ANNUAL REPORT 2004

UNESCO-IHE
Institute for Water Education

CONTENTS

DIRECTOR'S STATEMENT

The year 2004 will certainly be recorded as one in which we not only set ambitious goals, but one in which we managed to accomplish more than I thought possible. The pace of the Institute notably quickened and, given our commitment to task, I assume that the multitude of aims we are pursuing are leading us to making a tangible difference in the ability of our client governments to more effectively manage their water resources. As is clearly demonstrated in this annual report, we addressed priority issues that affected our principle mandates in education, research and capacity building. Additionally we made substantive progress in clarifying our role and responsibilities within the larger UNESCO context.

Let me begin by noting that our education programmes and our drive to maintain overall academic excellence underpin all other activities of the Institute. Without this pillar, we run the risk of losing the confidence placed in us by UNESCO Member States and our participants, and the Foundation and Governing Boards.

UNESCO-IHE welcomed 223 new participants in October, a 15% increase from the previous year. Together with support from the Netherlands Ministry of Foreign Affairs, the WaterMill project involving 24 researchers for each of three years was initiated. All involved will contribute to addressing research topics related to the Millennium Development Goals. No other educational institute in the world has the opportunity we have to make such a tangible contribution in support of these goals as does UNESCO-IHE. We also completed all preparatory work for launching several of our regular modules in a distance-learning format with financial support from the PoWER programme. These two efforts represent innovation in our education programme. Nineteen new staff joined the Institute in 2004, including three new professors, nine other academic and seven administrative staff. We will likely continue to expand at a modest rate in order to comply with our pledge to integrate new and innovative methods into our delivery mechanisms while remaining cutting-edge.

Our research efforts also demonstrated the commitment of the academic staff to continue to develop new and innovative technologies as well as subject the results of their investigations to the critique of peers in top quality journals and other publication outlets. The 'IHE family filter' for removing arsenic from won the prestigious 'Holland Innovation Award' in the water category, the first time UNESCO-IHE has been so recognised. Ten PhDs graduated last year and their dissertations stand up to those of any programme in the world. We continue to expand our research efforts in many parts of the world and in many different fields covering all of our academic programmes. Finally, the academic staff continues to make strides in terms of both the quality and quantity of publications. In 2004 several important books were published and many staff produced scholarly contributions to peer-reviewed journals. This progress bodes well for our academic reputation.

We also continued to make tangible strides in terms of our capacity building activities, together with partner institutions and as a result of our efforts vis-à-vis the PoWER partnership institutions, and in developing new projects and products. We made substantive progress in our partnerships with other institutions of higher education that may eventually lead us to issuing joint degrees, a long-standing goal of this Institute. We held regular videoconferences with a wide variety of audiences on many important topics, convoked three leadership conferences here and in the field through PoWER, hosted several important international meetings including one launching the Water Cooperation Facility. We were invited to participate in developing the capacity building components for ten universities as Indonesia implements its national environmental and development plan sponsored by the World Bank. Negotiations were completed for a new MoU with the Technical University of Delft to be signed in early 2005. We reached an agreement to host the Secretariat for the second phase of the Water and Climate Dialogue, and continue to engage in joint activities with our in-house partners – IRC, CapNet and NWP. We also continue to work closely with a number of external public and private sector partners from the Netherlands such as GeoDelft, Delft Hydraulics, Dura Vermeer, and also with the Delft Cluster consortium, and elsewhere as with the WWF (World Wide Fund for Nature) and Suez. We secured funding for the second phase of the project Capacity Building for Sustainable Development of Water Resources and Environmental Sanitation in Ghana and the Sub-Region together with our long-time partner the Kwame Nkrumah University of Science and Technology.

I want to note several efforts that contribute to our continuing to be an Institute of excellence. For example we broadened our funding base for fellowships to include several countries. A part time alumni officer was installed providing us the opportunity to really involve our graduates in the growth of the Institute. We restructured the Finance Department, upgraded the accounting software, implemented the first phase of the Management Information System, and formalised our tax-free status in our host country. We received formal recognition from the International Hydrological Programme of UNESCO as its 'educational arm' breathing life into what the Director General said two years ago in terms of our Institute being a 'hub' for the future of capacity building in the water sector. The 2005-2007 Strategic Plan was completed and the library management system upgraded. New personnel policies on staff development, absence and reintegration, childcare, flexi-hours, and smoking were set in place for full implementation in 2005.

Two noteworthy events that took place in 2004 were the Promotion of UNESCO-IHE's 50th PhD candidate and the Honorary Fellowship Awarding of William Cosgrove. Mr. Maher Abu-Madi from Palestine promoted successfully on June 22, with a thesis entitled 'Incentive Systems for Wastewater Treatment and Reuse in Irrigated Agriculture in the MENA Region: Evidence from Jordan and Tunisia', and thus became the 50th UNESCO-IHE PhD participant to obtain a PhD degree. Mr. Abu-Madi currently works at the Water Studies Institute of Birzeit University, Palestine, and is closely involved with UNESCO-IHE's PoWER Partnership.

William Cosgrove was awarded the Honorary Fellowship on the Closing of the Academic Year for his many contributions towards solving the world's water problems. He was involved in water policy development aimed at improving water infrastructure and living standards in the poorest countries of the world for over 40 years, and believes that water should not compete with other sectors on the international agenda, but rather that the international community should come to grips with the reality that water is an essential component in realising the health, education, and agriculture priorities of the world's developing countries.

Finally, I want to make it absolutely clear that the Rectorate is committed to the underlying goals of the Partnership for Water Education and Research - PoWER, both in support of the partners of the programme and to its underlying importance to this Institute. It has and continues to offer us a unique opportunity to transform our Institute, a luxury that few organisations enjoy. We know there is a lot yet to realise and it will likely take a second phase until we can internalise the full range of PoWER aims, activities and outputs into our overall programme and budget, but at least we know of its importance. And I commit myself to not squandering this opportunity.

All things considered, 2004 was a very busy year of tremendous challenge and opportunity. We look forward to continuing to serve the interests of the Member States and in particular the needs of developing and transition countries in the water sector.

Professor Richard A. Meganck,
Director

BACKGROUND & MISSION

UNESCO-IHE Institute for Water Education continues the work started in 1957 when the Institute first offered a postgraduate diploma course in hydraulic engineering to practicing professionals from developing countries. Over the years, UNESCO-IHE has developed into an international education institute providing a host of postgraduate courses and tailor-made training programmes in the fields of water, environment and infrastructure; conducting applied research; implementing institutional capacity building and human resource development programmes; participating in policy development; and offering advisory services worldwide.

The Institute has gradually expanded its academic base to include disciplines such as sociology, economics, and environmental and management sciences. Its range of activities has broadened, accordingly, from identifying solutions to engineering problems, to designing holistic and integrated approaches in the development and management of water and environmental resources, and urban infrastructure systems. The Institute's services now also comprise integrated water resources management, effective service delivery and institutional reform, all of which aim to enhance full stakeholder involvement, equity, accountability and efficiency in water sector development and management.

In November 2001, UNESCO's 31st General Conference decided to make IHE an integral part of the Organisation. By March 2003, the necessary treaties and agreements between the IHE Delft Foundation, UNESCO and the Netherlands Government were signed, allowing for the entry into operation of the new UNESCO-IHE Institute for Water Education.

UNESCO-IHE envisions a world in which people manage their natural 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 the Institute 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.

Within the UNESCO mandate and the mission statement, the Institute executes the following functions:

- Functioning as an international standard-setting body for postgraduate water education programmes and continuing professional training;
- Building human and institutional capacities through education, training and research;
- Setting up and managing networks of educational and water sector institutions and organisations world-wide;
- Functioning as a 'policy forum' for UNESCO Member States and other stakeholders; and
- Exercising an advisory function on water education to partner organisations and other members of the UN water family.

Within the framework of UNESCO-IHE's endeavour to contribute to the UN Millennium Development Goals, the Institutes primary strategic objectives include maintaining academic excellence and maintaining effectiveness in a changing world. These objectives will be strengthened and facilitated by a tier of operational objectives including further developing partnerships and networks, encouraging entrepreneurship in an academic setting and diversifying and stabilising the Institute's funding base.

CORE ACTIVITIES

UNESCO-IHE FOCUSES ITS ACTIVITIES IN FOUR CORE AREAS: EDUCATION, RESEARCH, CAPACITY BUILDING, AND PARTNERSHIPS AND NETWORKS. WITH THESE CORE ACTIVITIES, THE INSTITUTE AIMS TO REALISE ITS VISION AND MISSION, AND AID IN RESOLVING THE MAJOR WATER AND ENVIRONMENT CHALLENGES FACED BY THE DEVELOPING WORLD.

EDUCATION

Degree programmes offered at UNESCO-IHE in 2004 were the 12-month Master of Engineering (MEng), the 18-month Master of Science (MSc), and the 4-year Doctor of Philosophy (PhD) programme. The institute also organises various short courses and group training courses throughout the year.

In the Academic Year 2003-2004, the Institute offered the following Masters Programmes:

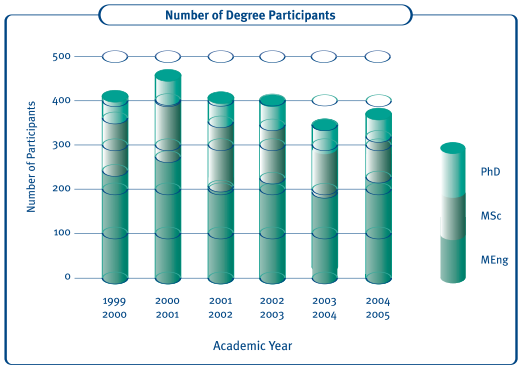
Masters Programmes	Number of Participants enrolled
Environmental Science	38
Water Management	24
Municipal Water & Infrastructure	65
Water Science & Engineering	65

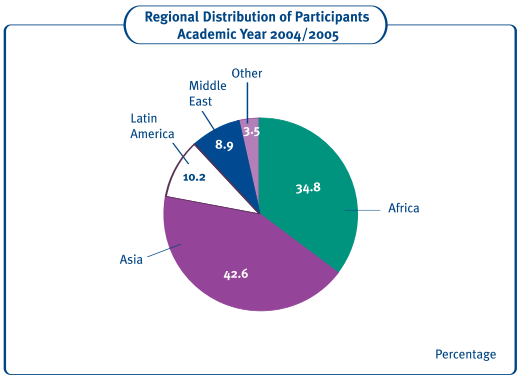
The number of participants enrolled in the Academic Year 2004-2005 are listed below.

Masters Programmes	Number of Participants enrolled
Environmental Science	42
Water Management	42
Municipal Water & Infrastructure	47
Water Science & Engineering	92

In 2004, 45 research fellows were enrolled in the PhD programme, and 226 participants joined the various short courses of which 80 were alumni participating in Refresher Seminars. One hundred and twenty five MSc degrees were awarded during the year.

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





ACCREDITATION

Early in 2004, UNESCO-IHE received feedback from the external Quick Scan review committee, which evaluated the Masters programmes at the end of 2003. An internal procedure was started to decide how to continue these programmes. Based on a thorough analysis, the Institute decided to only offer the MSc degree programme per the academic period 2005-2007, and to abolish the MEng degree programme.

The Parliament and the Senate approved the so-called 'Aanpassingswet Hoger Onderwijs' during the second half of 2004. It gives the institute the legal right to issue MSc degrees until December 2007, after which date the Master programmes need to be accredited by the NVAO. The Institute initiated preparations to obtain this accreditation. In 2004, this entailed a description of the domain the programmes operate in and an outline of the self-evaluation report based on the protocol supplied by QANU. In December 2004, two information sessions were organised for key staff members involved in the accreditation process and in writing the self evaluation report. In addition to the accreditation defined by QANU, the SAIL institutes have proposed to have their programmes assessed on the extra criteria of Development Relevance, which has to be approved by QANU.

AQA

The Academic Quality Assurance committee (AQA) – responsible for formalising an internal quality assurance system for educational, research and project activities throughout the Institute – prepared the first draft of a quality assurance manual. The chapter on the framework of a Quality Assurance system was extensively discussed in the Institute. In December 2004 a workshop for select staff was organised to kick-off the description of various processes.

The following academic regulations were developed:

- Examination regulations 2004-2005
- Examination regulations 2005-2007
- Format for module evaluations
- Rules for study load calculations
- Format for annual programme reports
- Criteria for nominations of professors at a 0.0 basis at UNESCO-IHE

PHD MATTERS

In 2004 a handbook for promovendi and promoters was developed, describing all activities and responsibilities related to the PhD promotion. A directive was prepared to define the maximum duration of a PhD study programme. Guidelines were developed on the use of PhD promotion funds, which the Institute receives from the Universities graduating UNESCO-IHE candidates. These funds will be used for prospective PhD research.

ADMINISTRATIVE MATTERS

At the end of the academic year 2003-2004 all graduates received a diploma supplement to their diploma. The diploma supplement replaced the academic transcript, and was developed according to the guidelines of UNESCO-CEPES and the European Commission.

RESEARCH

The Institute continued to pursue research as part of its commitment to train skilled researchers from developing and transition countries, and to support improved water management as well as the educational and capacity building activities of the Institute. Individual research projects addressed issues related to the primary thematic thrusts for the Institute's academic activities.

A major success of the Institute's research during 2004 were the field trials of the 'family filter' for removal of arsenic in contaminated drinking water. The filter, which consists of iron oxide coated sand, was developed as a result of more than 20 MSc and PhD research efforts. A patent is pending and further applications of the process are planned. The technology behind the filter won the ID-NL Award 2004 in the Water Technology category.

Other successes have accumulated through a number of EC and other sponsored research projects. This year was notable for the large number of successful PhD defences (*see Annex 2*).

MSc participants are encouraged to do their research projects in topics that are of direct interest to their home situations. To this end some participants return to their countries to collect data. Increasingly more PhD fellows are carrying out their research on a sandwich basis where half their time is spent at UNESCO-IHE and the remainder back in their country. This encourages research relevant to their home country and employer, involves local professionals in supporting the research work, and provides greater assurance of continuity.

Publications are an important indicator for measuring the research output of the Institute. Quality publications lead to better dissemination of the generated knowledge, extend the networks of the individual researchers, and improve the reputation of the Institute as a serious contributor to academic research in water. For a list of publications produced in 2004, please refer to *Annex 5*.

Research Outputs	Number in 2004
Books	4
Chapters in books	16
Journal articles	39
Paper in proceedings	69
PhD thesis	10
Other	53
Total	191

The Institute uses a portion of its own funds to support ongoing research activities, through matching funds as well as internal, fully funded projects. In 2004, the Institute cosponsored 10 research projects through the internal research fund. The EUROMARKET project is one such project, and has the objective to determine the consequences of and formulate policy guidelines for the liberalisation of the water sector in economic (water prices), ecological (sustainability) and social (employment) terms. Another example, the 'Smallholder System Innovations in Integrated Watershed Management' project, has the objective of studying the hydrological, environmental and socio-economic impacts of up-scaling water system innovations in rain fed agriculture at watershed scale.

The projects fully funded by UNESCO-IHE are designed to catalyse research into particular, innovative topics that promote interdisciplinary cooperation across departments and cores. Examples of internal projects are 'Integrated modelling of wetlands' and 'The development of a multi-level analytical framework for the integrated assessment of the exploitation of water and environmental resources.'

The Institute is a partner in the Delft Cluster research programme, and as such active in preparing proposals for implementation during 2005. These proposals include a number of PhD positions. A number of other research proposals have also been prepared and submitted to the EC 6th Framework Programme.

The promotion of international collaborative research is a priority of the Partnership for Water Education and Research (PoWER) programme. PoWER is supporting 'Developing tools for characterising water quality problems in the Nile Basin', a project involving the Hydraulics Research Institute (HRI) in Egypt and the Makerere University, Institute for Environmental & Natural Resources, Uganda.

The annual PhD seminar was held in March 2004 and attracted 30 PhD fellows. A number of research seminars were also held in each department throughout the year. Together these provided opportunities for dissemination of research results and a means of informing colleagues on what research is being done.

Four new full time professors were appointed during 2004, and another four professorial chairs were in the process of being filled. This marks a significant change in the constitution of the Academic Board, which is expected to result in new research initiatives in the coming years. Also, on March 22nd, Prof. Joyeeta Gupta held her Inaugural Address entitled '(Inter)national Water Law and Governance: Paradigm Lost or Gained?'

Professor Joyeeta Gupta holds her Inaugural Address on World Water Day, March 22nd.

CORE ACTIVITIES

CAPACITY BUILDING

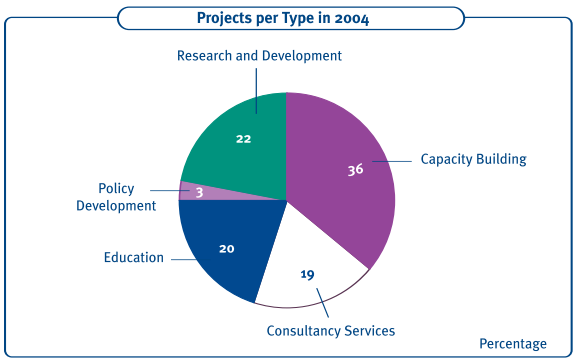
With the aim to further the impact of its capacity building operations, the Institute took the decision to develop an academic quality assurance (AQA) system for all projects undertaken. In a series of brainstorming sessions, existing procedures were reviewed and updated, and new ones designed. Particular attention was paid to those processes that directly affect the academic outputs of projects. The role of individual Professors and of the Academic Board in the design and implementation of projects was also clarified.

The year 2004 marked an important transition period during which the institutional development programme of the Ministry of Foreign Affairs of the Netherlands was substantially changed. This resulted in the phasing-out of six multi-year institutional development projects funded by the SAIL Project Programme (SPP). The SPP was terminated by its sponsor, and replaced by the more competitive NPT-programme (Netherlands Programme for the Institutional Strengthening of Post-Secondary Education and Training Capacities). The NPT is set up as a strongly 'demand-driven' programme, which means that the participating countries define the projects, which are subsequently tendered in the Netherlands.

All six SPP-projects (in Ghana, Kenya, Egypt, Zimbabwe, Colombia, Palestine) – largely aimed at consolidation and achieving institutional self-sufficiency – successfully established education and research capacities with partner organisations in the South, and enabled the Institute to build solid relations which will continue to be strengthened in the future. The PoWER partnership proved an excellent environment to further develop common activities and serves as a platform for enhancing South-South cooperation between the former SPP-counterpart institutes. Universidad del Valle in Colombia launched the 'Strategic Alliance' with UNESCO-IHE in April 2004; this represents a close partnership between both institutes, aimed at developing joint project and advisory activities for the benefit of the Latin American market. The Institute's SPP projects received a good evaluation during an external review of the SPP programme mid 2004; the ESEE project at Univalle in Colombia received the highest score of all projects evaluated under this review. In view of the lower number of NPT projects (compared to SPP) coordinated by UNESCO-IHE, the Institute developed targeted efforts to attract other sources of funding for its capacity development projects. These efforts are likely to result in additional projects in 2005.

In 2004, UNESCO-IHE was a lead partner in three tenders under the NPT Programme, two of which were successful and resulted in new projects. The first project provides assistance to the National University of Rwanda in establishing a Master of Science Programme in Water Resources and Environmental Management. The second project concerns a continuation of the cooperation with the Kwame Nkruma University of Science and Technology in Kumasi, Ghana. The new NPT-funded phase builds on capacities established under the SPP project and aims at broadening the scope of expertise and at establishing a new MSc-specialisation in Integrated Water Resource Management. Both projects will run from 2004 to 2008. Another NPT project with two Hydro-meteorological Colleges in Vietnam was approved late 2003, but due to administrative procedures in Vietnam will only start activities in early 2005. The project is developed in a partnership with Saxion (lead partner) and ITC.

The UNESCO-IHE PoWER Programme is the largest of the Institute's ongoing projects. The PoWER project – a partnership between 17 member institutions throughout the world – made substantial progress in 2004, initiating the development of joint education and training packages with partner institutes. PoWER also developed initiatives to mobilise the alumni networks of UNESCO-IHE and its 17 regional partners. The partnerships and alumni networks will also be instrumental in acquisition and joint implementation of projects and advisory services.



The Dutch Minister of Foreign Affairs, Mrs. van Ardenne, visits UNESCO-IHE

In the context of decreasing the dependency of the Institute on Netherlands funding, acquisition from European Community sponsored programmes was intensified. This has resulted in participation in two integrated projects: 'Demonstration of a European knowledge management framework for a procedure on waste- and drinking water asset management' (2004-2006) and 'Integrated Flood Risk Analyses and Management Methodologies' (2004-2008). Two EuropeAid tenders were also successfully submitted. Both support Eastern European countries in implementing the EU Water Framework Directive. One addresses the management of the transboundary Sava River in Croatia, Bosnia and Herzegovina, and Serbia and Montenegro. The other concerns the training of civil servants working for regional authorities of the Hungarian Ministry of Water Resources. Sponsoring by the EC-CRAFT programme was received for research on an innovative tool for multi-element analysis of ground and surface water.

Two EC-Alfa network projects, coordinated by the Universidad del Valle in Colombia and UNESCO-IHE, were started in 2004. The network will develop a number of joint educational modules for incorporation into the curricula of partner institutions.

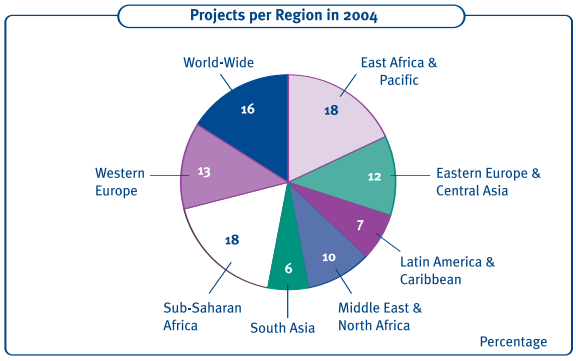
Another EC project on 'Water Liberalisation Scenarios, an Empirical Analysis of the Evolution of the European Water Supply and Sanitation Sector' was started. This project is implemented by a consortium of ten institutes, lead by UNESCO-IHE, and extends over a period of three years.

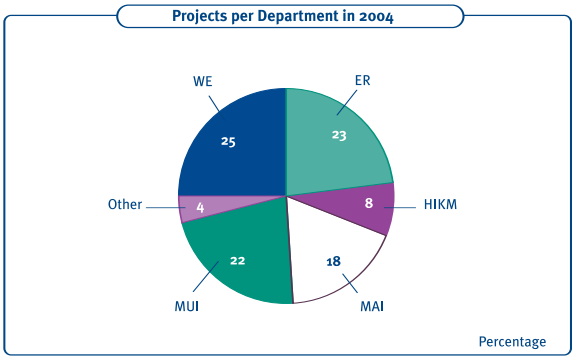
An important acquisition is the project 'Water Sector Capacity Building in Support of the Millennium Development Goals'. With support from the Netherlands Ministry of Foreign Affairs, the project will enable the Institute to investigate water-related topics addressed by the MDGs and increase the capacity to find sustainable solutions. The research is done by professionals from different developing regions, of which some 50% are from Africa. The project 'Real-Time Monitoring & Management System for Water Resources in the Yellow River Basin (China)' will develop a basin wide water resources monitoring system and therewith provide basic information for strategic planning. The tool will also serve as an early warning system of droughts.

Another success in 2004 was the acquisition of three group training projects (for Chinese and Iraqi professionals), including 44 participants in the Masters Programme.

Major ongoing capacity building programmes include the Water for African Cities training component, the assistance provided for the establishment of a Groundwater Information Centre in China and the Middle-East EXACT project on water treatment and re-use.

Various smaller capacity building projects and advisory service activities were carried out in 2004. Examples include the performance of a feasibility study on arsenic removal in Hungary, a tailor-made training in Financial Management for Urban Infrastructure Development in China, capacity building at the Syrian National Water Training Centre, support to Indonesian universities to establish a cooperative network and joint training modules, a review of the Master Drainage Plan for Pakistan, and advice in wetlands restoration in the Aral Sea region. These projects are particularly important as they are aimed at specific target groups and generate new knowledge within a local context. For a complete overview of ongoing and newly started projects in 2004, please refer to *Annex 3*.





PARTNERSHIPS AND NETWORKS

Within the broad UNESCO mandate, the Institute fosters the establishment and management of networks of educational and water sector institutions and organisations worldwide. To the Institute, both networks and partnerships are of strategic importance in terms of access to and sharing of information.

In 2004, ties with UNESCO Headquarters and Centres were intensified. Products of this cooperation include a pilot training needs assessment for water experts in the framework of the MDGs, the drafting of the chapter on 'Capacity Building and Knowledge Management' for the 2006 World Water Assessment Report, and developing a proposal for involvement in the Decade on Education for Sustainable Development.

The Institute continued to expand its scope of activities within the global capacity building aims of the PoWER programme. The partnership – registered with the UN Commission for Sustainable Development – concluded a governance document, approved by all partners early in 2004. With this document in place PoWER is prepared to welcome new partners, and negotiations are currently taking place with IIT Roorkee, India.

The partners Hohai University and NHRI both based in Nanjing, China, organised the first UNESCO-IHE PoWER workshop on Creative Learning Methods & Techniques in Nanjing. This workshop trained professionals from PoWER Institutions, enabling them to design and facilitate creative learning or brainstorm sessions in their respective organisations. UNESCO-IHE plans to transform one of its lecture rooms into a creative learning room, designed and equipped to host learning events, brainstorming sessions, negotiations, and dialogues in a stimulating environment.

During 2004, UNESCO-IHE and its PoWER partners developed eight on-line courses. These courses are true examples of joint products in the PoWER context, and consist of a blend of learning methods, including face to face, videoconferencing and internet-based interactive distance learning. These courses will be launched in 2005.

Concepts fostering connectivity for life between the PoWER institutes and its alumni is thought to be essential to achieve the general objectives of PoWER. In this context the Virtual Alumni Community (VAC) – a powerful Web-based tool to enhance interactions among UNESCO-IHE alumni, as well as alumni from other PoWER institutes – was developed. The VAC, which will be launched early 2005, on World Water Day, combines the Distance Learning Centres of the World Bank's Global Development Learning Network (GDLN) and enables the Institute to efficiently organise special events for alumni worldwide. One example in 2004 was a series of seminars on Authentic Leadership consisting of a face-to-face seminar in Delft and three videoconferencing seminars facilitated by GDLN.

UNESCO-IHE supports educational and water sector institutions worldwide through regionally established networks and partnerships. One of these networks is WaterNet, the capacity building network for integrated water resources management in Southern and Eastern Africa. Activities were centred on the key objective to level the playing field through regional cooperation. In 2004, activities included running a cooperative Masters Programme in IWRM, developing new modules, joint research, staff development, and drafting a proposal for a second phase of the programme. In the Nile region assistance was provided to the Nile Basin Capacity Building Network for River Engineering (NBCBN-RE), which consists of key institutes in all ten Nile Riparian Countries. Main achievements were the creation of thematic research clusters, joint research and training activities, a governance structure and secretariat that ensure continuity in the network's operations, and a powerful Internet-based platform facilitating the work of communities of practice.

In Latin America, Africa and the Middle East, UNESCO-IHE successfully completed cooperation projects with Universidad del Valle (Cali, Colombia), Kwame Nkrumah University of Science and Technology (Kumasi, Ghana), University of Zimbabwe (Harare, Zimbabwe), Institute for Meteorological Training & Research (Nairobi, Kenya), Hydraulics Research Institute (Cairo, Egypt), and Birzeit University (Birzeit, Palestine). Education, training and research capacities were developed at all these locations and collaboration will continue in the framework of PoWER and various bilateral programmes.

In the Netherlands, close relations aimed at cooperation in the field of education and research – in particular on joint PhD graduations – exist with the Delft University of Technology, the Free University of Amsterdam, and Wageningen University. The International Water and Sanitation Centre (IRC) and UNESCO-IHE are partners in information, training and capacity building activities. Cooperation focuses on financial aspects of water management, knowledge management, and sewage & sanitation. The initiative to integrate UNESCO-IHE and IRC was suspended, as a result of the Boards not reaching an agreement.

Participation in knowledge networks such as the Cooperative Programme on Water and Climate and those set up by CAPNET continued. An important development was the Netherlands Government's approval of the proposal for a second phase of Delft Cluster, a partnership between six prominent Netherlands-based institutes cooperating in research on sustainable infrastructure development in densely populated delta areas. The new phase will run from 2004 to 2010. UNESCO-IHE's primary contributions focus on various aspects of improving water management, modelling for water security and protection against floods. Knowledge dissemination and broadening the geographical scope of the research will receive future attention.

The 'Authentic Leadership' conference at UNESCO-IHE in September 2004

PoWER's 'Creative Learning Methods and Techniques' workshop in Nanjing, China

The concept and use of Communities of Practice as knowledge units has been further developed, tested and promoted. In 2004, a number of new web-based platforms were launched. Beneficiaries include participants in UNESCO-IHE's degree programmes, alumni attending refresher courses, wetlands professionals and members of the NBCBN-RE network.

In the framework of its cooperation with the World Water Council, UNESCO-IHE is actively involved in the preparations of the crosscutting Capacity Building and Social Learning theme for the World Water Forum IV to be held in Mexico in 2006.

For a list of professional memberships of UNESCO-IHE staff please refer to *Annex 6*.

MEMORANDA OF UNDERSTANDING

UNESCO-IHE has bilateral partnership agreements with more than 20 public and private organisations in support of shared interests in education, research and capacity building. Memoranda of Understanding (MoU) set the framework under which specific activities are carried out with each partner. The following MoU's were signed in 2004:

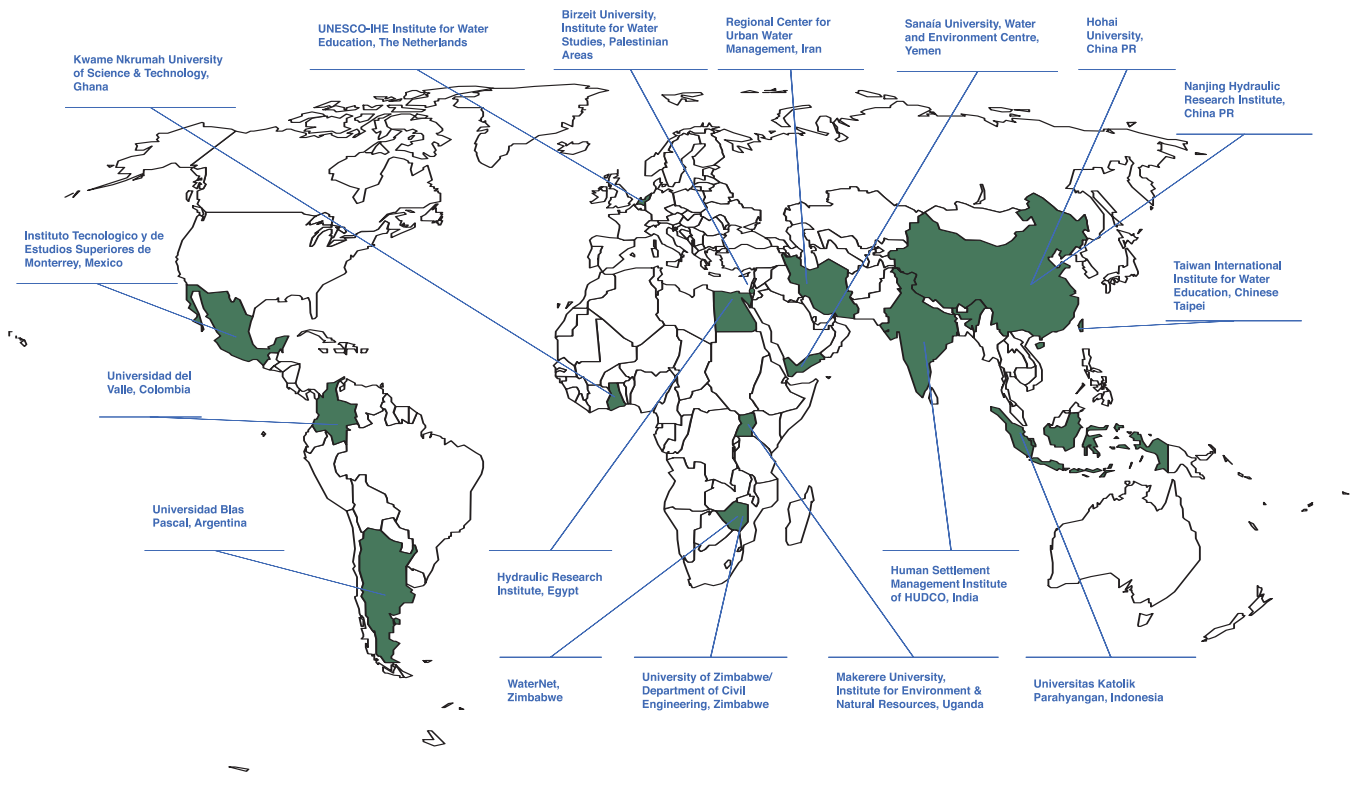
Dura Vermeer

signed: September 2004
goals: Dura Vermeer agreed to sponsor a part time Professorial Chair in Flood Resilience of Urban Systems, MSc fellowships, guest-lecturing, cooperation in projects.

GeoDelft

signed: October 2004
goals: contributions by GeoDelft in geo-engineering components of UNESCO-IHE courses, MSc research fellowships, development of on-line courses, guest-lecturing, use of laboratory facilities and field equipment.

Multilateral Partnership for Water Education & Research (PoWER)



UNESCO-IHE ADOPTED FIVE THEMES AS FUNDAMENTAL TO ITS EDUCATION, RESEARCH AND CAPACITY BUILDING PROGRAMMES: **WATER SECURITY, ENVIRONMENTAL INTEGRITY, URBANISATION, WATER MANAGEMENT AND GOVERNANCE, AND INFORMATION AND COMMUNICATION SYSTEMS**. THROUGH EACH OF THESE THEMES, THE INSTITUTE FOCUSES ITS CONTRIBUTIONS ON RESOLVING THE MAJOR ISSUES AND CHALLENGES FACED BY MANY DEVELOPING COUNTRIES, AS STATED IN THE MILLENNIUM DEVELOPMENT GOALS AND AS IDENTIFIED BY – AMONG OTHERS – THE UN MILLENNIUM SUMMIT, THE WORLD WATER FORA, THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT, AND THE COMMISSION ON SUSTAINABLE DEVELOPMENT.

WATER SECURITY

Water security deals with the development and management of a sustainable balance between water availability and water demand. It involves protection against water related hazards (floods and droughts), wise use of water resources and the safeguarding of water functions and services. The world water agenda has translated these key issues to balancing increasing human requirements for adequate water supplies and improved health and sanitation with food production, transportation, energy, and environmental needs. Major developments in this field involving UNESCO-IHE are in integrated river basin management, conflict management and in the mainstreaming of climate variability issues in integrated water resources management.

Mainstreaming water security in the specialisations of water engineering continued in 2004, with an emphasis on floods and drought management. The research initiative for urban flash floods management was further developed ending with an international seminar in India in December. Expert groups from China and Korea visited UNESCO-IHE with the aim to study flood management in the Netherlands and the Institute's involvement in this field. The activities related to water and climate continued with the initiative to submit a proposal for Water and Climate East Africa with the EU Water Facility early 2005. Main partners here are Wageningen University, Alterra and the Cooperative Program on Water and Climate.

A Refresher Seminar on water scarcity was organised in cooperation with HRI Cairo in July and an institute wide research proposal for water harvesting was submitted in December. Important groundwater monitoring activities continued under the Exact project in the Middle East. A book with a description of the main results of the NATO SfP project 'integrated water resources management under conditions of water scarcity in Central Asia' was published in November. Work on effects of drainage and groundwater monitoring in irrigated areas under arid and semi conditions in Pakistan continued and will lead to new research activities in 2005.
Trans-boundary surface or sub-surface water resources can either catalyse development on a bi-national or sub-regional basis or lead to competition and even conflict. Regional agreements which focus on shared responsibility and investment can help nations avert conflicts and related water security issues. The European Union through the European Water Framework Directive and international development banks and other donor organisations are increasingly supporting investments in shared basins or aquifers with the riparian nations actively involved in the planning process. On a global scale UNESCO and UNESCO-IHE responded to these developments with the initiative for the establishment of the International Water Cooperation Facility in 2004.

By the end of 2004 UNESCO-IHE was involved in trans-boundary river basin management in some very important river basins through the following projects:

- *River Jordan*: continued support to the EU funded Exact project with the aim to jointly monitor groundwater resources in the Middle East. In 2005 UNESCO-IHE will participate in the EU funded Water Data Banks project which will focus on water re-use in the Middle East;
- *River Sava*: education and training on the guidelines for introduction of the EU Water Framework Directive in Croatia, Bosnia-Herzegovina and Serbia Montenegro. Provide support to the Sava River Interim Commission and the International Commission for Protection of the Danube;
- *Nile Basin*: continued support to the Nile Basin Capacity Building Network for River Engineering and to the Nile Basin Initiative. In a related initiative a proposal is submitted to the EU Water Facility with the objective of capacity building for mainstreaming of climate variability into integrated water resources management in East Africa and the Nile Basin;

Related initiatives were taken within the framework of the Environment and Security (ENVSEC) initiative, which is a new joint activity of UNDP, NATO and the OSCE in Geneva. The project is providing support to trans-boundary water and environment projects in post conflict and potential conflict areas. Examples are the Balkan Region and Fergana Valley in Uzbekistan. UNESCO-IHE is presently involved in the development of a trans-boundary river basin management project in the Aral Sea Basin in Central Asia. The development of capacity in conflict management, international water laws and protocols and of concepts and tools for integrated planning and decision making will contribute to increased capacity and presence of the Institute in these projects. The establishment of the Water Cooperation Facility is an example of how these activities culminate in new and important fields of management science that UNESCO-IHE contributes to the international water community.

Participants of the short course on 'Dredging and Reclamation' in the Netherlands

ENVIRONMENTAL INTEGRITY

The theme of environmental integrity addresses the balance between human development and quality of the environment. Central issues of concern are the efficient, equitable and sustainable allocation and use of natural resources, pollution prevention and control and wise use of aquatic ecosystems. UNESCO-IHE believes that these issues can be addressed only following an interdisciplinary approach which has been adopted in its research, training and educational activities.

The WWF Chair in Freshwater Ecosystems was filled in October 2004. This has given impetus to the partnership between the WWF and UNESCO-IHE to explore areas for cooperation for the years to come. As a further development under the WWF chair, research and capacity building efforts will increasingly focus on freshwater and coastal ecosystems at the catchment scale.

The new Masters Programme in Environmental Science started in 2003, continued into 2004 with only minor modifications. Under the PoWER programme, three on-line learning courses were developed: 'Integrated River Basin Management', 'Wetland Management' and 'Cleaner Production and the Water Cycle' for delivery in 2005.

Two Refresher Seminars for UNESCO-IHE alumni were organised: 'Modelling for Water and Environmental Resources Management' with Eduardo Mondlane University in Mozambique and 'Wetlands, Water Quality and Nutrient Re-use' with Makerere University in Uganda. Under the MoU with UNEP/GPA the training course 'Improving Municipal Wastewater Management in Coastal Cities' was delivered in South Africa, the Philippines and twice in Sri Lanka. Training of Trainers sessions were included, to enable local partners to implement the course themselves. As a result, the course was also delivered in Brazil, Mozambique and Turkey.

Four PhD candidates successfully defended their theses. *Ms. Tiwi* (Indonesia) with a thesis entitled 'Improving environmental impact assessment for better integrated coastal zone management,' analysed the Present EIA guidelines in Indonesia and their practice in an economic strategic region and formulated a set of recommendations for improvement. *Mr. El-Shafai* (Egypt) with a thesis entitled 'Nutrient valorisation via duckweed-based wastewater treatment and aquaculture,' developed a sustainable wastewater treatment scheme to recycle sewage nutrients and water in tilapia aquaculture. *Mr. Moussa* (Egypt) with a thesis entitled 'Nitrification in saline industrial wastewater' studied the effect of salinity on nitrification to improve the sustainability of wastewater treatment operating under salt stress. *Mr. Nhapi* (Zimbabwe) with a thesis entitled 'Options for wastewater management in Harare, Zimbabwe' developed frameworks for managing wastewater at on-site, decentralised and centralised levels taking into account optimal use of wastewater components and minimising pollution.

The Chinese-Dutch research project on Integrated Watershed Management resulted in concrete recommendations to improve environmental and water resources management in Lincang Prefecture (Upper-Mekong). Although Integrated Watershed Management is a relatively new concept in China, recommendations were fully endorsed during the concluding workshop (Kunming, November 2004) as a key approach to environmental and water conservation and poverty alleviation.

In November 2004 the EU financed 'E-textile' project was finalised resulting in a web-based tool for training textile professionals in India and Vietnam. This tool provides three types of training: General training on Cleaner Production and how this can be applied in the textile industry; a step-by-step training package on practically applying Cleaner Production in the textile industry; and a database with hundreds of proven Cleaner Production measures for the textile industry.

The Capacity Building Project on Sanitary and Environmental Engineering with Univalle, Cali, Colombia was successfully finalised in July 2004. This project received an excellent external evaluation by the donor (Nuffic). A Strategic Alliance between UNESCO-IHE and Univalle was signed in Cali in May 2004, and provides a framework for continued cooperation between both partners.

Sponsored by the NUFFIC/NPT programme, the project 'Establishment of an MSc Programme in Water Resources and Environmental Management at the National University of Rwanda' was initiated. UNESCO-IHE leads the consortium of partners responsible for implementation of this project, which will run until 2008.

During the 7th INTECOL International Wetlands Conference, a special session entitled 'Development of tools for wetland ecosystem resource management in Eastern Africa' (ECOTOOLS) was organised. Nine presentations were given on the progress and results of the EU-INCO funded ECOTOOLS project. At the same conference, an internet-based platform for wetland professionals was launched (www.wetlandprofessionals.org). The development of this platform was carried out under the MoU with the Ministry of V&W.

Another web-based platform (www.waterfootprint.org) was established on the relation between consumption behaviour of people and their associated water use or 'water footprint'.

Based on a request from WWF an evaluation was made of the effectiveness of a proposed centralised wastewater treatment facility in reducing nitrogen pollution of coastal waters on Bonaire in the Southern Caribbean Basin. A decentralised approach has been proposed as an alternative cost-effective solution.

URBANISATION

The rapid pace of urbanisation throughout the world exerts enormous pressure on local environments and available resources. This generates a high demand on infrastructure services such as water supply, sanitation, transport and housing. Both technological and integrated approaches to the provision of infrastructure services and management are important aspects of urbanisation.
For years, UNESCO-IHE has emphasised the engineering aspects of several sectors such as water supply treatment and distribution, wastewater collection and treatment, solid waste, transport and mobility. Integration and exchange of knowledge with a wide array of disciplines is currently becoming a more important focus for the UNESCO-IHE water professional.

The new Masters Programme in Municipal Water and Infrastructure started in 2003 includes four specialisations: Water Supply Engineering, Sanitary Engineering, Integrated Urban Engineering, and Water Services Management. Under the PoWER programme, the on-line learning course 'Water transport and distribution' was developed, and is ready for delivery in 2005.

Several short courses and refresher seminars were also organised, dealing with priority themes including water distribution and transport (Delft), solid waste management (Delft), membrane technology in drinking and industrial water treatment (Delft and Oman), and current practices and challenges in the water supply and sanitation sector (Bosnia & Herzegovina). Some tailor made courses were carried out in Delft for participants from different regions, among others: water supply and sanitation specialisation for KOWACO staff (South Korea), technologies for urban infrastructure development (China), and brackish groundwater use for drinking water production (Middle East).

The Institute reinforced and expanded its presence in capacity building projects in Africa. The UN-Habitat Managing Water for Africa Cities programme was continued. More than 120 people from 7 cities have been trained in the field of water demand management, pollution control and water awareness. A second batch of training will be given in 2005. The UN-Habitat/UNEP Sustainable Cities Programme continued, strengthening environmental planning and management through demonstration projects on sustainable urban mobility. A project aimed at building the capacity of the water en environmental sanitation sector and sustainable development in Ghana with the Kwame Kkrumah University of Science and technology was successfully completed. UNESCO-IHE will be involved in the follow-up of the project starting in January 2005.

The assessment of urban water problem and strategic planning study in Central Asia and the Middle East has been completed. This study carried out for UNESCO/RCUWM assessed the present situation in terms of urban water and sanitation challenges in Middle East and Central Asian cities and presented a guideline for strategic urban planning in the region.

Another activity carried out for UNESCO in 2004 was an assessment of global water sector capacity needs, a first attempt to identify the gap in term of professional capacity for planning, design, construction, operation, maintenance and management of existing water infrastructures and services to make the Millennium Development Goals a reality.

UNESCO-IHE recently conducted research on an innovative approach for arsenic removal at household level, which can be an adapted as an affordable answer to the ongoing arsenic problem worldwide. In November 2004 the UNESCO-IHE technology was awarded the Dutch Innovation Prize in the Water category. The project aiming at the development of a point-of-use device ('family filter') for Arsenic removal in rural areas of South East Asia and demonstration-scale application in a selected village in Bangladesh was successfully completed. In Hungary, a project on the design and test of a pilot installation for Arsenic removal – making water suitable for drinking – will be completed in 2005.

The WATERTOOL project to develop an innovative tool for multi-element analysis of ground and surface water with partners from Greece, Cyprus, Germany, Slovakia, Finland and the Netherlands was initiated. This new tool will provide water quality analysis at a substantially lower cost compared to traditional monitoring techniques.

Another research project: 'Removal of reactive dice from textile wastewater' funded under the EU Marie Curie fellowship was successfully completed in 2004.

Refresher seminar on 'Current Practices & Challenges in the Water Supply and Sanitation Sector' given in Bosnia and Herzegovina

WATER MANAGEMENT AND GOVERNANCE

Water Management and Governance covers the linkages between the biophysical dimensions, the social-institutional dimension and the cognitive dimension of water resources. Important aspects are the global imperative of good governance, since water crises are often crises of governance requiring increased allocation efficiency and the involvement of the private sector in water services provision, which in turn necessitates innovative institutional and regulatory arrangements.

The new Masters Programme in Water Management, with the specialisations Water Resources Management, Water Services Management and Water Quality Management, addresses the theme of water management and governance. Based on a good understanding of the physical system the programme is cross-sectoral and multi-disciplinary with the aim of helping professionals develop the broad view required for water management and governance. Notable innovative developments were the new modules on Public Private Partnerships and International Water Law and Institutions. Both modules are also offered in an on-line learning format. Theme relevant, tailor-made short courses were organised for participants from Egypt, Ethiopia, South Korea, China and Indonesia.

Eleven PhD candidates from six different countries are addressing the theme water management and governance. In addition, a total of ten MSc theses dealt with the theme. The World Bank funded research project on 'Public modes of engagement with public sector WSS in developing countries' was completed. The project set up a theoretical framework for performance analysis and investigated the performance of 15 public utilities in 11 countries. The project concluded with a proposal on how to incorporate its findings in World Bank policies. A PhD thesis on this topic will be finalised in 2005.

UNESCO-IHE coordinates the EU funded EUROMARKET research project. A total of 9 institutes from 7 European countries carry out research on water liberalisation scenarios: an empirical analysis of the evolution of the European water supply and sanitation sectors. Six scenarios were developed which are now being studied further. The research project aims to make recommendations for policy development on liberalisation of the water services within the EU.

UNESCO-IHE also coordinates in the multi-donor funded 'Smallholder system innovations in integrated watershed management'. A total of five institutes from five countries cooperate in six integrated research projects and involving eight PhD research fellows. The project studies strategies for food and environmental security in drought prone tropical and subtropical agro systems in Tanzania (Pagani basin) and South Africa (Thukela basin).

The DGIS funded 'PPP Dialogue' aims to develop and initiate a (model) process to generate more private capital for essential investments in the water sector in developing countries, leading to at least two viable commercial business plans in the short term. The project started in 2004 in collaboration with the Netherlands Water Partnership.

The CGIAR funded 'Challenge of integrated water resource management for improved rural livelihoods: managing risk, mitigating drought and improving water productivity in the water scarce Limpopo basin' consists of six inter-linked research projects in three countries involving 17 institutions in total. The programme is coordinated by WaterNet Southern Africa; UNESCO-IHE supervises three PhDs studies and gives overall scientific guidance.

Staff contributed to the UNESCO initiative 'From Potential Conflict to Cooperation Potential' (PCCP) by developing educational material and organising sessions in the PCCP conference in Zaragoza. The Institute hosted the 'Water Conflict Facility' (WCF) conference in 2004.

Staff was engaged in several smaller research and advisory missions in support of knowledge development for the theme of water management and governance. Notable assignments were the Dutch funded project 'Support to Decentralisation in Southern Africa,' the EU funded feasibility study 'Finance access to water and water purification', the advisory assignments in policy support to the EU Water Initiative policy formulation for water sector reform for the Federal Ministry of Water Resources, Nigeria; Integrated Water Management Policies for Egypt; EUWI formulation of an approach for trans-boundary river basin management for the Niger and Volta river basins, and Training of Trainers in IWRM for CAPNET in Southern Africa and Sudan.

UNESCO-IHE also provides substantive guidance to the development of WaterNet for Southern Africa, a network of 39 knowledge institutions and professional organisations from 11 countries in the region. It primarily delivers a joint Masters programme in integrated water management, organises a yearly water conference and carries out collaborative research.

INFORMATION AND COMMUNICATION SYSTEMS

The thematic area of Information and Communication Systems (ICS) deals with the modes of enabling and facilitating the processes of acquisition, analysis, archiving, application and dissemination of water-related information by making use of the advances of Information and Communication Technologies. UNESCO-IHE recognises the essential role of maintaining the knowledge base on water resources, and its adequate application in local conditions. The development context and the specific focus on achieving the Millennium Development Goals determine most of the activities undertaken under this thematic area. Through its knowledge management activities the Institute also offers expert organisational and technical support in establishing and facilitating networks and partnerships involved in water.

The Hydroinformatics Specialisation was continued as an integral part of the newly established Masters Programme in Water Science and Engineering. The on-line module 'Flood Modelling for Management' was developed and focuses on the role of modelling in dealing with various problems related to flood management. The on-line module will be offered in 2005 both as an elective module for the participants in the Institutes regular Masters Programmes, and as a stand-alone course.

Significant contributions to hydroinformatics research, primarily by the successful finalisation of four PhD theses was forthcoming in 2004:

- In his doctoral thesis *Mr. Velickov* designed a novel framework for modelling the non-linear dynamics of water-based systems using chaos theory and Bayesian networks, exploring systems such as surges generated by storms over the North Sea, the dynamics of rainfall over the Netherlands and flows resulting from rainfall run-off in the river Huai in China.
- *Messrs. Maskey* and *Jemberie* studied aspects of uncertainty in a model representation of processes in natural systems, as well as the uncertainty in human behaviour in relation to these systems. Mr. Maskey concentrated on determining uncertainty in flood forecasts, introducing an improved probabilistic method and applying it to rivers in Poland and France. Mr. Jemberie studied the uncertainty inherent in physically based modelling and the ability to quantify it, using data-driven techniques. His applications ranged from forecasting flows in the rivers Rhine and Meuse to determining confidence bounds on physically based model forecasts of storm surges in the North Sea.
- *Mr. Chen* developed his research in the area of ecohydraulics, and more specifically the application of novel data-driven modelling and artificial intelligence techniques for modelled dynamics of algal blooms, some of which cause serious toxic effects on fish and other aquatic life.

In 2004, the Institute offered a significant expert contribution to the production of chapter 13 'Developing Knowledge and Capacity' of the 2nd edition of the World Water Development Report (WWDR-II). The responsibility of the overall production of the WWDR-II lies with the World Water Assessment Programme (WWAP). The WWDR-II will officially be presented during the World Water Forum IV in Mexico in March 2006.

In 2004, the PoWER project finalised the implementation of a specific information system known as the 'Knowledge Map'. Serving as a navigation aid, the Knowledge Map enables the identification of core competencies and specific fields of expertise of the PoWER partners, as well as their relationships and overlaps. Main elements of the map are people, organisations, educational programmes and projects.

Within the context of the Delft Cluster research programme a substantial contribution was made in the design and implementation of DeltaLinK, the programme's portal platform. DeltaLinK facilitates the workflow for Delft Cluster through an integrated environment for project administration, people-base and research team communication.

Previous developments in collaborative platforms have been consolidated into the portal concept. This concept includes a website with a collaborative platform, together with a knowledge map database and an open forum. It supports global Communities of Practice (CoPs), distributed project teams, and a variety of knowledge sharing activities, including automated sharing of educational material. In 2004, the Institute supported about 20 such communities. One highlight was the development and implementation of the Wetlands Professionals Platform carried out in collaboration with the Institute for Inland Water Management and Waste Water Treatment RIZA, the Netherlands.

The 5-year EU project 'Integrated Flood Risk Analysis and Management Methodologies' (FLOODsite) was started, with the participation of 44 partner institutions. The project seeks to identify technologies and strategies for sustainable flood mitigation and defence in the context of global change and societal advance. UNESCO-IHE is particularly involved in developing the framework for the influence of uncertainty, and Web-based Knowledge Transfer. The research activities started in the area of reviewing of methods of quantifying uncertainty in flood models, and the development of the novel methods based on the computational intelligence techniques.

PERSONNEL AND ORGANISATION

On 31 December 2004, a total of 148 people were employed by the Institute, compared to 142 at the end of 2003. Of these, 72 were academic staff members and 76 were supporting staff.

ORGANISATIONAL CHANGES

In 2004 the "Role Development Programme", which focused on Change Management, Planning & Control and the individual and collective responsibilities of the Management Team members, the Director and the Deputy Director, was completed. All members were interviewed to investigate possible follow-up actions.

In the beginning of 2004, UNESCO-IHE analysed the present structure of the academic departments. The review recommended that the current structure of the academic departments remain unchanged, but that preparation of the Academic Plan of the Institute should be undertaken. This plan will propose how the Institute interprets its specific mandate and how this translates into the composition of the academic core groups, the substance of the education, research and capacity building activities, and the numbers and names of departments.

The Institute undertook a full evaluation of the Value-Added Rewarding System (Dutch Acronym BTW: Beloning voor Toegevoegde Waarde). This system aims to develop staff competencies and rewards performance based on predefined criteria. This resulted in recommendations and improvements that have been submitted to the Personnel Council for their agreement.

PERSONNEL POLICIES

In 2004, the Institute wrote and implemented a number of policy papers and renewed several outdated arrangements. The most important of these were the recruitment procedure for senior staff, the absence and reintegration policy, the non-smoking policy, the staff planning policy, and the policy on staff development.

UNESCO-IHE executed a Risk Inventory & Evaluation to make an inventory of the risks within the company for safety, health and well-being. To this end visits were made to all offices and conversations were held with most employees. Also all employees received a questionnaire about their well-being. This inventory ended in a report with recommendations and a plan of approach, which will be presented to the Rectorate and the Personnel Council beginning of 2005.

From January a new salary system and an integrated personnel information and registration system were implemented. The transition went very smoothly, but also resulted in some changes in the type of activities and an increase of workload. Also in 2004 the reorganisation of all personnel files was finalised.

COMMUNICATION, MARKETING AND ACQUISITION

The major acquisition challenge in 2004 was to secure sufficient numbers of fellowships in support of participants in the Masters Programmes. Despite the dramatic decrease in the number of fellowships received from the Netherlands Fellowship Programme (NFP) – 50 instead of an annual 129 in previous years – the Institute welcomed a new batch of 223 participants in the Master Programmes, representing an increase of 10% from the previous year. UNESCO-IHE also received over 1400 applications for the Masters Programmes. The decision to abolish the 12-month Master of Engineering programmes was communicated successfully to the outside world, leading to encouraging – though preliminary – numbers of applications for the next academic period (2005-2007).

Many activities contributed to the record number of applications. High-quality brochures to market UNESCO-IHE's products were adapted to reflect the house-style. UNESCO-Headquarters, decentralised UNESCO offices worldwide, as well as Southern (PoWER) partner organisations actively supported the dissemination of these materials. Netherlands Education Support Offices (NESO's) in Beijing, Hong Kong and Jakarta facilitated the outreach to the Asian market. The institute was represented at international education fairs in Syria, Indonesia, Latvia and Korea.

An objective for 2004 was to increase UNESCO-IHE's visibility on the Internet. Statistics show that the number of visitors to the Institute's website rose by 25% in 2004. This was achieved by intensifying Internet-based advertising and by paying substantial attention to refreshing the Institute's web-based information. A new homepage was designed to allow special features to be highlighted and to prompt to 'latest news'.

A new line of marketing materials was developed to promote UNESCO-IHE's first on-line courses, including a special 'I-learning' logo, a series of eight brochures and comprehensive course outlines on the website. A PoWER logo was also designed for products that are offered in the context of the partnership.

In order to be more efficient in the management of external contacts and to streamline communications, the Institute introduced a centralised Customer Relations Management system. The full transfer of data to the new database will be completed in 2005.

The Institute's presence in national and international media steadily grows. This is a consequence of a more pro-active approach to the press, and the UNESCO-brand attracts professional media. Cooperation with UNESCO Headquarters and their Bureau of Public Information also contributed to increased public exposure.

In 2004, three refresher seminars were organised for UNESCO-IHE alumni. These courses were held in Bosnia & Herzegovina, Mozambique and Uganda. The topics were 'Water Supply and Sanitation', 'Modelling for Water & Environmental Resources Management', 'Use of Wetlands for Water Quality' and 'The Impact of Re-use of Nutrients' respectively. A total of 80 participants joined the courses. Innovative learning concepts were introduced with the aim of increasing the impact of the course and to stimulate interactions between alumni and other participants.

Project acquisition proved successful in 2004. The Institute maintained its high-level involvement in various capacity building activities. Particularly successful were the acquisition of group training projects for Chinese professionals from the Yellow River Conservacy Commission and the Ministry of Water Resources, for Iraqi civil servants from various Ministries dealing with water and environment, and for an international group of professionals doing research in support of the Millennium Development Goals. Other major acquisitions are multi-year projects aiming at strengthening postgraduate education at the National University of Rwanda and at the Kwame Nkruma University of Science and Technology in Kumasi, Ghana. More information on projects is available in the capacity building section of this report, and a list of ongoing and newly started projects can be found in *Annex 3*.

Participants perform for their friends and staff members on African Night

STUDENT AND EDUCATIONAL AFFAIRS

The main activities in the field of student and educational affairs are admission, registration, care and welfare for the participants, contacts with alumni, planning support and contacts with guest lecturers for the educational programmes.

Participants in UNESCO-IHE's postgraduate programmes originate from 51 different countries. In December 2004, the total number of registered participants came to 371 for the Master of Engineering, Master of Science and PhD programmes, and a further 226 attended UNESCO-IHE's regular short courses.

SALSA, the participant registration and education management software, was updated, and changes resulting from the new Masters Programmes were successfully incorporated into the system. The guest lecturer and marks administration was integrated into SALSA, leading to a much more efficient and better-formalised information flow throughout the Institute.

Throughout the year, social evenings with international themes were organised, where participants performed and introduced their culture to fellow participants, staff and friends. Social excursions this year included trips to the Keukenhof in the Netherlands, Belgium and France.

In 2004, UNESCO-IHE's participants actively participated in the International Education Sports Day. Ten International institutes were present to compete for the challenge cup in March. The UNESCO-IHE teams were, unfortunately, not able to prolong the challenge cup in Delft, as the overall winners.

FACILITY MANAGEMENT

Facility Management deals with the maintenance of UNESCO-IHE's buildings and facilities, the restaurant, print shop and transportation.

In 2004, the reconstruction of the ICT helpdesk and repair workshop was completed, enabling better service to the participants, guest lecturers and staff members. The new workshop is large enough to store and maintain the computers for the student hostels, which was done in one of the hostel accommodations before the new set-up.

As a result of the national law prohibiting smoking in public buildings and smoking was restricted to a special a special smoking room constructed for staff and participants.

During the year, long term contracts of the providers of copier and cleaning services were reviewed, and possible new suppliers were invited to submit proposals. After careful consideration, new providers of copier and cleaning services were welcomed in the Institute.

Based on a request of the Netherlands Water Partnership for more office space, a major internal move took place in August. All in-house partners, except IRC, are now located on the second floor of the Oude Delft 95 building.

The process leading to the reconstruction of the kitchen area was initiated. Several kitchen suppliers were invited to submit tenders and a pre-selection was made. Final selection and construction will take place in 2005.

ICT

Automation related activities include the provision of technology services, access to information and supporting educational and administrative systems for UNESCO-IHE participants, and staff, and the creation and maintenance of the technology infrastructure to support electronic communication and document sharing.

The Customer Relation Management (CRM) System – which started as a pilot in 2003 – was tested and further customised and is ready for full implementation at the Institute. The academic departments started to transfer their local databases into the central system. In 2005 the CRM will be made accessible online, so staff members on mission can access the information.

The pilot for the Document Management System (DMS) was successful, and the system is now in full operation. The agenda and supporting documents of the Rectorate Meeting, Management Team and Academic Board can be found in the system's digital archives, and plans are to use it for the digital archiving of lecture notes in 2005.

At the end of 2004 the formal implementation of the collaborative working space system BSCW was started. The BSCW-system has already been experimented with for some time; it is used by several UNESCO-IHE related working groups. Quickplace is offered as collaborative working space for VAC users and has been used as a platform for the 'Watershed and River Basin Management module', the platform for 'Sustainable Urban Mobility' and the PoWER platform since 2004.

Two systems, originally initiated by PoWER were further developed and implemented: the 'Knowledge Map' and the 'Taiwanese Learning Management System' (LMS) for the application of distance learning. A new time writing system (Sumatra VT Weburen) was implemented in 2004, and has a direct link with the financial bookkeeping system (EXACT). Together with the time writing system a very powerful financial management reporting system (Sumatra VT Office) was implemented.

BIBIS, the library administration and literature search system was completely renewed in 2004. The new version of BIBIS has a modern web-based interface and a powerful Online Public Access Catalogue (OPAC) for literature searches through Intranet. Together with this upgrade, the scientific publications database was integrated into the BIBIS system. The publication database is stored in BIBIS as a separate catalogue, which is also accessible from Internet.

FINANCE AND BUDGET

FINANCIAL RESULT 2004

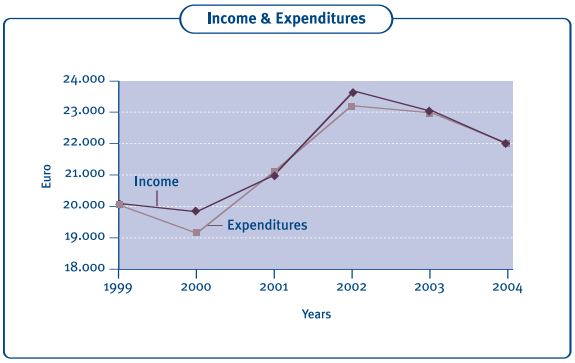
Operations in 2004 show a decrease in both income and expenditures compared with 2003. The balance between the income and the expenditures in 2004 shows a surplus, while the work plan assumed a zero result. The positive operating result in 2004 is lower than in 2003. In 2004, however, an amount of € 685,000 is being charged as extraordinary negative result. This is mainly due to accelerated depreciation on ICT assets and an extra onetime cost due to a settlement of an outstanding 1999 lease agreement. The overall result 2004 shows a € 608,000 loss.

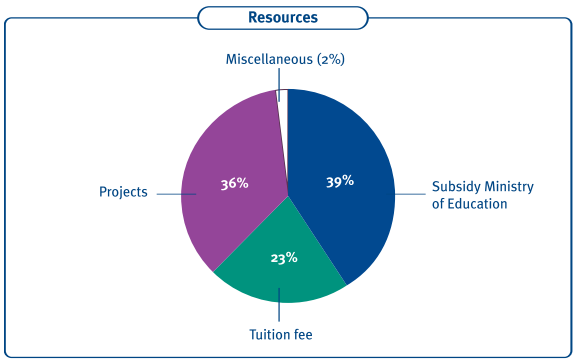
INCOME
(INCL. PROGRAMME EXPENDITURES)

The income consists of three major sources. The proportions are shown in the graphs below. The subsidy from the Ministry of Education is subject to an indexation on costs of salary and housing. Due to a strategic agreement of the Dutch government the indexation increases roughly 1% less then could be expected. The tuition fee income consists of the fees participants pay for the educational programme and the income from fellowships. Compared with the degree programme 2002/2003 the intake 2003/2004 of participants was markedly less. Compared with the work plan 2004 the income on non-degree programmes was also considerably less, due to postponed or cancelled short courses.
The project income consists of capacity building projects, advisory services, policy forums and research projects. The income is markedly less than in the previous year. This can be explained by a similar decrease of the programme expenditures (out of pocket costs) of the projects. The research component of the project income was considerable less than planned due to the postponement of the contracts with Delft Cluster under the new BSIK regulations of the Dutch Ministry of Education. Increased income for capacity building and advisory services compensated for this setback.

NON-PROGRAMME EXPENDITURE

In general the most important reason for the marginal decrease in non-programme expenditures is the changed VAT regulation, which exceeded the negative result of the costs of inflation. The staff and management costs include the salary costs. The number of staff compared with 2003 increased marginal to 129.88 FTE at the end of the year. The costs of temporary employees were more than planned. The costs of building kept pace with 2003 due to the mentioned VAT advantage and savings in the costs of cleaning and maintenance inventory, which exceeded the overspending of real estate tax, insurance and maintenance immovables. The costs of facilities were significantly higher due to ICT necessities, reproduction costs and the costs of catering.
The education related costs in 2004 were lower because of the large donation to the Fellowship Trust Fund in 2003. Without this component the costs kept pace with 2003 in spite of higher costs in student housing due to fewer participants, overspendings in the costs of social activities for participants and the revised NFP rules. The delay in the accreditation and the postponement of related costs compensated for these setbacks. The costs of Acquisition and Marketing and the general costs both were sharply lower than in 2003, due to postponed (marketing) actions, fewer consultants and reduced board meeting costs and the costs of auditing and memberships.





BALANCE SHEET

The balance sheet shows a proportion of 16/84 between equity and borrowed capital (solvency 16%), which is slightly lower as compared to 2003 (17%) due to the extraordinary charges. The borrowed capital includes the provision and the current liabilities. In the current liabilities a reservation was made for the costs of lease, because of the one-time payment of the lease terms. The provisions noted are for building maintenance and redevelopment. The current ratio is 1.21 (2003: 1.18), which means that in the short term UNESCO-IHE is creditworthy.

TABLES AND GRAPHS

The tables in this section show our income and expenditure statement and the balance sheet for 2004 and the most likely outcome of 2004, because the external accountants have not yet certified the financial annual report. The graphs show the allocation of the source of income in 2004 and a six-year review of the expenditures and the income of the foundation/institute. Comparative figures from other years have been converted to the Euro.

STATEMENT OF INCOME AND EXPENDITURES IN EURO * 1000

	2004		2003	
Income				
Subsidy Ministry of Education	8,541		8,473	
Tuition Fee	5,182		5,480	
Projects	7,907		8,619	
Others	457		548	
Total income		*22,087*		*23,120*
Programme expenditures				
Tuition Fee (stipends, guest lecture, etc.)	3,625		3,509	
Projects	5,404		6,226	
Total income		*9,029*		*9,735*
Non-programme expenditures				
Staff and Management	8,510		7,778	
Buildings	1,956		1,935	
Facilities	1,129		993	
Education related costs	1,095		1,521	
Acquisition and Marketing	171		406	
General Costs	246		666	
Interest	-126		-62	
Total non-programme expenditures		*12,981*		*13,237*
Operating result		77		148
Extraordinary charges		685		0

BALANCE SHEET IN EURO * 1000

	31 DECEMBER 2004		31 DECEMBER 2003	
Assets				
Fixed assets	1,443		1,792	
Accounts receivable	2,680		5,593	
Cash and banks	7,998		7,107	
Total		*12,121*		*14,492*
Equity and liabilities				
Equity	1,481		2,086	
Fellowship Trust Fund	492		450	
Provision	1,361		1,151	
Current liabilities	8,787		10,805	
Total		*12,121*		*14,492*

ANNEXES

ANNEX 1 | **EDUCATIONAL STATISTICS**

REGISTERED PARTICIPANTS FOR THE ACADEMIC YEAR 2004-2005

	SOURCE OF FUNDING			REGION OF ORIGIN					GENDER		TOTAL
	Full NFP	Co-financed NFP	Other	Africa	Asia	Latin America	Middle East	Other	Female	Male	
MEng programmes	**0**	**78**	**145**	**68**	**103**	**20**	**26**	**6**	**55**	**168**	**223**
- Water Science and Engineering	0	22	70	14	56	10	11	1	92	18	**92**
- Water Management	0	10	32	16	19	0	6	1	42	16	**42**
- Environmental Science	0	23	19	17	16	3	3	3	42	14	**42**
- Municipal Water and Infrastructure	0	23	24	21	12	7	6	1	47	7	**47**
MSc programmes	**17**	**7**	**69**	**39**	**37**	**12**	**2**	**3**	**93**	**19**	**93**
PhD programmes	**9**	**1**	**45**	**22**	**18**	**6**	**5**	**4**	**55**	**15**	**55**
Total	**26**	**86**	**259**	**129**	**158**	**38**	**33**	**13**	**89**	**282**	**371**
Percentage	7.0	23.2	69.8	34.8	42.6	10.2	8.9	3.5	24.0	76.0	

ANNEX 2 | **PHD FELLOWS**

PROMOTIONS IN 2004

NAME	PROMOTION DATE	COUNTRY	PROMOTOR	TITLE THESIS
Mr. Saber El-Shafai	January 7, 2004	Egypt	Gijzen	*Nutrients Valorisation via Duckweed-based Wastewater Treatment and Aquaculture*
Mr. Saleh Ismail	January 7, 2004	Egypt	Schultz	*Effectiveness of Surge Flow Irrigation in Egypt; Water use efficiency in field crop production*
Mrs. Dwi Abad Tiwi	January 19, 2004	Indonesia	Rijsberman	*Improving Environmental Impact Assessment For Better Integrated Coastal Zone Management*
Mr. Moustafa Moussa	March 29, 2004	Egypt	Gijzen	*Nitrification in Saline Industrial Wastewater*
Mr. Slavco Velickov	May 18, 2004	Macedonia	Price	*Nonlinear Dynamics and Chaos with Applications to Hydrodynamics and Hydrological Modelling*
Mr. Innocent Nhapi	May 18, 2004	Zimbabwe	Gijzen	*Options for Wastewater Management in Harare, Zimbabwe*
Mr. Abebe Jemberie	May 24, 2004	Ethiopia	Price	*Information Theory and Artificial Intelligence to Manage Uncertainty in Hydrodynamic and Hydrological Models*
Mr. Shreedhar Maskey	May 24, 2004	Nepal	Price	*Modelling Uncertainty in Flood Forecasting Systems*
Mr. Qiuwen Chen	June 1, 2004	China	Mynett	*Cellular Automata and Artificial Intelligence in Ecohydraulics Modelling*
Mr. Maher Abu-Madi	June 22, 2004	Palestine	Alaerts	*Incentive Systems for Wastewater Treatment and Reuse in Irrigated Agriculture in the MENA Region: Evidence from Jordan and Tunisia*

The promotion of UNESCO-IHE's 50th PhD candidate, Mr. Maher Abu-Madi, on June 22nd.

REGISTERED PHD FELLOWS

NAME	COUNTRY	PROMOTOR	WORKING TITLE THESIS
Mrs. Abira	Kenya	Denny	*Treatment of pulp and paper mill wastewater using a constructed wetland in the tropics*
Mr. Ansa	Ghana	Gijzen	*Pathogen removal from wastewater*
Ms. Arano	Philippines	v Vierssen	*Phylogeographic relationships as tool in managing the structurally dominant segrass "Enhalus acoroides" in philippine coaster waters*
Mrs. Awuah	Ghana	Gijzen	*Pathogen removal mechanisms in macrophyte and algal based wastewater stabilisation ponds*
Ms. Azab	Egypt	Price	*under construction*
Mr. Azza	Uganda	Denny	*Nearshore retention of sediment and nutrients in Lake Victoria*
Mr. Babu	Uganda	Gijzen	*under construction*
Mr. Bessa	Brazil	Petry	*Coupled modelling and monitoring for water quality assessment in large reservoirs - Brazilian cases*
Mr. Bhattacharya	India	Price	*Machine learning and data mining approaches to modelling water and geotechnical problems*
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*
Ms. Caicedo Bejarano	Colombia	Gijzen	*Duckweed ponds as alternative for wastewater treatment & biomass production with(out) anaerobic pretreatment*
Mr. Chapagain	Nepal	Savenije	*Virtual water trade*
Mr. Chikozho	Zimbabwe	Savenije	*under construction*
Mr. Eyasu	Ethiopia	Schultz	*Development and management of irrigated lands in Tigray, Ethiopia*
Mr. Gumbo	Zimbabwe	Savenije	*Material flow mechanisms and balancing in urban drainage systems*
Mr. Gupta, RaKesh	India	Petry	*Analysis and control of flows in pressurised hydraulic networks*
Mr. Gupta, Ramesh	India	Hall	*Decision support for conflict resolution in Indian river basins*
Mr. Haile	Eritrea	Schultz	*A tradition in transition; spate irrigation in Eritrea*
Mr. Jiang	China	vRolleghem/Schippers	*Modelling of membrane bioreactor systems*
Mr. Jung	Korea	Price	*Regulation of total Phosphorus emission for the reservoir Yongdam-Ho, South Korea*
Ms. Kaggwa	Uganda	Denny	*Organic manure and artificial substrate use in fingerponds in East Africa; processes & implications*
Ms. Kayoza	Tanzania	Akinyemi (temp.)	*under construction*
Ms. Kinoti	Kenya	Savenije	*under construction*
Mr. Kipkemboi	Kenya	Denny	*Utilisation of wetlands through integration of fingerponds into riparian farming systems in East Africa*
Mr. Kiwanuka	Uganda	Denny	*Constructed treatment wetland, integrated approach, waste water treatment & effluent reuse in uganda*
Mr. Lai Ko An	China	v Maarsseveen (TUT)	*An analysis of environmental capacity characteristics of heterogeneous traffic corridors*
Mrs. Lamei	Egypt	vd Zaag	*under construction*
Mr. Limsiri	Thailand	Schultz/Nieuwenhuis	*Very soft organic clay applied for road embankment*
Mr. Lopez Vazquez	Mexico	Gijzen/Loosdrecht	*Nutrients removal and control of filamentous bacteria in industrial wastewaters*
Mr. Love	Zimbabwe	Savenije	*under construction*
Mrs. Lugwisha	Tanzania	Leentvaar	*under construction*
Mr. Makurira	Zimbabwe	Savenije	*Smallholder water system innovations for upgrading rainfed agriculture in arid and semi-arid areas*
Mr. Morales	Mexico	Hall	*Characterisation of mega- and macro scale heterogenity of porous media*
Ms. Mul	Netherlands	Savenije	*Balancing water for crop production and ecosystems at subcatchment and catchment scale*
Ms. Nacorda	Philippines	vVierssen	*Effects of burrowing invertebrates on sediment and seagrass dynamics along a siltation gradient*
Ms. Nazer	Palestine	Gijzen	*under construction*
Mr. Ngigi	Kenya	Savenije	*Hydrological impacts of up-scaling rainwater harvesting on Ewaso Ng'iro river basin water resources management*
Mr. Nguyen	Vietnam	Savenije	*Study of evolution of salinity in Mekong River Delta, Vietnam*
Mr. Ntow	Ghana	Gijzen	*The use and fate of pesticides in vegetable-based agroecosystems in Ghana*
Mr. Nyagwambo	Zimbabwe	Savenije	*Groundwater recharge processes and groundwater management in tropical crystalline basement aquifers*
Mr. Nyarko	Ghana	van Dijk	*Ghana water and sanitation sector: drivers and performance*
Mr. Pai	Taiwan	Price	*under construction*
Mr. Paudel	Nepal	Schultz	*An improved approach for the design and management of irrigation canals.*
Mr. Shrestha	Nepal	Price	*under construction*
Mr. Temesgen	Ethiopia	Savenije	*Conservation tillage systems using improved implements for small holder farmers in semi-arid regions of Ethiopia*
Ms. Thampanya	Thailand	Denny	*Impacts of sedimentation on mangrove dynamics along Thai coatslines*
Ms. Tu	China	Hall	*Assessment of the effects of changes in climate land-use on the hydrology of the Meuse river basin*
Mr. Urrutia	Colombia	Schultz	*Sustainable management after irrigation system transfer*
Mr. Valencia	Mexico	Gijzen	*The sustainable use of bioreactor landfill techniques in The Netherlands*
Mr. Van Andel	Netherlands	Price	*under construction*
Mr. Wandee	Thailand	Schultz	*Optimisation of water mangement of polder areas*
Mr. Yaser Mohammed	Sudan	Savenije	*The Nile hydroclimatology: impact of the Sudd wetland*
Ms. Zagonjolli	Albania	Mynett	*Uncertainty analysis and risk management in dam break modelling*

CAPACITY BUILDING

COUNTRY	TITLE	FUNDING	DEPT	PARTNERS	START	END
Afghanistan	Capacity Building for Co-operation in Water Resources Management	UNESCO	MUI	UNESCO/IHP	Apr-02	Dec-06
	Establishment of a Water and Environment Knowledge Center at Kabul University	UNESCO	Other	Kabul University, IIUWM Tehran	May-02	May-07
Bangladesh	Network for Continuing Education for the Water Sector in Bangladesh	RNE	MAI	BUET, WARPO, BWRD	Sep-02	Sep-06
Bosnia&Herzegowina	River Basin Management Programme Bosnia and Herzegovina	EC/CARDS	MAI	Grontmij (lead), Ecorys	Nov-02	Oct-04
Bulgaria	Strenghtening of the Capacity and Enhancement of the National Groundwater Monitoring System of Bulgaria towards the Implementation of the WFD	SENTER/MPAP	WE	Arcadis Euroconsult	Jan-03	Dec-04
China	Capacity Building of a China Groundwater Information Center	ORET/MILIEV	WE	TNO (lead), v. Essen, China Min. Natural Resources	Jul-03	Jun-08
	Real-Time Monitoring & Management System for Water Resources in the Yellow River Basin	ORET/MILIEV	WE	eaRS (lead), MLR, YRWCC, HOFUNG	Jan-04	Dec-07
	Research and Training Project on Management of Water Scarcity	RNE	WE	China Min. Water Resources (MWR)	Oct-01	Jul-04
	Group Training in Soil and Water Conservation and Ecosystem Restoration for the Chinese Minstry of Water Resources Restoration	V&W	WE	Min. of Water Resources	Oct-02	Mar-04
	Group Training in Transboundary River Basin Management	DGIS	WE	MWR	Oct-04	May-06
	Special Training and Research Initiative for Capacity Building of River Basin Management Authorities	ORET/MILIEV	WE	MWR, River basin Auth., Hohai Uni., TU Delft	Jun-04	May-08
	Special Group Training on Water Resource Management for Water Resources Management Centre, Ministry of Water resources in Beijing	Min. Water Beijing	MAI		May-04	Aug-04
	Training Courses on River Basin Water Resources Management	RNE/MoWR	WE	DUT	Oct-04	May-06
Colombia	Cooperation in Sanitary and Environmental Engineering, Phase II	SAIL	ER	Univalle, IHS	Jan-99	Jun-04
	Training, Advisory Services and R&D support to Water and Environment Sector Agencies in Colombia	DGIS/Embassy	ER	Univalle, Colombian Sector Organisations	Jul-02	Jul-07
Ecuador	Group Training to Strengthen the Capacity of the Water and Environment Sector in Ecuador	NFP	ER	MoE, Ecuaciencias, NGOs, Univalle	Aug-04	Apr-06
Egypt	Strengthening the Regional Training Capacity of the Hydraulics Research Institute - Phase 2	SAIL	HIKM	HRI, ITC	Jun-00	May-04
El Salvador	Creating Sensitivity and Educating on Environment in Selected Basins of El Salvador	EC/SCR	MAI	DHV (lead), WL, PG Consult	Jun-01	Jun-04
Estonia	Capacity Building for Implementation of the Water Framework Directive	SENTER/PRE-ACC	WE	TNO-NITG (lead), UU, Waterschap Hol. Noorderkw.	Jan-04	Dec-05
Ghana	Water and Environmental Sanitation Sector Capacity Building	SAIL/SPP	MUI	UST Kumasi	Oct-96	Jun-04
	Capacity Building for Sustainable Development of Water Resources and Environmental Sanitation in Ghana and the Sub-Region	NUFFIC/NPT	MUI	DCE, Kwame Nkrumah University	Nov-04	Oct-08
India	Geoinformatics for Natural Environment Assessment and Disaster Management, Phase II	SAIL	WE	ITC (lead), WU	Jul-00	Jun-04

CAPACITY BUILDING

COUNTRY	TITLE	FUNDING	DEPT	PARTNERS	START	END
Indonesia	Strenghtening the Capacity of European and Indonesian University Staff to Educate Integrated Coastal Zone Management (ICZM) and to jointly develop innovative ICZM learning methods	EC/AsiaLink	ER	IPB-Bogor, University of Newcastle	Mar-03	Feb-05
	Building Academic Cooperation and Developing Training Modules in Infrastructure, Water and Environment Management	NUFFIC/NFP-TP	HIKM	PT-IHE Indonesia	Sep-04	Sep-05
Iraq	Long Term Training Iraqi Ministry Employees	USACE	Other		Oct-04	May-06
Kenya	Support for Post-Graduate Education in Applied Hydrology and Water Management for the Anglophone African Region	SAIL	WE	University of Nairobi, IMTR	Oct-96	Jun-04
Lesotho	Integrated Catchment Management in Phase 1 of the Lesotho Highlands Water Project	LHDA	ER	CSIR (lead)	Jan-03	Dec-07
Macedonia	Capacity Building in Environmental Training	SENTER/PSO	MUI	KIWA, ENERGO systems (Macedonia)	Jan-02	Jan-04
Netherlands	Partnership for Water Education and Research	DGIS	Other	initial network of 16 knowledge institutes	Jan-02	Dec-06
	International Network for Capacity Building in Integrated Water Resources Management	DGIS/UNDP	Other		Aug-01	Dec-04
	Connectivity for Development; Capacity Building in Water, Environment and Transport	V&W	Other		Dec-02	Nov-04
	World Wide Fund for Nature - Follow-up International River Basin Management	DGIS	ER	WWF (= lead)	Jun-04	Dec-04
	Creating an Internet Communication and Training Platform for Russia, Ukraine and Turkey on Public Participation in Coastal Management	MATRA	WE	EUCC	Feb-02	Oct-04
	Coastal Practice Network	EC/INTERREG IIIC	WE	EUCC (lead)	Dec-03	Jan-07
Palestina	Water Sector Capacity Building in Palestine	SAIL/SPP	WE	Birzeit University	Oct-96	Jun-04
	Capacity Building on Wastewater Valorisation for Agricultural Production	DGIS/SAIL	ER	WAU (leading), BZU, NRC (Egypt), Univ. of Jordan	Apr-97	Jun-04
	Capacity Building on Wastewater Valorisation for Agricultural Production, Phase II	SAIL	ER	WUR, BZU (Pal), NRC (Egypt), UJ-WERSC (Jordan)	Jul-01	Jun-04
Peru	Group Training to Strengthen the Capacity of the Water and Environment Sector in Peru	NUFFIC/NFP-TP	ER	Assoc. of Peruvian Universities, MoE, Univalle	Aug-04	Apr-06
	University Network for Education and Research in Integrated Water Quality Management	NUFFIC/NPT	ER	UNALM, UNMSM, UNI ea	Oct-04	Sep-08
Philippines	Consolidation of a Capacity Building Network for River Basin and Coastal Zone Management	DGIS/DML	ER	Marine Science Inst. (Philippines)	Jun-02	May-05
Romania	Environmental Protection and the Management of Water Resources in Small Rural Towns in Romania	ISS	HIKM	ISS (lead), IEM, ICIM	Jan-03	Jun-05
	Assistance in Resource Centre Development in Romania and Bulgaria	IRC	MUI	IRC	Jul-03	Jun-04
Russia	Training Programme in Urban Public Transport Reform in ECA/Russian Federation	WB	MUI	NIIAT	Nov-03	Sep-04
Rwanda	Rwanda NUR MSc Programme in Water Resources and Environmental Management	NUFFIC/NPT	MAI	ITC, IRC, Makarere, KNUST	Oct-04	Oct-08
Serbia&Montenegro	Regional Postgraduate School for Water and Environment in central and southeastern Europe	RNE	MUI		Jul-04	Jul-06
Slovakia	Packaging and Packaging Waste in Slovakia	MPAP-SENTER	MUI	Haskoning (lead), Rense, Waste	Jan-03	Dec-04
South-Africa	Capacity Building DWAF, Water Services	EU+donors	MAI	Dept. of Water Resources & Forestry (DWAF)	Jan-02	Jan-05
	Supporting the South African Counterparts in Exploring Service Delivery Models "Assistance on International Water Service Models"	RNE	MAI	DWAF, DPLG	Jun-01	Dec-04
Syria	The Syrian-Dutch Water Cooperation: Developing Capacity at the NWTC in 2004	RIZA	WE	RIZA NWTC	Feb-04	Nov-04
Tanzania	Establishment of a Capacity Building Network on Waste Valorisation for African Cities	DGIS/DML	ER	Univ. of Dar es Salaam	Jun-02	May-05
Turkey	Towards Wise Use of the Konya Closed Basin: a Model for Sustainable Development & Biodiversity Conservation in Turkey	PIN-MATRA	ER	WWF Turkey	Jun-03	May-06
Uganda	Establishment of a Wetland Capacity Building Network in Africa	DGIS/DML	ER	Makerere University	Jun-02	May-05
Various Countries	Low Cost Urban Mobility Demonstration Programme	UNCHS/DGIS	MUI	KUTIP, IHS	Jul-03	Jun-04
	Small Scale Water Treatment Facilities for Domestic Use and Artificial Recharge with Surface Water - Middle East	DGIS	WE		Apr-02	Mar-07

CAPACITY BUILDING

COUNTRY	TITLE	FUNDING	DEPT	PARTNERS	START	END
Various Countries	Regional Solid Waste Management Project in Mashreo and Maghreb Countries	WB	MUI	Waste (lead), Haskoning, CEDARE, SKAT	Sep-02	Jan-05
	Water for African Cities Programme: Training and Capacity Building Component	UNCHS/DGIS	MUI	UZ, KNUST	Jul-02	Dec-04
	Arab Integrated Water Resources Management Network - Training Needs Assessment and Endorsement Workshops	Partners for Water	WE	ESCWA, IRC, various regional partners	Oct-03	Oct-04
	Arab Integrated Water Resources Management Network	Partners for Water	WE	ESCWA	Jan-03	Dec-06
	Latin American-European Partnership for Water Education and Training: A Sustainable Partnership for Water Education	EC/ALFA II A	ER	Univalle, BR, NI, MX, GT, EC, PE, GB, FR, IT	Jun-04	Jun-06
	Full establishment of the Nile Basin Capacity Building Network for River Engineering	WB-NBI	HIKM		Jan-04	Jun-05
	Assessment of global water sector capacity needs: how many hands do we need to make the Millennium Development Goals a Reality	UNESCO	MUI		May-04	Apr-05
	Water programme for Africa (WPA) - Phase 1	UNESCO(IHP), Italia	MUI	VU/Acacia	Jun-04	Jun-05
Vietnam	Upgrading of Training Capacity in Coastal Engineering at the Hanoi Water Resources University	DGIS	WE	DUT,CICAT(lead), WL	Sep-00	Aug-04
	Capacity Building Programme for River Basin Management in Vietnam	NL Embassy/NUFFIC	WE		Oct-03	Oct-04
	Institutional Strengthening of Training Capacity of the Dept. of Hydrology and Dept. of Environment at Hanoi and Ho Chi Minh Hydrol-Meteorological Colleges	NUFFIC-NPT	WE	Saxion (lead), ITC	Jan-04	Dec-06
	Strengthening Good Urban Governance towards Social and Economic Development in Vietnam	NUFFIC/NFP-TP	MAI	UMC-Erasmus University Rotterdam	Aug-04	May-05
Yemen	Building Local Capacity in the Water Sector in Yemen (2002 - 2005)	DGIS/RNE	WE	Sana'a University	Oct-02	Dec-05
	Strengthening the Water and Environment Centre of Sana'a University Graduate Programme in Integrated Water Resource Management	NUFFIC/NPT	WE	VU, IVM	Jul-04	Aug-08
Zimbabwe	Programme for Capacity Building in the Water Sector of Zimbabwe	SAIL	MAI	University of Zimbabwe, IWSD	Dec-96	Jun-04
	WaterNet, Forging the Network	SAIL	MAI	University of Zimbabwe, IWSD	Sep-99	Dec-04
	Emergency Programme in Support of the WaterNet MSc Programme at UZ	SAIL	MAI	Univ. of Zimbabwe	Jul-02	Dec-04

ADVISORY SERVICES

COUNTRY	TITLE	FUNDING	DEPT	PARTNERS	START	END
Bangladesh	Mid-Term Review of the BUET-DUT Linkage Project	RNE	MAI		Apr-04	May-04
China	Conjunctive Use of Surface & Groundwater Water in Typical River Basins in Northwest China	ORET/MILIEV	WE	Min. Land & Resources, Min. Water resources	Jan-03	Jan-06
Croatia	Production of live and smoked eels in Croatia	Senter/PSO	MUI	Gebr. Kraan ea	Jul-04	Dec-07
Ecuador	Environmental consultancy	Fundacion Ecuacien	ER	Fundacion Ecuaciencias	May-03	Jan-04
Egypt	Water and Environment Advisory Mission	RNE	MAI	various consultants	Apr-04	May-04
	Formulation of the project "Development of Participatory Integrated Land and Water Management in the 4 Major Land Zones of Egypt"	DGIS/RNE	MAI	APP	Oct-04	Nov-04
India	Kick-Off Workshop for the Global Learning Project of Urban Flash Floods	Habicom	WE		Sep-04	Oct-04
Iran	Problem Assessment and Strategic Planning on Urban Water Management	RCUWM	MUI		Jun-03	Jun-04
Iraq	Community Development Project on Duckweed Sewerage Treatment	UNICEF	ER		Jan-03	Dec-04
Kazakhstan	Integrated Water Resources Management for Wetlands Restoration in the Aral Sea Basin (Nothern Part)	NATO	WE	SIC ICWC	Oct-04	Oct-06
Namibia	Water from domestic wastewater	Windhoek CC	MUI		Aug-04	Aug-04
Netherlands	Modes of Engagement with Public Sector Water Supply & Sanitation Services in Developing Countries	WB-BNWP	MAI	various local consultants	Dec-02	Feb-05
	Promotion of the book 'Negocio Privado, Propietarios' Publicos" in Latin-America	VROM	MAI		Sep-03	Jul-04
	Platform for Royal Haskoning	Haskoning	HIKM		Mar-03	Mar-04

ADVISORY SERVICES

COUNTRY	TITLE	FUNDING	DEPT	PARTNERS	START	END
Netherlands	Contribution to UNESCO's World Water Development Report 2 (WWDR-II) by production of chapter 13: "Ensuring the knowledge base"	UNESCO	HIKM		May-04	Jun-05
	A web-based virtual knowledge platform for wetland professionals	V&W/RIZA	ER	Riza (through WATC)	Jan-04	Jan-05
	Extended Netcoast Web Platform maintenance	EC	HIKM		Jan-04	Dec-04
	Thematic Overview Paper on 'Arsenic Removal'	IRC	MUI		Jan-04	Jun-05
	Thematic Overview Paper on 'Partnerships'	IRC	MUI		Jan-04	Aug-04
	Update Sewage Node of GPA-CHM and Sanicon	IRC/UNEP-GPA	MUI		Mar-04	Apr-04
	Herijking Nederlandse lange Termijn klimaatdoelstellingen (WAB project)	VU/IVM	WE	KNMI, RIVM, WUR, ICIS, IVM	Dec-03	Aug-04
	Modelling of Refinery Wastewater Treatment Plants	SHELL	ER	DUT	Jan-04	Jan-05
	Testing of the Naiade UV Disinfection System	ENVIRO-PURE	MUI		Oct-04	Nov-04
Pakistan	Review of the Master Drainage Plan of Pakistan	WB	WE		Sep-04	Oct-04
	Review MasterDrainage Plan -Pakistan	WB	WE		Sep-04	Oct-04
Philippines	Expert mission to the University of San Carlos, Cebu, Philippines to assist with the development of the course WRD in the MSc curriculum of the Civil Engineering Department	DUT/CICAT	WE	University of San Carlos (Cebu) TUD CICAT	Nov-03	Jan-04
Romania	Implementation of the Water Framework Directive and ICZM in Transitional and Coastal Waters in Romania	SENTER	MAI	Grontmij, Witteveen&Bos, RIKZ	Jan-03	Dec-04
South-Africa	SANTF Steering Committee: Formulation Mission	CROW/V&W	MUI		Sep-02	Dec-04
Suriname	Diagnostic Study on the Water Supply and Sanitation Sector in Suriname	IDB	ER	PAHO (Suriname)	Nov-04	Dec-04
Sweden	Swedish Water House Project 'the Dialogue on Water for Food and Environmental Security Documenting Lessons Learnt'	SIWI	MAI		Jan-03	Dec-04
Uganda	Research Framework for Wetland Management, Policy and research	MoU V&W-IHE	ER	RIZA (water); Min. of Land and Water, Uganda	Sep-04	Dec-04
United Kingdom	DFID Resource Centre for the Water Resources Sector	DFID	MAI	CEH (Wallingford) (= lead) ea	Sep-02	Dec-04
Various Contries	WSS-CC Institutional & Management Options Working Group, 2001-2003	DGIS	MAI		Aug-02	Aug-05
	Water Data Banks - Phase 4, Middle east Region: Israel, Jordan, palestine Authority	EC/Europeaid	WE	DHV (lead), DHI Water & Environment, Engicon	Oct-04	Jun-08
	Feasibility Study Finance Access to Water and Waste Water Disposal	King Baudouin Fund	MAI	IRC, Cranfield University	Jul-04	Oct-04
	Testing EU Guidance Sava Basin SAFEGE	EU/WFD, SAFEGE	WE		Nov-04	Oct-07
World-wide	Water Quality Management: Development of a Knowledge Base of Theories and Cases	V&W	MAI	RIZA	Jul-04	Dec-04

EDUCATION AND TRAINING

COUNTRY	TITLE	FUNDING	DEPT	PARTNERS	START	END
Bahrain	Short Course on Membrane Technology in Bahrain	Univ. of Bahrain	MUI	University of Bahrain	Jan-04	Jun-04
	Two Day Seminar on Desalination	Univ. of Bahrain	MUI	Univ of Sarajevo	Oct-04	Oct-04
Bosnia&Herzegowina	Current Practices and Challenges in Water Supply and Sanitation Sector in Central and eastern Europe	NUFFIC/NFP-TP	MUI		May-04	May-04
China	Tailor Made Programme'Financial training for Urban Infrastructure Development'	FTEI/DGIS	MUI		Oct-04	Dec-04
	Special Training Programme for Young Professionals from the Yellow River Conservacy Commission	YRCC	WE	Yellow River Conservancy Commission	Oct-03	Sep-04
	Group Training for Professionals from the Yellow River Conservacy Commission 2004-2005	YRCC	WE		Oct-04	Sep-05
	Contribution to the academic program in Nanjing University, 3 courses	MSM	MAI		Jul-04	Dec-04
	Short Tailor-Made Course on Sustainable Wastewater Treatment and Reuse for Chinese Professionals	Min China	ER		Dec-04	Dec-04
	Alumni Seminar China	V&W	WE	Min. of Water Resources PRC	May-04	May-04
Colombia	Cleaner Production Colombia	CVC	ER	Univalle, NCPC (Medillin), CVC, Min. Env., Lund	Jan-02	Jan-05
Ecuador	Design of strategies for the transfer of the cleaner production philosophy to high school educators in Ecuador	Corp. Andina de Fo	MAI	Ecuaciencias	May-04	Aug-04
Ethiopia	Conservation Tillage Systems Using Improved Implements for Small-Scale Dryland Farmers in Ethiopia	NWO/WOTRO	MAI		Jul-02	Jun-06

EDUCATION AND TRAINING

COUNTRY	TITLE	FUNDING	DEPT	PARTNERS	START	END
Ethiopia	Tailor made Programme on Financial Management for second group of Ethiopian Professionals from ESRDF	ESRDF/RNE	MAI	Ethiopian Social Rehabilitation and Development Fu	Jul-04	Aug-04
Hungary	Professional Training of Civil Servants Working for the Regional Authorities Belonging to the MoEW	EC/Europeaid-Phare	WE	Grontmij, Ecorys, REC, BUTE	Dec-04	Jun-05
India	Management Development for Senior Urban Public Health Officials in India	DFID	MAI	WEDC Loughborough	Jan-97	Dec-04
	Training Programme on Water Quality Monitoring	Japan Bank for IC	ER		Jan-03	Dec-07
Indonesia	Training of Indonesian water distribution experts from Bekasi, Indonesia	Duinwaterbedrijf Zuid-Holland	MUI		May-04	Jun-04
Italy	Staff and student exchange within EC Erasmus/Socrates programme	EC Erasmus/Socrates	HIKM	University Firenze Italy	Jan-04	Dec-04
Kenya	Group training on Water and Climate for the east Africa Region Institute for meteorological Training and Research, Nairobi, kenya	NUFFIC	WE	Kenya Meteorological Department (KMD)	Sep-04	Nov-05
Korea	Specialist Group Training for KOWACO Professionals in the Field of Wastewater Treatment and Water Treatment and Supply	KOWACO	MUI	KOWACO	Jan-04	Jun-04
	Strategy for Integrated River Basin Water Resources and Quality Management in the Asian Monsoon Region	NUFFIC/NFP-TP	MUI	Co fin KOWACO	Sep-04	Sep-04
	KOWACO IV Group Training Water Transport and Distribution	KOWACO	MUI	KOWACO	Mar-04	Jun-04
Mozambique	Modelling for Water & Environmental Resources Management	NUFFIC/NFP-TP	ER	Univ of Zimbabwe, Univ Eduardo Mondlane, IRC	Jun-04	Jun-04
Nepal	Geo-informatics for Watershed Management in the Hindu Kush Himalayas	NUFFIC/NFP-TP	WE	ICIMOD, ITC, AidEnvironment	Feb-04	Oct-04
Netherlands	Short Course Membrane Technology, September 2004	participants	MUI		Sep-04	Sep-04
Oman	5-day short course on Membrane Technology in Drinking & Industrial water treatment in Oman, on 17 Jan-21 Jan, 2004	MEDRC Oman	MUI		Jan-04	Jan-04
Russia	Distance training modules on sustainable management of the Russian coast	TACIS, Pin Matra	WE	EUCC	Jan-03	Dec-04
Slovenia	EU Marie Curie Fellowship Yness Slokar	EC/FP5	MUI		May-02	Apr-04
Sri Lanka	Course "Improving Municipal Wastewater Management"- Sri Lanka	UNEP-GPA	ER		Mar-04	May-04
Uganda	Use of Wetlands for Water Quality and the impact of Re-use of Nutrients	NUFFIC/NFP-TP	ER	Makerere, Min of Water, Land and Environm	Nov-04	Nov-04
Various Countries	CoastLearn: Development of Transnational Networks	EC/LEONARDO	WE	EUCC (lead), RIKZ, Southhamptom	Oct-02	Oct-05
	E3-toolbox (electronic-eco-efficiency): An eco-efficiency awareness and improvement programme with measures and actions delivered by ICT	EC/Asia IC&T	ER	Wuppertal Institut (lead), BECO, CPC VN & IN	Apr-03	Sep-04
	Tailor-Made Short Course on Brackish Groundwater Use for Drinking Water Production in the Middle east	NL Gov/PfW	MUI	Vitens BV	Apr-04	Feb-05
	Water Sector capacity Building in Support of the Millenium Development Goals	DGIS	MAI		Oct-04	Mar-08
	Cleaner Production and the Water Cycle	NUFFIC/NFP-TP	ER	UBP, UdV and TEC	Sep-04	Oct-04
	Municipal Wastewater Management in South-Africa, Jamaica & Brazil	UNEP-GPA	ER	Monterrey	Jun-04	Aug-04
	Improving Municipal Wastewater management in Coastal cities	UNEP-GPA	ER		Sep-04	Dec-04
Vietnam	WWF-IHE Training Course on Integrated River Basin Management in the Mekong	PoWER/WWF	ER	WWF, HWRU	Jun-03	May-04

POLICY DEVELOPMENT

COUNTRY	TITLE	FUNDING	DEPT	PARTNERS	START	END
Netherlands	Dissemination of ETNET21 project	EC	HIKM	BTU Cottbus	Oct-03	Oct-04
	Flood vulnerability index (FVI). Cooperative Programme on Water and Climate (CPWC)	NILIM Japan	Other		Jan-04	Dec-04
	Cooperative Programme on Water and Climate (CPWC) period June 2004-Dec 2004	DGIS	Other		Jul-04	Dec-04
Various Countries	Development of a Model Dialogue in support of implementing Water Projects with Private Financing	DGIS	MAI	NWP, IRC, Cap-Net, Dialogue of Water & Climate	Jul-04	Jun-05
	Cooperative Programme on Water and Climate (CPWC)	DGIS	Other		Jan-04	May-04

RESEARCH AND DEVELOPMENT

COUNTRY	TITLE	FUNDING	DEPT	PARTNERS	START	END
Bangladesh	Environmental Aspects and Bacteriological Hazards of Wastewater Recycling through Aquaculture	EC	ER	Karolinsky Institute Sweden, PRISM B'desh	Jul-02	Jul-05
	Development of a Point-of-Use Device for Arsenic Removal in Rural Areas of South east Asia and demonstration scale application in a selected village in Bangladesh	PfW, Vitens	MUI	FILTRIX, NORIT, VITENS, IRC, Woord & Daad	Jun-03	Nov-04
Botswana	Water and Ecosystem Resources in Regional Development - Okavango Delta	EC/RTD	MAI	Linkoping Univ (lead), ORC, DRFN, Sussex	Jan-02	Jan-05
China	Reduction of Eutrophication in Bosten Lake	SENTER	ER	ECN (lead), Beida, Chinese counterparts	Jan-02	Dec-05
	Integrated Lancangjiang (Upper Mekong) River Basin Management for Soil and Conservation and Ecosystem Protection (ao in Luozha watershed)	PfW/NL-Gov	ER	WUR, ITC, State Forestry Adm., Kunming Province	Jun-03	May-05
	Development of High-Performance Natural Systems for					
Colombia	Sustainable Wastewater	EC	ER	Univalle, Leeds Univ., WUR	Jul-02	Jul-05
Hungary	Feasibility Study on Arsenic Removal in Mako Tersegi Vizikozmo (MTV) in Mako, Hungary	SENTER/PESP	MUI	SELOR, Vitens, MTV (Hu)	Feb-04	Jun-05
Indonesia	Land & Water Management Tidal Lowlands, South Sumatra Province	DGIS	WE	Rijkswaterstaat	Mar-04	Jun-06
Kenya	Sustainable Tourism in the Coastal Zone of Kenya: Balancing Welfare & Environmental Well-being	NWO/WOTRO	ER		Jan-02	Dec-05
Netherlands	Biogeomorphological Development of Floodplains	ICES	WE	Delft Cluster (WL=lead), Alterra, KUN, RWS	Apr-00	Mar-04
	Surface Water Hydrology	ICES	WE	Delft Cluster (WL=lead), RIZA	Oct-00	Mar-05
	Research into Indicators to Determine the 'Value of Water'	VROM	ER	RIVM	Jun-01	Jun-06
	Extended Visual Display of Evidence for all Stakeholders	EC	HIKM	University of Bristol (lead) ea	Jan-02	Dec-04
	Flood Management: 'Shifting Paradigm'	ICES-3	ER	RIKZ, DWW	Jan-03	Dec-06
	Demonstration of an European knowledge management framework for a procedure on waste- and drinking water asset management.	EC/FP5	HIKM	AQUAFIN (lead)	Jul-04	Feb-06
	Intensive Programme in the Erasmus Framework	EC/Erasmus	HIKM	Univ. de Nice, ea	Jan-03	Jan-07
	Multi-level Analytical Framework for the Integrated Assessment of the Exploitation of Water and Environmental Resources	IRF	ER		Jan-03	Dec-04
	Ruimte voor Water/Waarde van Water, sub-project Almere Hout	BSIK	WE	Unie van Waterschappen, ea	Jan-04	Dec-07
	Integrated Flood Risk Analyses and Management Methodologies	EC/FP6/SUSTDEV	HIKM	HR Wallingford Ltd. (lead), WL ea	Mar-04	Dec-08
	An Innovative Tool for Multi-element Analysis of Ground and Surface Water	EC/CRAFT	MUI	TerraMentor, SELOR ea	Jan-04	Dec-05
	Treatment and Re-use of Acid Mine Drainage Waste Waters	EC/CRAFT	MUI	WasteMan, SELOR	Jan-04	Dec-05
	Research Training in Hydroinformatics: Data-Driven Modelling and Computational Intelligence with Applications to Aquatic Environments and Floods	EC/FP6	HIKM		Oct-03	Oct-07
	Modelling the Impact of Climate Change and Landuse Pressures on River-Soil-Groundwater Systems	EC/FP6/SUSTDEV	WE	Alterra (lead), University of Aveiro ea	Jan-04	Dec-08
	Co-ordinated Action on Ocean Energy	EC/FP6/P6/CA	WE	Ramboll ea	Nov-04	Dec-06
	Alternative water resources use and management to overcome ground- and surface water shortage	EC/IP FP6	MUI	30 partners	Nov-04	Dec-08
	Informal Public Transport's Contribution to Low-Cost Mobility in Developing Cities	Volvo Res. Found.	MUI		Sep-03	Jun-04
	Assessment of Capacity Building Needs to meet the Millennium Development Goals: Pilot Study	UNESCO	MUI		Jan-04	Sep-04
	Modelling Membrane Bioreactor Systems	Ghent Univ	MUI	University of Ghent, Vitens Fryslan	Jan-04	Dec-04
Philippines	Biodiversity Research Programme: Mindanao	SeaRCA	ER	BRP SeaMEO, SeaRCA	Apr-04	Jan-05
Tanzania	Reducing uncertainties in predictive hillslope discharge generation modelling in a societal context in Tanzania and Luxemburg	NWO+ DC	ER	DUT, UU	Sep-04	Sep-08
Uzbekistan	Eco-Hydrological monitoring of the Big and Small Aral Sea dried out seabed and basin	EC/INTAS	WE	ILEE, SIC ICWC, CWSIR, ARAL consult etc	Jan-04	Jan-07
Various Countries	Tools for Wetland Ecosystem Resources Management in eastern Africa	EC/INCO-DEV	ER	Univ. Siena (It)(lead), KIPPRA, Trinity, Makarere	Nov-01	Apr-05
	The dynamics and evaluation of Finger Ponds in east African freshwater wetland Ecotones	EC/DGXII/INCO	ER	MUIENR, UDSM, Kings College, ENKI, Egerton	Jun-01	Jun-05
	Institutional Reform, Stakeholders and the Change of Practice in the Limpopo River Basin	NWO/WOTRO	ER	WUR (lead), UZ, UEM, IWMI	Jan-02	Dec-05

RESEARCH AND DEVELOPMENT

COUNTRY	TITLE	FUNDING	DEPT	PARTNERS	START	END
Various Countries	Water Liberalisation Scenarios: An empirical Analysis of the Evolution of the European Water Supply and Sanitation Sectors	EC/FP6	MAI	Ecologic, EPFL, ENGREF,DUT, Univ Birmingham, Univ Bocconi, Univ Leuven, Univ Paris, Univ Zaragoza	Jan-03	Dec-05
	Smallholder System Innovations in Integrated Watershed Management	NWO/WOTRO, SIDA, DGIS	MAI	IWMI, U Sokoine, U Natal, Stockholm U	Jul-02	Jul-06
	Demonstration Scale Groundwater Treatment Systems for Arsenic Removal	DGIS/PfW	MUI		Nov-02	Apr-04
	Risk driven life-cycle performance management of built environment systems	EC/FP6	HIKM	Aristolte University of Thessaloniki ea	Oct-03	Oct-08
	Dynamic least cost optimalisation of wastewater systems remedial works requirements	IRF	HIKM		Oct-04	Nov-05
	Multiple Demands on the east African Coastal Zone in Kenya, Tanzania and Mozambique	EC/INCO-DEV	MUI	SELOR	Jan-04	Dec-05
	Challenge of Integrated Water Resources Management for Improved Rural Livelihoods (Limpopo)	CP/CGIAR	MAI		Jan-04	Dec-08
	Water Scarcity and Food security in Tropical Rainfed water scarcity systems: A multi-level assessment of existing conditions, response options and future potentials	NL Govt/CA	MAI	IWMI, IIASA, NBSS&LUP, CRID, NCAP, CIMMYT, ICARDA	Jun-03	May-05

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

ANNEX 4 | **RESEARCH THEMES**

LIST OF RESEARCH THEMES DEPARTMENT	CORE	RESEARCH TOPIC
Environmental Resources	Pollution Prevention and Control	Cleaner production and urban water cycle
		Sustainable industrial wastewater treatment
		Fate of pollutants in the environment
	Freshwater Ecosystems	Value of water, virtual water trade and water footprints
		Integrated river basin management
		Sustainable wetland management
		Functioning and management of coastal and freshwater ecosystems
Management & Institutions	Capacity Building	Institutional analysis and reform processes
		Strengthening and developing organisations
		Human resources development
	Water Resources Management	Water resource system analysis
		Equitable water allocation: water for the poor
		Transboundary river basin management
		Operationalising integration in IWRM
		Water for peace
	Water Services Management	Liberalisation of water services
		The role of private finance and public private partnerships in drinking water management
		Promoting and financing increased access to water at the local level
		Sector reform and regulation
		Strategy and change processes within water institutions
		Management and performance improvement of water institutions
		Pro-poor service provision
Municipal Infrastructure	Urban Infrastructure & Engineering	Flood resilience of urban areas
		Sustainable integrated waste management concepts
		Sustainable and environmentally safe landfill concepts
		Concepts for waste prevention and recycling
	Water Supply & Sanitation	Water demand management and distribution
		Water treatment technology (membranes and metal removal)
		Water saving technologies
		New concepts for urban waste water
		Innovative concepts for waste water
		Water borne sanitation
Water Engineering	Hydraulic Engineering & River Basin Development	Hydraulic structures and hydraulic systems to enhance water security
		Environmental impact of hydraulic works
		Management of hydraulic infrastructure and institutional setting
		Integrated management of river basins
	Coastal Engineering	Integrated management of coastal zones
		Coastal processes and erosion
		Wave-structure interaction
		Hydrodynamic modelling
		Flood defense systems
		Ocean energy
	Hydrology	Analysis of regional hydrological systems
		Physically based hydrological modelling
		Analysis and management of groundwater systems
		Groundwater model applications
		Climate change and climate variability
	Land & Water Development	Design and management of irrigation canals
		Salinity development in aquifers under the influence of irrigation
Hydroinformatics & Knowledge Management		ICT for inclusive and transparent decision-making
		Data driven modelling
		Uncertainty in forecasting and control
		Eco-hydraulics and water quality modelling
		Urban water asset management
		Dam break modelling

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ANNEX 6 | **COMMITTEES**

William Cosgrove receives UNESCO-IHE's Honorary Fellowship

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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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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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