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MAKING KNOWLEDGE AND INNOVATION ACCESSIBLE IN WATER ENVIRONMENTS

BY HENRIETTE TAMAŠAUSKAS



Karsten Mangor, DHI, conducting a Shoreline Management course. The aim is to convey an understanding of the available tools and procedures that can help create a sustainable management of the physical environment in the coastal zone.

Knowledge sharing and capacity building

In order to address challenges in the water environments, our knowledge on the development of sustainable water strategies and tools for implementing them are essential. But tools and knowledge are not enough. We must ensure that the existing knowledge is shared and not kept in organisations and libraries, and we must enable water managers all over the world to work actively together. This is the aim of The Academy by DHI, a newly established entity within DHI.

Together we must find answers to questions like: How will the changing climate impact our lives? How can we protect ourselves against floods? How do we use an oil spill model to

make decisions to protect our coastlines against disasters? How can we model water in mines to develop efficient dewatering and to minimise contaminants? Where can I find the latest research results and practical experience on urban storm water management? Where can I learn more about the risk assessment of combined exposure of chemicals in drinking water?

These and many more questions are being asked daily by water professionals and managers around the world.

'Live as if you were to die tomorrow. Learn as if you were to live forever' Mahatma Gandhi once said. We continuously need to develop our skills and learn new approaches to face the challenges that we meet. We need to share our

experiences with others working in the same field so that we can learn from one another.

The primary goal of The Academy by DHI is to make knowledge and innovation accessible in Water Environments –through specific training activities, capacity building packages or simply by sharing results from our research and creating forums for experience exchange. Specific examples are that you can download state-of-the-art scientific papers from the website along with guidelines free of charge. The training activities and capacity building packages come in many forms – ranging from long term education packages at various locations (perhaps offered through aid organisations), to a few days of practical hands-on training courses or university collaborations with

INNOVATION ACCESSIBLE

DHI, as an international not-for-profit organisation, invests 120 man years every year in research and development to further our knowledge in water environments – the result of this effort is put forward through our solutions, software and in the sharing of this knowledge through The Academy. DHI is an IAHR Institute Member



Henriette Tamašauskas has worked at DHI for more than a decade contributing to software design, development management and support of the MIKE by DHI products. The last couple of years have been spent on managing and conducting training activities worldwide. Henriette Tamašauskas is Head of The Academy by DHI as per 1 January 2013.

input provided through lectures or in the development of university training programmes. The collaboration with universities will improve our extensive knowledge partner network, thus helping us educate the next generation of water experts.

Training activities – building expertise

Skills development and capacity building contribute to the further development of sustainable water management strategies and global partnerships.

For this reason we arrange hundreds of courses each year, which thousands of professionals attend and learn from. In 2012 training courses took place in more than 40 countries. The palette of training courses with a duration from a few days up to months cover both open enrolment courses and courses tailored to meet specific needs. The 2013 global course calendar for the open enrolment courses is

seen here:

<http://www.mikebydhi.com/GlobalTraining/Glob alcoursecalendar.aspx> and for the courses in environmental risk and product safety courses it is found here:

<http://tox.dhigroup.com/Courses.aspx>. The courses range from thematic and capacity building workshops to training in the use of specific software tools, and cover areas such as:

The courses range from thematic and capacity building workshops to training in the use of specific software tools and cover areas like:

- climate change adaption
- energy, environment & ecosystems
- urban water
- coast & sea
- surface & groundwater
- product safety & environmental risk
- integrated water resources management.

The Academy offers a large number of courses that can be used to assist the development of people at university level and higher. Through DHI's knowledge partner network, which includes universities around the world, The Academy is constantly developing new training courses. DHI has the technology platform necessary to support the water sector with respect to education and training. This includes

the development of a serious gaming platform (Aqua Republica, www.aquarepublica.com), which can teach specific skills through an interactive gaming environment. The game provides an engaging learning platform for understanding the role/importance of water resources and for building capacity in water resources management and sustainable development.

Global partnerships

In certain parts of the world there is a need for improving capacity development in the water sector, as a skilled and dedicated workforce is necessary to provide solutions to constraints and for more effective use of water. If we are to live up to global development and sustainability goals, we need not only funds and infrastructure - we also need enough highly skilled people in the water sector.

We offer capacity building packages in cooperation with Danida and other aid organisations. In Burkina Faso in West Africa we organise courses, not just to train water resource managers but also to build up the capacity at the local engineering school and to strengthen local development of sustainable water management strategies.

DHI is hosting a UNEP collaboration centre on water and environment – the UNEP-DHI Centre <http://www.unepdhi.org/>, which has been responsible for the development of training materials and activities on integrated water resources management and water quality management, and we have jointly developed WRIAM (Water Rapid Impact Analysis Model), a tool aimed at developing EIA's related to water. We have also, in cooperation with Danida, facilitated knowledge sharing between river basin organisations in the Mekong Basin, the Nile Basin and the Zambezi Basin / Southern African Development cooperation and have helped to ensure that stakeholders from the three basin organisations meet and learn from each other. In the Nile Basin training has been provided to

“In some places in the world there is a need for improving capacity development in the water sector”

the Nile Basin Initiative (NBI) and counterpart national organisations in the use of decision support systems and water management models. Training has been implemented in nine Nile Basin countries, as well as in Denmark, with over 200 participants during the span of the project.

Women's Water Fund

A very specific initiative at DHI is the *Global Initiative for Women Water Managers*. This was established in 2007 as an initiative benefiting from the "King Hassan II Great World Water Prize", which was presented to Dr. Torkil Jøneh Clausen by the World Water Council and Government of Morocco at the Fourth World Water Forum in Mexico in 2006. The objective of the DHI Women's Water Fund is to support women in developing countries in advancing their career opportunities in the development and management of water resources.

The initiative has just completed the first five-year phase (2007-2012), during which period 22 women from 17 different developing countries participated. The capacity-building activities included participation in relevant short courses on water resources technologies and management combined with internships at Danish organisations within the field of water. DHI provided the teaching at the courses along with a number of other sector specialists from universities, organisations and private companies.

A mentoring component provided each of the women with a mentor. Each mentor was a senior manager from organisations and companies in the Danish water sector. This mentor arrangement continued for at least one year after participants' visit to Denmark as a long distance learning and support relationship. This learning arrangement has turned out to be a strong model not only for individual women's



"I want to believe the two weeks in Denmark had an impact as I was promoted to be head of my department as of July 2011" (Tracy Molefi, Botswana, Ministry of Minerals, Energy and Water Resources)



Knowledge sharing: DHI's Climate Change guidelines are publicly available as are other guidelines with DHI contributions. One example is a joint knowledge product of GWP, UNEP-DHI Center, DHI and SIWI, which is a technical focus paper providing guidelines for the elaboration and validation of modelling/DSS tools to assist decision-makers in implementing IWRM.

career advancement but also for mutual learning and partnership building. The global interest in the course has been overwhelming. During the first five years many women applied to join the courses - in 2011 alone there were 270 applicants from more than 30 countries. Learning from concrete Danish experiences and the linking of knowledge to practical solutions to water problems has been essential to its success. And the women truly benefitted from participation in the course. We know that a number of the participants were actually promoted after participating in the programme.

On below link you can see interviews with some of the participating women:
<http://www.dhigroup.com/News/2011/08/26/WomenSWaterFund2011.aspx>

Sharing climate change knowledge at all ages

Learning about water and climate change starts at an early age – at least at DHI in Denmark, where The Academy regularly hosts climate change days for school children, ranging from the age of 11 to high school students. Together we discuss how to put climate change on the agenda and we cover topics such as state-of-the-art knowledge on climate change, how to prepare for climate change and what we can do as individuals. After having attended the climate change day even primary school children have understood the advantages of using numerical models for simulating flooding and tsunamis. As of April 2012, 850 students had attended these sessions and now science teachers are attending seminars tailored specifically to teachers. The objective is to inspire teachers to

make the sciences classes at school exciting by using examples from the students' daily lives. Attendance is free of charge and schools can sign up via the DHI webpage,
<http://www.dhi.dk/News/2012/04/30/KlimaundersøgningsP%C3%A5DHI.aspx>.

The knowledge that DHI has gained while conducting projects related to climate change worldwide - whether they are complex multi-lateral decision support systems for integrated water management, flood prevention measures or coastal protection projects – is shared with everyone through the climate change adaptation guidelines on the DHI website,
<http://www.dhigroup.com/Publications/Guidelines.aspx>. Publications from research projects and other guidelines are also available on this website. The scientific articles (see <http://www.dhigroup.com/Publications/ScientificPublications.aspx>) cover specific projects/studies in all the various areas of water environments.

Looking ahead

Within The Academy by DHI it is our mission to enable people and organisations to address water-related issues and to develop sustainable water strategies to overcome challenges. We believe that the way to do this is through building expertise and skills – and through the sharing of global knowledge on water environments, making research and innovation accessible. So, please stop by our website <http://www.dhigroup.com/THEACADEMYByDHI.aspx> and our seminars and let us know what you think. Do YOU have any ideas about what we can do together?