UNESCO-IHE Highlights 2014

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- Did you know?
Thanks to all the staff members and everyone who contributed to the realization of this first Highlights booklet: Ioana Popescu, Edwin Hes, Vanessa di Oliveira, Margreet Zwartveen, Wim Bastiaanssen, Gaetano Casale, Maria Laura Sorrentino, Mariëlle van Erven, Miranda Tack, Anique Karsten, Nicole Stam, Jacqueline Koot, Uta Wehn, Stefan Uhlenbrook, Greet Vink and Michael McClain.

Thanks to guest lecturer Ary Roos and retired staff members Jan Luijendijk and Maarten Blokland for sharing their expertise. Last but not least, thank you alumna Jully Senteu, PhD fellows Patricia Trambauer and Silas Mvulwinene and dr. Rose Kaggwa from the National Water and Sewerage Corporation in Uganda for your contributions.

We hope you enjoy reading the story of UNESCO-IHE, do let us know your ideas for the next issue!

communications@unesco-ihe.org
Dear readers,

We are proud to present the first edition of UNESCO-IHE Highlights to you, in which we look back on key moments of the past year. This booklet presents a selection of our work in 2014 with regard to educating water professionals, conducting high impact water research, and working with partners on capacity development projects around the world.

Through this booklet, we aim to make visible the people and stories behind the work. Take alumna Jully Senteu from Kenya for example, who acquired a challenging position through the network she has built up through UNESCO-IHE, or learn about the process behind writing an in-depth study book on computational hydraulics, an accomplishment of Dr. Ioana Popescu, Associate Professor of Hydroinformatics.

In the center of the booklet, you will find interesting facts and figures on our educational, research and capacity development activities. Did you know that the 150th PhD graduation took place last year, ever since UNESCO-IHE started its PhD programme twenty years ago? Or that UNESCO-IHE received the Africa Water Leadership Award in the category “Most Innovative New Technology of the Year” for its eSOS Smart Toilet?

Although we look back on the past year, we also look ahead. The partnerships and projects described in this booklet either started up last year or went through important developments that will continue over the near future. We are in the midst of working on a new strategy for 2015-2025, and will finalize the strategic directions through extensive stakeholder involvement in a co-creation process. We are also working on a new implementation and business plan that will form an essential part of the strategy.

With best regards,

The Rectorate

Prof. Stefan Uhlenbrook
Drs. Greet Vink
UNESCO-IHE in a nutshell

About

UNESCO-IHE is based in Delft, the Netherlands, and carries out educational, research and capacity development activities in the broad fields of water engineering, water management, environment, sanitation and governance.

UNESCO-IHE is the largest international graduate education institute in the field of water. The Institute offers 4 MSc programmes, various short and online courses and a PhD programme in collaboration with partner universities. Since 1957, the Institute has provided graduate education to more than 15,000 practicing water professionals, as well as thousands of short course participants from 162 countries.

The Institute is an essential part of the UNESCO Water Family as a major pillar providing education and research. The United Nations has given the Institute the mandate to play a global role in educating and training a new generation of water professionals, facilitating the development of capable organizations, providing an enabling environment for well-informed decision-making and improving integrated water management practices.

The Institute’s ties to the Dutch water sector are equally important, as they provide access to specific knowledge and add to the Institute’s relevance in the Dutch socio-economic context.
Core activities

Education
UNESCO-IHE offers both degree programmes (MSc and PhD levels) and non-degree programmes (short courses, online courses and tailor-made training) for engineers, scientists and professionals from various disciplines working in the water, environment and infrastructure sectors. UNESCO-IHE is increasingly implementing its educational activities with partner institutes worldwide, making water education more accessible and affordable for an increasing number of students.

Research and innovation
The Institute’s research activities concentrate on six main research themes and contribute to the knowledge base concerning the water environment, and complement its education and capacity development activities. Significant parts of the research programme are done via PhD research (the programme is implemented in cooperation with partner universities in the Netherlands), MSc thesis research and post-doctoral research programmes.

Capacity development for social innovation
UNESCO–IHE engages in institutional strengthening projects and provides advisory and consultancy services to knowledge institutes, water sector organizations, knowledge networks and UNESCO member states. Through these operations, the Institute increases its global impact and helps to build sustainable organizations that are equipped to properly manage water resources and deliver water services sustainably. The Institute also has a policy forum function and acts as an intermediary between science and policy making.

Vision
UNESCO-IHE envisions a world in which people manage their water and environmental resources in a sustainable manner, and in which all sectors of society, particularly the poor, can enjoy the benefits of basic services.

Mission
We contribute to the education and training of professionals, expand the knowledge base through research and build the capacity of sector organizations, knowledge centers and other institutions active in the fields of water, the environment and infrastructure in developing countries and countries in transition.
Alumni Highlights 2014

178 new alumni joined the network in April
The UNESCO-IHE alumni network is the largest global network of water professionals in the world. They are employed in public and private organizations in the field of water, as well as in international organizations worldwide. Many alumni reach prominent positions in which strategic, managerial, policy and decision-making components become a major part of their function.

Alumni award
The second UNESCO-IHE Alumni award ceremony took place in October during the opening of the Academic year and Alumni day. This award was presented to dr. Tom Okurut from Uganda. Dr. Okurut is the current Executive Director at the National Environment Management Authority of Uganda, where during his three years of tenure, he has institutionalized public dialogue as one of the key public education awareness and knowledge sharing means for increasing appreciation of environmental as integral in the social and economic development planning. In his acceptance speech he inspired the audience and the new batch of MSc students with his experience and remembering his time as student at the Institute.

Visits
More than 50 alumni have visited UNESCO-IHE during the year. Some came to participate in courses or special events but most of them just dropped by to remember their study times during a visit to the Netherlands.

Co-creation and participation
300 alumni worldwide have actively collaborated in the survey to reflect on the UNESCO-IHE strategy for the period of 2015-2025.

Water Sector market
The second water sector market took place at UNESCO-IHE, linking students and alumni with the Dutch Water Sector. Because of that more exchange and collaboration has occurred reflected in the number of vacancies and collaboration request sent to alumni worldwide.

NUFFIC alumni workshop
The UNESCO-IHE alumni officer and alumni from Latin America actively participated in the Nuffic alumni workshop held in Colombia last November. Two UNESCO-IHE alumni were selected to attend a meeting with Minister Ploumen and participated in a business event.

Refresher courses for alumni
In 2014, three refresher courses were organized: a course on Water Integrity in Indonesia, a course on Recent Development in Integrated Water Resources Management in Myanmar, and a course on Management of Faecal Sludge in South Africa. Refresher courses provide life-long learning opportunities for alumni. They consist of interactive lectures, role-plays, group discussions, field trips, excursions, social events and country presentations by alumni.

Alumni gatherings & groups
Several alumni gatherings took place in different countries to strengthen the network among alumni and the Institute. New alumni groups were launched, like in Mexico and Sudan.

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“Recognition from more experienced professionals validated me as a water professional”

Jully Senteu (Kenya) graduated from Egerton University in June 2014. Her research topic was ‘Optimization of nitrogen transformation and removal processes in a hybrid tropical constructed wetland’. She was one of the first students to receive a joint MSc degree in Limnology and Wetland management from UNESCO-IHE, Egerton University (Kenya) and BOKU University (Austria). Last October, Jully Senteu received the Outstanding Research Award in the Water and Environment category and the overall Best Young Water Scientist of the Year 2014 award.

Jully: “Being recognized by other more experienced professionals in the field validated me as a water professional. My research focused on wastewater treatment in constructed wetlands. The reason I chose this topic was because it allowed me to apply my chemical engineering background in addressing an issue in the field of limnology. I come from an area that is water scarce, and improved wastewater treatment and recycling of treated water is one way of tackling this issue.”

Guinea pigs

“The joint set-up of the MSc program is unique: students are enrolled in three different countries over a period of one year before embarking on their research. I learned a lot from the distinct set-up at each university, and the exposure to the different cultures broadened my view point of the world. The program has also taught me how to interact with different people and greatly improved my people skills.

I have a background in chemical engineering, so my knowledge in aquatic sciences was limited. I therefore learned a whole lot during the program. Being the first lot was nice, but challenging as well because we were the ‘guinea pigs’. We were actively involved in the structure of the course, which was also a plus.”

The WaterNet annual symposium

“It was the first time I went to the WaterNet Annual Symposium, and the first time I did an oral presentation at a conference which was slightly intimidating. But it turned out great, and I was glad I attended. It was a complete surprise to me that I received the awards. In fact, I was already on my way back to Kenya when the gala dinner was held. After landing, I saw all these text messages on my phone from people asking where I was, as they had just called my name!”

Mau Mara Serengeti Sustainable Water Initiative

“I am currently working for WWF in the MaMaSe project as a consultant on improvement of wastewater technologies. The project’s main goal is improved water safety and security in the Mara River Basin. I am part of the team that designs new, more efficient wastewater treatment facilities for various stakeholders in the basin as well as trains water engineers on wastewater treatment. I got this job through the Limnology and Wetland Management programme and the UNESCO-IHE network.”

Follow your passion

“I would love to do a PhD. I want to apply my knowledge and implement technologies and solutions developed at research institutions. My advice would be to do what you love: pursue a course and a career in something you’re passionate about, not because it is the next big thing or because those in that profession have the highest salaries. When you follow your passion, it makes it easy during those long nights when you have a deadline to beat and you are running on fumes. That passion gives you the extra push you need. And life is so much more enjoyable when you are excited to get out of bed in the morning to interpret the data you got last night.”
Together with their colleagues in the Student Affairs office, Miranda Tack, back office employee, and Maria Laura Sorrentino, Social Cultural Officer, make sure the application process runs smoothly and students are warmly welcomed at the Institute upon arrival.

“My job at the back office involves many things throughout the academic year, but the bulk of my tasks revolves around applications for study programmes like PhD, short courses, online courses and MSc. If an MSc applicant secures funding, we facilitate their visa process and application for health insurance and right before arrival we help them with opening a bank account and inscription with municipality. The administration is done by the four staff members working in the back office and in close cooperation with the Fellowship Officers,” says Miranda Tack.

Assisting the Social Cultural Officers
“The back office sometimes assists the Social Cultural Officers during the introduction programme. The Fellowship Officers and Social Cultural Officers are in charge of all practical matters for new students, like applying for a Dutch bank account. It’s our job to make sure they then receive the relevant information, but we also answer questions about life in the Netherlands. The most frequently asked question during introduction is where to buy a bicycle!”

Application process
“The application process starts online: our website lists all relevant information about the study programmes we offer. People fill in the form online, and if all relevant documents are included, we accept it into the system and forward it to the Admission and Fellowship Officer, who screens the application. After the application has been assessed, we send the prospective students a letter regarding his or her admission. Students from countries where English is not the language of communication, will have take a test to prove their English is at the necessary level. Once they have that admission letter, they can apply for a scholarship. If they are indeed awarded a scholarship, we then send them more information about the steps to take from that point onward.”

Profile of a UNESCO-IHE student
“Our students are mid-level professionals, with a relevant Bachelor’s degree and some years’ relevant work experience. We receive around 2,000 applications per year, from over 50 countries. Student age ranges from anywhere between early twenties to mid-fifties. We aim to provide equal scholarship opportunities for men and women.”

Getting to know one another
Maria Laura Sorrentino, Social Cultural Officer: “Well before the MSc students arrive, the Social Cultural Officers start with the planning and organization of the registration and introduction programme. Our main goal of this program is to facilitate the settling down of students in their new environment and to make this process go as smooth as possible. This involves guiding the students to overcome cultural challenges with regard to adapting to life in the Netherlands as well as working and living close together with other students from all over the world.

Furthermore, we also plan and coordinate the arrival of our Master students. This starts with a welcome at the airport and a transfer to our institute. We arrange that students will receive the necessary practical information and maps, the keys to their accommodation and even provide a meal for the first night. All that is done to assure new students do not need to worry about anything and can enjoy the new experience to the fullest!”

“I will never forget the smiles and welcoming faces of people when I arrived at UNESCO-IHE. They did their utmost best to be, for me, a home away from home.”

“We manage everything behind the scenes from start to finish”
Ary Roos studied Civil Engineering in Delft and worked for Rijkswaterstaat (the Dutch Department of Waterways and Public Works) in the fields of coastal and harbor engineering. About 10 years of his career he worked at the Deltadienst, where he was involved in the design of the Eastern Scheldt Storm Surge Barrier. Ary Roos has been a guest lecturer at UNESCO-IHE for over 25 years.

Tides and tidal currents
“I have been teaching Tides and Tidal Currents since 1988, as part of the Coastal Engineering & Port Development MSc specialization. It’s all about the knowledge of high water and low water and water surface movements. Ebb and flood is a horizontal movement, while water surface movements are vertical.”

Models don’t teach you everything
“I always tell my students that models are great, but they don’t teach you everything. First of all, you need to know why water moves the way it does. You learn that through finding analytical solutions to simple problems. In 1991, Emeritus Professor Mike Abbott’s department taught classes on waves, tides, density currents, and coastal morphodynamics. Professor Abbott wanted to integrate these classes into a more systematic approach, and asked me to develop that. The new approach was focused on using the integrated knowledge in designing a harbor together with the students. They loved that!”

Combining theory and practice
“Being a guest teacher is the best thing you could imagine. You’re always combining theory and practice, and you get to pass on your knowledge to the next generation. And UNESCO-IHE students are some of the most motivated out there. They’re on a mission: taking home a diploma to be proud of. I’ve been doing this for 25 years, and I still learn something new every year. These students come from all over the world, and while their problems are different, the physics are the same everywhere.”

Old-fashioned chalkboards and left-handed writing
“I’m the kind of person who likes to write. I don’t prepare PowerPoint presentations; those only kill your sense of creativity. Nicole Stam, the Planning Officer, always makes sure I’m assigned classrooms with old-fashioned chalkboards. In about 2002, I was involved in a serious car accident. I got hit by a car while on a pedestrian crossing and ended up with a broken right arm. It took me two afternoons of practicing to be able to write on the chalkboard with my left hand. It apparently looked like a drunkard’s scribbles, but at least the students were able to follow it!”

Developments in the field
“There have been some important developments in the field, but the basics of it remain the same: it’s all about rudimentary tidal movements. Models these days look amazing, but those basic rules won’t change.”

Strong professional network
“I think UNESCO-IHE is a unique institute, because it brings together students from all over the globe. They return to their home countries as trained engineer with a powerful network at their disposal. My son works at Van Oord, and runs into UNESCO-IHE alumni all over the world. The same goes for people from UNESCO-IHE itself: they always seem to run into one another sooner or later. It’s a rock solid network.”
We started collaborating with the Water, Land and Ecosystems (WLE) program in November 2014. There are clear commonalities between UNESCO-IHE and WLE programs in terms of combining equitable social development goals with ecosystem conservation goals. What I find an interesting challenge is that although the WLE framework is anchored in a natural science paradigm, there is a clearly expressed ambition to incorporate and deal with social issues and governance questions.

Bringing in the gender dimension

“The other area in which there is much potential for collaboration is on gender; dealing with gender questions and making these as explicit as possible is an objective of the WLE program. Yet, doing this well still requires much thinking and discussion. It should be more than ‘just adding women’, and entails identifying and dealing with relations of power and difference. This is always contentious. Gender questions include critical questions about the legitimacy and origins of established and taken-for-granted scientific definitions and authorities. In water, expertise has a clear masculine connotation. With the support of the WLE gender specialist, Nicoline de Haan, and with Edwin Rap of the International Irrigation Management Institute, we organized a small workshop, and we are working to publish a special journal issue on this topic.”

Emphasis on outputs and impact

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Interview with Margreet Zwarteveen, Professor of Water Governance at UNESCO-IHE and project manager of the CGIAR Water, Land and Ecosystems research programme

“New Blue Nile investments of irrigation systems

“In our project, we are looking at new investments in irrigation systems along the Blue Nile. All water in the Nile is allocated, so if you start a new system, it is taking water away from elsewhere. We set out to trace these changes in water flows with the help of water accounting experts, such as my colleague, Wim Bastiaanssen. We want to combine the resulting maps and data with case studies on the ground to find out what these changes in water flows mean for people who directly experience them. One of the case studies we have selected entails a Sudanese investor who uses land and water to cultivate fodder for cows in Saudi Arabia. While bringing in much needed foreign exchange and creating employment opportunities, to date little is known about the wider societal and ecosystem impacts of such investments. Who gains and who loses? That is what we hope to find out.”

Solid regional and local networks

“One of the big advantages that UNESCO-IHE brings to the WLE programme in the Blue Nile and the Mekong delta is the strong networks we sustain in those regions. We have the experience and the local expertise, and that emphasis on impact and social relevance is very beneficial to the larger program. Sudanese partners and alumni can open doors for us at universities and for instance convince investors who aren’t normally very eager to talk or share information.”

Combining water accounting with gender data

“One of last year’s highlights happened because of WLE’s emphasis on gender. FAO, IWMI, and UNESCO-IHE work together on water accounting, and all expressed the desire to better link the water accounting exercises and information to gender. Suddenly, these three big players are coming together, expressing good intentions to engage in efforts to bring two disciplinary and professional worlds closer together.”

“If we want technology that works, we should start with the needs of the people and ecosystems concerned”
“With the advances in technology, every water professional can use models in their daily work”

From lecture notes to writing a book
“I had been thinking about writing a book on computational hydraulics already for a long time; I started writing lecture notes on the subject in 2004. During my teaching, I realized that the notes alone were not enough, and decided to write a book. It was a long process: I was trying to put the theory down on paper when I realized that when you start writing a book, you have to really start from the beginning and try to give the reader a good overview. I therefore talked with students to learn about how they see and understand the topic to see how to write the explanations.”

Everyone wants to do modelling
“The students’ need for a book like this came from the complexity of the topic. Nowadays, everyone wants to do modelling in order to find answers for certain problems, but you really need to understand modelling and how the process works both from mathematical and physical point of view. It is important to understand what the limitations of modelling are, because from a mathematical point of view, there might be many solutions to an equation, however not all solutions might be valid in the physical domain.”

Presenting case studies differently
“The topic is so broad that this specific part of computational fluid dynamics is not new. However, I think the theory and certain case studies are presented differently than in other books. The way that solutions to certain examples are shown, including the extent to which the explanation is given, is new and helpful to the students. For example, there is a case study in the book about the water quality in Lake Taihoe (China), which has been solved using Delft3D.”

Understanding the tool
“In the past, modelling a specific water-related problem was only done by highly specialized professionals, while nowadays, with the advances in technology, modelling is available to every water professional. The book helps them to better understand available modelling tools. Water professionals can use the book for modelling rivers, floods, water quality, and/or water allocation.”

Linking science with technology
“At UNESCO-IHE, we are in the fortunate position of being exposed to problems from all over the world which are brought forward by our students. I am proud of the research we do in hydroinformatics in which we are linking science and technology. That feeling comes from within; I get a lot of positive energy from my students. In the beginning, they are cautious and shy, but along the way they discover that the problems and worries that they have are the same, all over the world. I am glad to see the solutions they can come up with, and the sparkle in their eyes when they realize that.”
FACTS & FIGURES 2014

- 194 UNESCO-IHE staff
  - 78 women
  - 116 men
  - 36 nationalities

- 10,256 Government of the Netherlands
- 15,826 Tuition
- 13,090 Projects
- 10,256 Total turnover
- 1,306 Overall result

- Publications by UNESCO-IHE staff:
  - 102 Conference papers
  - 260 Journal articles
  - 23 Book chapters
  - 5 Books
  - 69 H-index
  - 19,904 Citations

- Projects
  - 219 Projects started
  - 66 Projects finalized

- Cooperations
  - 117 Cooperation agreement, joint education & joint research partners
  - 21 Bilateral partnerships started or renewed

- Facebook likes
  - 1-1-2014: 8,310
  - 31-12-2014: 10,819

- Twitter followers
  - 31-12-2014: >5,000
1784
MSc applications
12 percent enrolled (212)

Students enrolled per MSc programme
54 Environmental Science
39 Urban Water and Sanitation
35 Water Management
82 Water Science and Engineering

178 MSc graduates

NFP Most popular fellowship

132 PhD fellows
16 PhD theses produced

Number of MSc students per region of origin

Number of PhD fellows per region of origin

E-newsletter subscribers
1-1-2014 1.141
31-12-2014 2.975

332.000 Unique website visitors
1.722.861 Pageviews
Assessment of the research program
“To me, the highlight of the last year has been the external assessment of our Research program, according to the protocol of the Royal Academy of Arts and Sciences in the Netherlands. It was the first time we had it fully evaluated, together with twelve other institutes and universities here in the Netherlands. The assessment was about the research fields, the research quality and quantity – what is done in the different groups and at the Institute as a whole – and about the societal impact and reputation of the Institute; the way the Institute is able to have impact on the ground.”

“I’m particularly proud of the fact that we are on par with leading universities when it comes to research quality and quantity. But of course, we are different from them; the impact that we want to have on policy making is much more important to us than to other universities.”

Other highlights
“There are other highlights worth mentioning as well, with many colleagues publishing cutting-edge papers, who had breakthroughs in their research, successes in uptake of research results, important changes in environmental policy making. One example of this has to do with emergency sanitation. What my colleagues have developed is a smart system that can be assembled like building blocks. The idea is to gather unique data so that if the project is upscaled, it will have a direct impact wherever it is used, whether in refugee camps, slums, post-disaster regions, or other poorly sanitized areas.”

Different kinds of PhD research
“We have many PhD Fellows researching different fields – some developing new technology and how it can be introduced to real-world situations, others working on awareness, acceptance, and institutional arrangements concerning water resources, sanitation and water supply. Others study the informality of water in urban areas like the slums in Africa or Asia, where there’s a different way of governing water resources. They study these structures and their efficiency when it comes to sharing water fairly from a sociological point-of-view.”

Connections to the right people
“One of our PhD Fellows recently worked on drought forecasting in Africa, and has developed a model for the entire Pan African continent. The computer model simulates hydrological droughts, particularly evaporation, for the whole of Africa. Moreover, the PhD research project looks at local effects on a shared river basin in southern Africa. The simulation of water flows and the forecasts of drought indicators that are meaningful to local end users could be directly used in water management on a local level. That’s the strength of this Institute: how well we are connected to the people “on the ground” – the water users, the policy makers, the municipalities, and the higher governments.”

Vision for the future
“We have to utilize the fact that we have great colleagues from different disciplines. Many come from water engineering, informatics, hydrology, but we have several people here with a background in social sciences, economics, public administration, anthropology… If we really want to understand water issues, we need to combine their knowledge in a holistic approach. It’s all about the interaction between humans, nature, and engineered systems. The unique selling point of this Institute is being able to integrate that knowledge from the different disciplines. In my opinion, we have the capacity to make that innovation happen.”
Silas Mvulirwenande
“When you do PhD research at UNESCO-IHE, you get a feeling of researching and learning about water issues in their ‘wholeness’. The complex web of formal and informal interactions with people researching different dimensions of water (e.g., engineering, governance, hydrology, hydro-informatics, knowledge management) help you to go beyond your own specialization, and to understand and speak their language. For me, this is the crucial skill you acquire as a PhD fellow at UNESCO-IHE.”

Patricia Trambauer
“The singular thing about doing a PhD at UNESCO-IHE is that the research is very much focused on the real needs of developing countries regarding water issues. For me, it’s very gratifying to imagine that my efforts may actually be applied in the ground and may assist in the development of a region.”
Maarten Blokland recently retired as Associate Professor of Water Services Management. One of the last projects he led was CAPIWUA (Capacity Development for Performance Improvement of Water Utilities in Urban Centers in East Africa).

Locally-driven capacity development
Maarten Blokland: “Our main partner for the CAPIWUA project was the National Water and Sewerage Corporation in Uganda. NWSC had a dual role in Uganda: they were a beneficiary, but they were also the partner that interacted most with the three water utilities. We focused on three project areas: service provision to the poor, revenue enhancement, and improvement of management quality.”

Alumni network
The National Water and Sewerage Corporation has set up an international resource center; a separate training facility used for capacity building, and knowledge transfer to other utilities in the region and beyond. A lot of their senior staff has been educated at UNESCO-IHE; Dr. Rose Kaggwa, who is in charge of the resource center, is a PhD alumna of UNESCO-IHE. “They know us and they know the Netherlands; it’s a natural relationship. NWSC also benefits from their liaison with UNESCO-IHE; it helps them sell their services,” says Maarten Blokland.

Becoming a better capacity builder
“NWSC wanted to strengthen their capacity to provide capacity development services. Our role was to inspire the project and come up with good management ideas. We also assisted NWSC specifically with certain challenges they were facing in the resource center. For example, they do a lot of advisory services and training through the centre, but their training capacity is quite limited. For that reason, we organized a session aimed at training the trainers.”

Performance Improvement Plans
“The innovative part of this project is working with performance improvement plans. Traditionally, proposals for next year’s activities are written by the lead partner and approved by the beneficiaries. We turned this around: the utilities drafted the plan for the following year. NWSC would then see to it that the plans were developed and financially approved. Our responsibility was fitting these into the overall project plan. That meant reducing the costs and prioritizing. This way of working was quite innovative for me and for UNESCO-IHE as a whole.”

Understanding quality services for the poor
“One of the focus areas, services provision to the poor, proved to be an interesting area. The employees of utilities don’t come from slums themselves; they are middle class, just like our students. The first time they visit a slum, they think it’s like going to an Ebola area. It shows that they don’t know. There is no affinity, it’s not their world. You want to change that. The NGOs are very useful in this regard; they have a lot of experience with working on the ground.”

Don’t forget the low-hanging fruit
“The process of doing this jointly is slow, but it works very well in the long run. We work this way to achieve local ownership, local initiative. We invest in people, which ultimately results in improved performance. My opinion is that you have a better chance of lasting success if you work through the partner. On the other hand, we can also learn from the ‘low-hanging fruit approach’ of others. I have learned that your partners get a boost when they can quickly show their people what the results are.”

“Capacity building: investing in people leads to improved performance”
Partnering with FAO
“This partnership started because of my connection with FAO; I’ve been involved as a consultant for strategic and application studies over the last 5 years. The MoU is centered around water accounting and water productivity. Water accounting reports the overall water resources conditions in river basins. Water productivity is related to agriculture and describes the production, crop yield, or food that you can get per unit of water consumed. Together with FAO, we work out technologies that can operationally express the production per unit of water consumed rather than per unit of land. This is a paradigm shift and highly relevant for water scarce countries.”

Working via a multi-institutional approach
“The partnership is about creating global changes in water management, and the UN is a good vehicle for that. Neither of our organizations can do that alone, but together and with CGIAR organizations like the International Water Management Institute (IWMI), we can make a change. Its uniqueness lies in the multi-institutional approach, with a shared drive that brings us together.”
“I’m responsible for developing the water accounting procedures and water productivity reporting frameworks. I also scientifically advise FAO on how to implement these frameworks in the Middle East, which struggles with a severe water shortage. In my opinion, having people permanently present in development countries is a prerequisite for success. The FAO regional offices exactly fulfill that role.”

Water accounting framework and water productivity score
“The water accounting frameworks are developed by a team, but if we want to get it across to various departments of water and agriculture in the world, we need FAO to act as an ambassador. As a scientist, you can write paper after paper, but if you don’t have ambassadors to promote your work, then your impact is zero.”
“We’re also working on a water productivity score, to simplify the concept and explain it to laymen. The idea is a score between 1 to 10, so farmers, river basin organizations, et cetera know where they stand.” You can compare it with the scale of Richter for earthquakes so that all stakeholders immediately can interpret a certain situation.”

Remote sensing in Afghanistan
“One of the highlights concerns the Helmand basin in Afghanistan. It’s a typical basin where there is almost no hydro-meteorological data available and accessible, which makes it very difficult to scan a river basin and say if things could be improved. Their annual reporting programme on the river basin water status failed, so the Afghan government asked FAO and UNESCO-IHE to use remote sensing through satellite data. That was a great success. Now, the FAO has promoted this concept at the most recent World Water Forum in Korea.”

Need for standardized input data for a global framework
“If we want to have global standards on water consumption, productivity, and accounting, then we must have better standardized input data. This past year, I’ve been motivating several leading groups in the United States, Australia and China to develop global data sets based on earth observations for UNESCO-IHE. This is a completely new opportunity for us to have access to reliable information on the nexus of crops and water, that otherwise is very difficult to get access to. The experience demonstrates that these institutions are keen on working with UNESCO-IHE, as we can help them in assisting their innovative products in countries like Ethiopia, India and Brazil. I feel that UNESCO-IHE is the perfect Institute to help implement new global information products for the water sector, and I’m glad to be working here.”
Matching supply and demand
“The idea for the collaboration started in 2010, when we were approached by the Asian Development Bank about setting up an independent body in the Netherlands to match the demand from Asia and Pacific area with the enormous supply of knowledge and experience on the Dutch side. Of course, UNESCO-IHE has quite a network both in the Netherlands and worldwide, through our 15,000 alumni. Entering into a partnership with a multinational bank like ADB as a UN organization would also give us some freedom to organize things as we saw fit.”

Navigating sensitivities
“I found coordinating that very challenging, because there were many stakeholders and the programme involved a certain measure of sensitivity – when a request comes in, allocation should be done based on who in our network is the best fit, rather than automatically sending someone from the Institute. The Ministries of Foreign Affairs and Development Cooperation were very interested to see how the money was being used, so they were in direct contact with me about the kinds of projects we were doing. From their end, ADB wanted us to send the best people we could get, and as I had already been working with the TU Delft for 10 years, I knew the Dutch sector quite well. We would come up with a proposal, and ADB would make the final choice. In 70 to 80% of all cases, they followed my advice.”

Putting an expert on the ground
“We have implemented 17 projects so far, all quick interventions. The experts we send out are all needed on very short notice and for only a few months, so time is of the essence. We had only just signed the agreement when there was a big flood in Thailand. We were able to get an expert out in a matter of days, to offer advice while the flood was still ongoing. Incidentally, the laboratory he works for now has a thriving business presence in Thailand. That was our very first project, and one I’m still very proud of.” Part of the damage in that flood was actually a UNESCO World Heritage site, and one of our UNESCO-IHE professors helped develop a system to divert excess water and preserve the site in case of future floods.”

Asia Learning Week
“Another thing we developed after one year was the Asia-Netherlands learning week: bringing high-ranking professionals from Asia and the Pacific region into contact with Dutch experts. It’s usually a nice mix of people from the public and private sectors, from NGOs, et cetera. We’ve organized three learning weeks so far, and we get delegations from between eight and 10 different countries each year. We ask them explicitly what they want to learn while here, then bring them together with consultants and knowledge institutes in those fields. People really appreciate the welcome they get, but greatly value the solutions they learn as well. ADB told us we should organize one every year from now on!”

“The most exciting thing you can do in life is learn”
Interview with Jan Luijendijk on the Asian Development Bank Knowledge Partnership. Jan Luijendijk retired last year as Associate Professor in Land and Water Management.
Working from knowledge generation to application

“MaMaSe is unusual for UNESCO-IHE, because it is not strictly a capacity development, research, or education project. It’s a large and knowledge-intensive development programme supported mainly by the Dutch Embassy in Kenya focusing on water safety and security at a basin scale. UNESCO-IHE is leading a consortium of Kenyan and international institutions working in all dimensions of the water sector. We are working with government water authorities to generate and apply the knowledge necessary for proper resource management. We are working with small-scale farmers to investigate and adopt water friendly and economically profitable crops, so farmers do not just produce more with the available water but also earn more from what they produce. We are working with pastoralist Maasai communities to improve management of their herds and rangelands to maximize the retention of soil water and the produce more grass. We are also working with financial institutions to introduce new financing mechanisms and Kenyan knowledge institutes to facilitate high levels of knowledge use and exchange.”

Different partners, different objectives

“MaMaSe is opening new forms of partnerships with the private sector. One of our key partners is a Dutch-owned commercial farm in the Mara that sells to European supermarket chains, and which also connects local small-scale farmers to European markets. They see a clear business advantage and we see a means of raising the standard of small farmer practice and profit”.

Different forms of capacity development

“MaMaSe is a very large project (more than 10 partners with a budget of €10 million), and there are different forms of capacity development happening inside it. Because we are working side-by-side with implementation partners, we are able to do a lot of on-the-job training. This also enables us to better identify the specific capacity needs of partners and organize group trainings in needed topics, including particular tools and techniques developed within the initiative itself. We are also involving Kenyan and European students as much as we can. This is a great experience for students and ensures their research outputs have maximal societal impact.”

Challenges and highlights

“Leading a major development initiative is a new role for us at UNESCO-IHE and has been an enormous learning experience requiring new ways of organizing our efforts and engaging with partners. We have found it challenging but we’ve also found that we are up to the task. In this role we are able to enhance our normal research and capacity development activities and have a much larger impact on the ground.”

Ensuring that progress is maintained

“Consideration of the long term impact of our efforts in MaMaSe is part of the entire strategy. It is really challenging to maintain the gains of an initiative like this once the funding ends and international partners move on. Our approach is to work with local partners to build improved capacity and practice into their daily operations and to be considerate of realistic long term funding levels. We are also trying to enhance future funding levels with new financial mechanisms such as water funds. In the end we consider capacity development to be among the wisest investments for long term change. This perspective is something special that UNESCO-IHE offers to development partners, and I hope we will be able to lead many more initiatives like MaMaSe in the future.”
Donor relations playing field
“One of the Liaison Office’s core activities is supporting academic staff members on project management matters. We also deal with donor relations and maintain contacts with organizations relevant for the water sector, by representing the Institute in relevant platforms and discussion fora. Our Liaison Officers are divided into three different categories. The first is related to European Union liaison activities; we deal with the European Commission research directorate, development cooperation directorate, and environment directorate. The second category consists of liaison activities with Dutch institutions that are concerned with water and capacity building for the water sector. The third category are liaison activities at a more international scale, hence dealing with international development banks, other private organizations, and foundations like Rotary.”

Europe cannot remain isolated
“The Institute believes all three categories should revolve around water. Our relationship with the European Commission is important: we want to participate to important discussion mechanisms, but also need to let our voice be heard to convince the EC that water is becoming a top international priority. Europe cannot remain isolated as far as water is concerned; it should open up its borders. That’s why we’re actively working to spread this message to relevant institutions through several platforms.”

Focusing on programmatic cooperation
“Donors used to only contribute financially, however this is changing. We work more and more with a programmatic approach, so the nature of the interactions is nowadays based on mutual interaction and benefit. We achieve the best results with organizations with which we have closer interaction and joint definition of priorities. We try to find win-win solutions.”

Linking with the water priorities of the Ministry
“Our relationship with the Ministry of Infrastructure and Environment started in 2003. What is new compared to the previous years is the way we are now cooperating in a more proactive form. In the past, we used to submit a project idea, which the Ministry would almost automatically assign funding to. Nowadays, we have to come up with something that matches the priorities of the Ministry and produce outputs that the Ministry can actually use. The Liaison Office, jointly with the Ministry, formulated a new structure of the Cooperation by using the logical framework methodology after gathering detailed information about the Ministry needs and agenda.”

Cross-boundary knowledge sharing
“The Ministry realized that for water management, exchanging knowledge with other countries is key. UNESCO-IHE plays an important role here, because we generate knowledge in countries like China, Bangladesh and the so-called Delta countries, all of them part of the water international scope of the Ministry.”

Global approach to priorities
“It is an interesting time, as the Post-2015 agenda, including the new Sustainable Development Goals agenda, is going to be finalized soon. We could definitely use that to our advantage by promoting water and in particular capacity development for the water sector. Different political agendas are being combined as well, like aid and trade, research and development, water, food and energy. These priorities are being approached on a global scale nowadays.”
Anique Karsten is UNESCO-IHE’s beadle. She facilitates PhD promotions and organizes all academic ceremonies. She assists PhD fellows to register with partner universities and provides guidance to the student, promotor and mentor towards the graduation ceremony. She works closely together with other staff from both academic and support departments.

Master of Ceremonies
“You might call me the Master of Ceremonies within UNESCO-IHE; I carry a staff at official events and enter ahead of the professors. That ceremonial part is what makes my job a lot of fun. But there are many different aspects to my job, and I take care of many things. I started here during the summer, and I was very excited about my first academic opening. A new rector had started the year before I joined IHE, and the general idea was to add a little more flair to these academic events, to make them somewhat more distinctive. So, naturally, during my first official appearance as Beadle, I managed to bring the staff down on my foot…”

At the heart of the action
“Part of my job is organizing the two most important moments of the academic year: the opening and closing ceremonies. Of course, both of these involve many different departments within the Institute, and we all do our part to make it a success. In a way, these events also represent the city of Delft, of course! I am at the center of all these preparations; the person who ties everything together and who ensures that the event goes smoothly. I enjoy it a lot, because it means dealing with several divisions within the Institute: the academic departments, the support staff, the planning, the back office, the Social Cultural Officers… I get to talk to everyone and know exactly what’s going on.”

Academic opening
“The opening of the academic year always takes place in October; when close to 200 new Master students arrive in the Netherlands. Everybody gathers in the auditorium for several welcoming speeches, including one by the Student Association Board. Because they remember how they felt when they first arrived here, that always provides some reassurance. After all, people come here from all around the world for a jump off the deep end in a strange country. That’s why we also try to share some traditionally Dutch things during the academic opening ceremony.”

Closing ceremony
“Students who completed their 18-month education programme receive their diplomas in April. There is always a big graduation ceremony in the Oude Kerk, here in Delft. Afterwards, guests make their way back to UNESCO-IHE, where the celebration continues in our courtyard. Several of our staff members usually form a band for the occasion. I don’t play any instruments myself, but you will often find me on the dance floor!”

Helping people with the little things
“Of course, people will be very nervous on important days like that, so I always try to remain very calm. I take pleasure in helping them out with the little things. People often send me thank-you gifts because everything went so smoothly, or because they’re relieved that we took care of everything for them. However, I always emphasize that it’s a matter of teamwork. I may be the most visible staff member on days like these, but we have about 20 people working very hard behind the scenes to make it a big success.”

“In a way, UNESCO-IHE also represents the city of Delft”
According to The Guardian, UNESCO-IHE is one of the top 10 Twitter influencers in the field of water and development.

The most-cited UNESCO-IHE paper in 2014 was the paper from Professor Piet Lens on ‘Pretreatment methods to enhance anaerobic digestion of organic solid waste’.

UNESCO-IHE received the Africa Water Leadership Award 2014 in the category “Most Innovative New Technology of the Year” for its eSOS Smart Toilet.

The 2014 publication of the Federation of Dutch Creative Industries, Crossover Works #3: Innovating with the Creative Industry, features the eSOS smart toilet as a part of the inspiring selection of innovative crossovers with the creative industries.

Two UNESCO-IHE students win first and second prize for most innovative business case at the Africa Works conference.

Dr. Uta Wehn, Senior Lecturer/Researcher in Capacity Development and Innovation and dr. Jaap Evers, Lecturer in River Basin Governance were nominated for the Best Paper Award at ICT4S 2014.

The Bolivian President Evo Morales visited the Institute to talk about collaboration possibilities.

A high-level delegation from Indonesia and Malaysia visited the Institute to discuss specific activities related to student mobility, online and short courses and tailor made trainings.

Professor Wim Bastiaanssen has been appointed as the Special Chair of Global Water Accounting.

A new chair in Climate Change Impacts and Coastal Risks has been established since 1st January 2014 following a successful proposal by Professor Rosh Ranasinghe. The chair is funded by the AXA Research Fund.

Margreet Zwarteveen started as professor of Water Governance.

Jentsje van der Meer started as professor of Coastal Structures and Ports.

178 UNESCO-IHE students from 48 different countries received their MSc diploma.

Egina Malaj, alumna from the Environmental Science and Technology MSc at UNESCO-IHE, was featured in the prestigious Science Magazine.

Alumnus Melesse Temesgen from Ethiopia won the Special Prize for innovation with the highest Social Impact given by the African Innovation Foundation.

Alumnus Tom Okurut, Executive Director at the National Environment Management Authority of Uganda was the UNESCO-IHE Alumni award winner.

Professor Stefan Uhlenbrook, Vice Rector of UNESCO-IHE, has been invited to serve on the World Economic Forum’s Global Agenda Council on Water 2014-2016.

UNESCO-IHE officially joined the World Disaster Reduction Campaign on Making Cities Resilient.

For the first time in UNESCO-IHE’s history a joint MSc degree has been awarded to four students of the Limnology and Wetland Management programme.

The new Graduate Professional Diploma Programme (GPDP) awarded its first diploma to Mr. Tomislav Horvat from Croatia.

UNESCO-IHE launched an experienced Water Postdoc Fellowship COFUND Programme.

UNESCO-IHE hosted a 2-day Knowledge Sharing and Planning workshop on integrity in the water sector.

Professor András Szöllösi-Nagy retired as Rector of UNESCO-IHE.

UNESCO-IHE was featured by the BCC and Professor Ranasinghe was filmed about better predicting the risks of climate change on coastal communities.

World Wildlife Fund magazine interviewed Zaki Shubber, lecturer in Law and Water Diplomacy at UNESCO-IHE, about her view on water scarcity in relation to international water conflicts.

UNESCO-IHE launched its new corporate film.

UNESCO-IHE appointed a new cultural ambassador, photographer and former Los Angeles District Attorney Gil Garcetti.

The 150th graduation took place since UNESCO-IHE started its PhD programme twenty years ago.

PhD fellow Aline Saraiva Okello from Mozambique was one of 84 women awarded with a scholarship grant by the Schlumberger Foundation.

PhD fellows Adey Mersha from Ethiopia and Jessica Salcedo Borda from Peru received the renewal study grant from the Schlumberger Foundation Faculty for the Future program.
Colophon

Editor-in-Chief
Emma Meurs

Text & translation
Ashley Cowles

Graphic design
Peter Stroo

Print
Veenman+

Photography
Hans de Lijser
Nout Steenkamp
Staff photo archive

Published by
UNESCO-IHE
PO Box 3015
2601 DA Delft
The Netherlands
UNESCO-IHE Institute for Water Education is the largest international graduate water education facility in the world and it is based in Delft, the Netherlands. The Institute confers fully accredited MSc degrees, and PhD degrees in collaboration with partners. Over 14,500 water professionals from more than 160 mainly developing countries and countries in transition have been educated at the Institute.

The mission of UNESCO-IHE is to contribute to the education and training of professionals, to expand the knowledge base through research and to build the capacity of sector organizations, knowledge centres and other institutions active in the fields of water, the environment and infrastructure in developing countries and countries in transition.

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