

**THE ROLE OF INTERNATIONAL EDUCATION
CENTERS
IN ADDRESSING THE WATER CRISES:
HOW WILL UNESCO-HidroEx RESPOND?**

Richard A. Meganck, PhD
UNESCO-HidroEx Consultant
Water Education for Teachers (WET) conference
Sustaining the Blue Planet, Bozeman, Montana
September 2011

Slide 1

First, I would like to thank the WET staff for accommodating my participation in this conference at the specific request of the Secretary for Science, Technology and Higher Education – SECTES of the State of Minas Gerais, Brazil. Second, I would like to note that the Secretary of SECTES, Honorable Narcio Rodriguez was supposed to be here but due to circumstances totally beyond his control was unable to travel at the last minute. I retired from the UN after surviving 34 years in that system and am a currently a consultant to the UNESCO-HidroEx project in Brazil.

I haven't figured out if being asked to make a presentation during lunch is a blessing or a curse, as good food and conversation logically compete for attention. I'll ease the pain for you by making a somewhat abbreviated presentation. My comments will not focus on the details of the water crises as I firmly believe that I am speaking to the knowledgeable and the converted here. [Suffice it to say that our very future as a people and the continued development of the planet rely to a very large degree on our most precious of resources – water and its long-term management.] Rather I will concentrate my remarks on two topics: the importance of water education at the tertiary post graduate levels and, the commitment of the Brazilian Government and specifically the State of Minas Gerais to contribute in a very substantial manner to assisting UNESCO realize its goals in this sector. I feel confident that you will draw the link between higher education and what each of you are doing at different levels and in different sectors. I will be speaking about the world's largest accredited graduate school in the water sector – UNESCO Institute for Education located in Delft, the Netherlands that I had the privilege to direct for my last 6 years in the UN, as well as a similar institution under construction in Brazil. There are two terms that I need to define. First, a category I institute, like IHE is an integral part of the UN and UNESCO regardless of where it is located. There are currently two such centers in the world. One in Holland – IHE and one in Trieste, Italy dealing with theoretical physics and its applications to the earth's systems and cycles. Secondly,

category II centers and institutes are national in nature, but have committed to organizing their work under the broad goals of UNESCO.

Slide 2

The need for a strong knowledge base and well-trained professionals in the water sector – teachers, planners, engineers, scientists and managers - continues to grow exponentially, as evidenced by two factors: first, the increasing number of applicants to UNESCO-IHE in Delft from all corners of the world, and secondly the numbers of Member States asking UNESCO-IHE for assistance and partnerships in various aspects of water planning, management, science and engineering. In terms of the first point, the number of applicants to my former institution now exceeds 2000 each year competing for a mere 200-250 fellowships that are available annually. At any time there may be up to 750 students in Delft given the 18 month nature of the MSc program, the more than 100 students enrolled in the PhD program, and the increasing numbers of students enrolled in our short courses. Additionally, several hundred students access our online courses annually and several thousand participate in short courses offered in other countries by our staff and partner institutions. But in spite of these efforts to increase the effectiveness of our institutional footprint in meeting the demands of the Member States, an applicant has barely a 1 in 10 chance in being accepted to the MSc program and about a 1 in 5 chance of gaining entry into a short course in Holland, given the number of fellowships, the size of the academic staff and the limited number of dormitory rooms that we have. But as I noted in spite of these odds, the demand curve continues to increase.

Slide 3

In terms of the second point IHE is currently involved in nearly 200 technical assistance and institution building projects around the world, not to mention the 200-300 research projects that are ongoing by the students – each requiring an academic mentor. As has been mentioned in many venues, Africa would need nearly a 300% increase in the number of water technicians and professionals for it to meet the Millennium

Development Goals, Asia about a 200% increase and Latin America at least a 50% increase. And we all know that with 2015 just around the corner those projections are unrealistic; requiring an extension of at least a decade if not more for this need-gap to be closed. And even though we have graduated some 16,000 MSc students from 162 countries in our 52 year history, this only represents a small fraction of the existing need. If these numbers don't overwhelm you then you are probably in the wrong meeting.

Slide 4

What to do? We can't hide from the facts. The UN cannot hide from the mandates of the Member States. Oh, and a "minor" fact of life is that IHE is funded in an extra budgetary fashion, that's UNese for no Regular Fund money, go raise the €34 million that it costs each year in the marketplace. So, in order to offer an appropriate response to the global needs in the water sector then, UNESCO-IHE set out on a path to intensify its geographic presence, particularly in the developing world where the most pressing water issues are, including locations in Africa, Asia & the Pacific, Central Asia and Latin America. It set a goal to catalyze the establishment of Category 1 institutes in all regions of the world, joining forces to create a global campus. That means that once a country invests in a category I institute it will eventually have to turn over the operation of such an investment to UNESCO. Operating from these closely networked regional institutes, UNESCO-IHE through strategic academic and research partnerships will be in an even better position to understand local needs and respond more swiftly to requests from Member States and local stakeholders for both education and technical assistance. The global campus will seek to offer demand- responsive, innovative global water education programs that are internationally appealing and accredited, while at the same time providing support and pursuing enhanced and effective cooperation with the partner institutions, creating new learning alliances for enhanced capacity development. One reason that that we are so confident in this new approach is that 98% of our graduates return to their home countries after graduating - 87% of whom stay active in the water sector for a minimum of 15 years after leaving Delft, and of the total number of graduates, nearly 40% are involved in education at all levels. As a result when I was

actively raising money for IHE I never used the word “donation” but rather the word “investment” given the 25-30 year career trajectory that our students have upon graduation.

Slide 5

In theory, there are many places where these academic institutions could be located. For example there are currently more than 20 Category II Institutes around the world. But of course some are research in nature, some educational, some policy think tanks, etc. And the real catch is that once any such center passes to a Category I status, it is no longer a national center, but rather becomes international patrimony, part of the UNESCO system. That is a big step for many countries to take – investing in the development of a world class educational center only to turn it over to the UN. Additionally, such institutions must be fully accredited by meeting international standards. Such a process does not occur overnight, but rather over several years of intensive work.

Slide 6

I should also note that Category II Centers are organized both thematically and geographically, providing UNESCO with an institutional framework to address most water related issues in any country of the world – at least once the matrix of thematic institutions is complete. This model is a very effective manner for UNESCO to increase its effectiveness, meeting the mandates of the Member States at no direct impact on the core budget of the Organization.

Slide 7

So how does Brazil enter this landscape? Brazil, under the leadership of the Secretary Rodriguez approached UNESCO with the idea of establishing a Category II center several years ago. In this role HidroEx will collaborate with all sectors involved in water and all parts of the UN system. This original concept has evolved to including its

eventual designation as a Category I center as part of the UNESCO Global Water Campus and in recent months to what is now referred-to as the UNESCO City of Water. UNESCO-HidroEx (meaning water excellence) was confirmed as a Category II center in 2009, and it will logically take several years to meet the academic and institutional standards to become a Category I institute, not to mention the political battles that will have to be won for this transition to become a reality.

Slide 8

Its vision is to train the next generation of water leaders, and this is key to its eventual role as a Category I center, to train not only Brazilians, but also young professionals from throughout Latin America and Portuguese-speaking Africa, plus East Timor in the South Pacific This latter point is key because of UNESCO's international make-up. Every Category II center must demonstrate its commitment to the international community; a mandate that is even stronger as a Category I center.

Slide 9

Its mission is oriented to address three priority issues: i) integrated water and river basin management, ii) management of water and sanitation, and iii) cutting-edge agricultural irrigation strategies and methods.

Slide 10

The realization of this dream is well underway, and more than US\$200 million dollars has been invested to date by both the Federal Government and the State of Minas Gerais. A similar amount is projected to be invested before UNESCO-HidroEx becomes a Category I center. Any investment this important and this large obviously requires very proactive political support and I can't emphasize how important the support of then Congressman Rodriguez was and continues to be in his current Secretary role. In the

end, it will catapult Brazil to a leading role vis-à-vis the global campus concept of UNESCO-IHE, by i) serving as an example of what an individual country can do to help address a global issue and thereby encouraging other candidate countries to step forward, ii) setting a precedent on the international level in terms of meshing its foreign policy towards Portuguese-speaking Africa and East Timor with the goals of the UN system, and iii) preparing itself for the eventuality of receiving Category I status.

Slide 11

I will leave a copy of a 17 minute video that can be posted that provides an overview of the physical facilities of HidroEx. It is also interesting because several State and Federal universities and research institutions in addition to the Cousteau Foundation will co-locate facilities on the HidroEx campus, situated in the SW corner of the State of Minas Gerais.

Slide 12

Currently some 66 classrooms, an administration complex, a cafeteria, conference facilities, a distance learning center have been constructed, In fact on 28 September the President of Brazil, the Governor of Minas and the Secretary of SECTES, will formally dedicate the UNESCO City of Water. Construction of more than 1000 dormitory rooms, 33 wet labs, and the facilities for the co-located institutions will be initiated by year's end. And HidroEx is offering its first two short courses this fall period in cooperation with UNESCO-IHE. The goal of HidroEx is being realized and while nobody is under any false illusion that there won't be many future hurdles to supercede, this investment has now become what can only be described as having a "life of itself" as a generator of economic development for the entire Triangle Region of Brazil.

Slide 13

Let me close my formal remarks by noting that knowledge, in this age of instantaneous

communications, MUST be shared. It cannot be the exclusive domain of one individual or even a country. Problems of a global nature must be addressed utilizing the resources of all affected parties. That is the promise of HidroEx and that of the United Nations system of specialized organizations, in this case led by UNESCO to address the demand, no the right of all persons to have access to sufficient quantities of clean drinking water and water to move economies in the direction of sustainability. Brazil is taking the lead in helping UNESCO meet it mandates and that needs to be recognized.

Slide 14

Thank you.

Thank you and please enjoy the rest of your lunch period.

