ethiopia	Water Supply and Sanitation Tailor Made Training to Addis Ababa Water ans Sewerage Authority (AAWSA)	Nuffic-NFP		Aug-08	Jun-08
Indonesia	Tailor made short course SWM Malang	BGP Engineers		Apr-08	May-08
	TMT on Integrated Water Resources Management Practices			Nov-08	Dec-08
Korea, Democratic People's Rebublic of	Study tour for Noth Korean polder specialists	Triangle Generation Humanitaire		Sep-08	Oct-08
Korea, Republic of	Morphology short course for k-water			Oct-08	Dec-08
Netherlands	I-learning course on Process Design and Engineering of Biological Wastewater Treatment	KOWACO	Birzeit, Monterrey, K-Water	Dec-06	Sep-08
	WWF College IRBM module - second year			Oct-08	Nov-08
Thailand	Online course on Service Oriented Management of Irrigation Systems	UNESCO-IHE		Aug-07	Feb-08
Various Countries	Water Sector capacity Building in Support of the Millenium Development Goals			Oct-04	Mar-08
	Tailor-made training on Water resource management in Agri-ecosystems	Nuffic-NFP	MDF	Apr-08	Nov-08

POLICY DEVELOPMENT

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
Netherlands	Verwijderen Natuurlijk Organisch Materiaal (NOM)		TUD and others	May-06	May-10
	Knowledge and Capacity Development, research under DUPC Policy Forum			Jan-08	Mar-08
	Preparation of a Policy Note on Urban Sanitation	DUPC		Sep-08	May-09
	WWF-V Water and Food			Nov-08	Jun-09
Various Countries	Regional Workshop in Water Education	UNESCO	UNESCO-IHP	Nov-08	Jun-09

RESEARCH AND DEVELOPMENT

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
Australia	Investigation of Climate Change Driven Variations in Wave Climate along the NSW Coast	DEC Australia through CSIRO		Dec-08	Dec-10
Hungary	EU Life SUMANAS Project for Arsenic Removal in Hungary and Romania	SELOR	Vitens	Oct-07	Nov-09
Indonesia	Development pilot polder Semarang and Guideline Polder development		Witteveen + Bos	May-07	Feb-09
Luxembourg	Genesis of Floods			Oct-06	Dec-08
Netherlands	Delft Cluster Phase II: KRW Tools Knowledge exchange and dissemination of the project results on developing modelling tools in support of the implementation of the Water Framework Directive	BSIK	Delft cluster partners	Jan-04	Aug-08
	Delft Cluster Phase II: De ontwikkeling van wetlands		GeoDelft, TNO, TUD, WL	Jan-04	Dec-08
	Delft Cluster Phase II: Urban Water Management	TNO	Delft Cluster partners	Jan-04	Dec-08
	Delft Cluster Phase II: AWM (wateroverlast, verzilting, bodemdaling en droogte)		Delft Cluster partners	Jan-05	Dec-08
	Delft Cluster Phase II: Safety against Flooding: WP A3 Hybrid Modelling		Delft Cluster partners	Jan-05	Dec-08
	Delft Cluster Phase II: Preparation Urban Water Cycle	NL Gov. / BSIK	Delft Cluster partners	Apr-05	Apr-09
	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-09
	Delft Cluster 42/WP CT 043211 River Morphology		WL, TUD, TNO-NITG, UT, UU	Nov-06	Dec-08
	Bio-availability of trace metals in anaerobic granular sludge reactors			Jun-07	Jul-09
	Water Management in Extreme Conditions	Delft Cluster		Aug-07	Dec-10
	Delft 3D model for steady state overbank flow conditions	EPSRC		Oct-07	May-09
	Studie naar beheer uiterwaardverlanging Ewijkse Plaat	Erasmus		Oct-08	Mar-09

RESEARCH AND DEVELOPMENT

COUNTRY	TITLE	FUNDING	PARTNERS	START	END
United States	Modelling of hurricane impacts		TU Delft, WL	Mar-06	May-09
Vietnam	Re-hydrating the earth by sustainable, small-scale sub-surface water retention techniques		Royal Haskoning, DUT, Westerfield Conservation	Jan-07	Apr-08
Various Countries	Challenge of Integrated Water Resources Management for Improved Rural Livelihoods (Limpopo)	CP/CGIAR	WaterNet	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		Delft Cluster: TNO, KIWA, GeoDelft, TUD, WL	Jun-05	Dec-08
	Water reclamation technologies for safe artificial groundwater recharge		16 total, Rheinisch Westfälische Technische Hochschule Aachen is leading party	Oct-05	Dec-08
	Integrated Flood Risk Analyses and Management Methodologies		HR Wallingford Ltd. (lead), WL a.o.	Jan-06	Dec-08
	Sustainable Water management Improves Tomorrow's Cities' Health	SUSTDEV	32 in total: UNESCO-IHE (lead), IRC and many others. PoWER partners: Universidad del Valle (Colombia), Kwame Nkrumah University of Science and Technology (Ghana)	Feb-06	Jan-11
	Early Floodwarning Systems for Ungauged Basins	PoWER	PoWER Partners: NL, India, Palestine, Indonesia, Egypt, Ghana, Yemen	Nov-07	Feb-09
	Formal water rights in informal economies in the Limpopo and Volta	CGIAR Challenge Program on Water and Food (CPWF)	IWMI	Jan-08	Dec-09
	SWAT Development Activities			Jan-08	Dec-10
	Flood Vulnerability Indices in low headed hydropower			Feb-08	Feb-12
	Application of ''Table of Eleven'' in developing countries: assessment of applicability and a need for adjustments			Jun-08	Nov-08
	River basin twinning initiatives as a tool to implement EU water initiatives	EC-FP7-Cooperation	Environmental Protection and Water Mangement Research Institute (VITUKI) HU (coordinator), Soresma BE, Potsdam Institute for Climate Change (PIK) DE BOKU Vienna AT	Jun-08	May-11
	In Search of Sustainable Catchments and Basin-wide Solidarities – Transboundary Water Management of the Blue Nile River Basin	NWO-WOTRO	IWMI	Jul-08	Jun-12
	The Ecology of Livelihoods in East African Wetlands: Wetland Conservation and Utilization in the Context of Local and Global Change		UvA, University of Nairobi, Egerton University, VIRED	Sep-08	Aug-12
	Upscaling small-scale land and water system innovations in dryland agro-ecosystems for sustainability and livelihood improvements		USDM, UKZN, IWMI, TUD, SEI, SU	Sep-08	Aug-12
	Risk-based operational water management for the Incomati River Basin		Mondlane University, KOBWA	Jan-09	Aug-13
	Localised environmental and health information services for all	EC-FP7-Cooperation	Instituto superior tecnico, project automation SPA, BICOCCA, Aria Technologies, Esaproject SP Zoo, hidromod modelacao em engenharia, noord-brabant provincie, comune di bari	Sep-08	Aug-11
	Integrated approaches and strategies to address the sanitation crisis in unsewered slum areas in African mega cities		Makarere University, Kampala city council	Sep-08	Aug-12
	Low-cost drinking water treatment in developing countries: use of indigenous materials and affordable adsorbents		Kwame Nkrumah University of Science and Technology, Makarere University	Nov-08	Dec-12
	Partnerships in the Water Supply and Sanitation Sector		KNUST,SUEZ, VITENS, NWSC	Sep-08	May-12
	Sediment,sediment transport from reservoirs to estuaries		NHRI, HRI, Deltares, SKLEC, Hohai	Oct-12	Oct-12

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 Wetenschappelijk 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

RESEARCH THEMES AND RESEARCH LINES		
THEMES	CORE	RESEARCH LINE
Environmental Integrity	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
Water Management and Governance	Capacity Building	Institutional analysis and reform processes
		Strengthening and developing organisations
		Human resources development
	Water Resources Management	Bio-physical processes (efficient use)
		Institutional dimensions (good governance)
		Integrative properties (sustainable systems)
	Water Services Management	Institutional options for water and sanitation
		Establishment and functioning of river basin organisations
		Organisational change in the water sector
		Strategic management of drinking water utilities
		Equity and participation issues in water services management
Urbanisation	Sustainable Urban Infrastructure	Urban water networks
		Water distribution systems
		Urban drainage
		Wastewater collection systems
		Flood resilience of urban areas
	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 Security	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 (hydrological processes and process-based modelling)
		Physical and biogeochemical processes of groundwater systems
Information and Communication Systems	Hydroinformatics	Modelling paradigms, uncertainty and risk
		Systems engineering and optimisation
		Collaborative decision making and Internet-based computing and learning

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The UNESCO-IHE Honorary Fellowship award is bestowed in recognition of persons of distinction who have either made major contributions to the work of IHE or earned distinction for activities associated more widely with the context of IHE's mission,

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ANNEX 8 | UNESCO-IHE & NETHERLANDS ALUMNI ASSOCIATIONS

UNESCO-IHE alumni perform a vital role as 'ambassadors' to the world. The establishment and strengthening of the UNESCO-IHE Alumni Network is essential to promoting and facilitating knowledge dissemination, including the exchange of professional expertise and personal experience between alma mater as well as amongst Alumni. These independent Associations organise various activities in their country.

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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Photos

Massimiliano Lattanzi (Rome, 1964) embarked on his exploration of the world of photography and visual research at an early age. Following his studies in Literature and Philosophy, in the early 80s he put his camera at the service of his social involvement, both at national and international levels. From this experience stemmed his decision to join the UN System, where he spent almost twelve years. Working in the domains of education, philosophy and ethics, he nevertheless did not abandon his photographic research. In early 2004, he decided to devote himself entirely to his photographic and literary work.

In 2006 the project AQVA took form. Its three constituent parts — Hydros, Athmos and Istos — are symbolic representations of the emanations of a primigenous Nature, where the intensity and ambivalence of the divine predominate. Taken as a whole, they become a metaphor, symbol of the encounter between humankind and spirituality. First in Paris, the show was then hosted in a number of museums in Mexico and Guatemala and became, subsequently, a travelling exhibit in various countries. In 2007, AQVA was exhibited at UNESCO-IHE.

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