

A dynamic, high-speed photograph of water splashing, creating a series of interconnected blue and white droplets and bubbles that flow across the frame. The background is a soft, light blue gradient.

**United Nations University
Institute for Water, Environment and Health**

2009 Annual Report



**UNITED NATIONS
UNIVERSITY**

UNU-INWEH

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Executive Summary

Director's Introduction

Development of new programmes and activities continued at UNU-INWEH during 2009 and early 2010, with continued strong support from the Canadian Government and a growing network of partner institutions throughout the world. In its 12th meeting, the International Advisory Committee of UNU-INWEH duly recognized that we are entering a significant phase in our institutional evolution; this marks the broad recognition of our institutional bona fides and a strong presence of our “social capital” in the global water community.

A significant development in 2009 was the election and appointment of Dr. Zafar Adeel, Director UNU-INWEH, as the Chair of UN-Water – a consultative mechanism comprising 26 UN agencies and numerous international organizations focused on water. This indicates the credibility and reputation of UNU-INWEH as an institution operating in the international water community. It also signifies a level of trust by the 26 member agencies of UN-Water in UNU-INWEH's capabilities and its capacity to serve as an unbiased and honest broker of knowledge. As UNU-INWEH takes on this role for the coming biennium, a number of new opportunities open up for highlighting the significance of our work as well as the intellectual leadership in the water community.

In early 2009, UNU-INWEH initiated a dialogue to host a joint international networking project called Global Environmental Change and Human Health, which will link our water-health activities with the global research programmes being undertaken by Earth Systems Science Project (ESSP). It should be noted that ESSP is a joint initiative of four global programmes: IGBP, IHDP, WCRP and Diversitas. The joint agreement of cooperation was finalized in June 2009 and the project was launched in January 2010.

Comparative Advantage

UNU-INWEH offers many comparative advantages in the areas of water research, knowledge enhancement and capacity development. In particular, UNU-INWEH has successfully promoted a paradigm of integrated, demand-responsive capacity development, based on community ownership and broad participation. Supporting its capacity development efforts, UNU-INWEH carries considerable experience of successful development, implementation and sustained interest in networks of experts and institutions – a major emphasis is on learning networks that synthesize and disseminate knowledge. There are very few water institutions that offer such knowledge enhancement capability. This is highlighted by the fact that UNU-INWEH has received numerous requests for support from other institutional partners, and that a significant uptake of our policy recommendations has taken place within the scientific community and key UN organizations and agencies.

Academic Programmes

The following is a short synopsis of key achievements in UNU-INWEH's four academic programmes.

Successful launching of a trans-UNU project - **Environmental Changes, Impacts and Responses in the Mekong Delta** - took place in July 2009. This 3-year project has been developed in response to an urgent need in the Mekong Delta region to better understand the current state



Workshop participants in Can Tho (Vietnam)

of human and ecosystem wellbeing and to formulate policies for coping with tomorrow's challenges. For the first time in UNU's history, significant collaboration have developed between seven UNU sister units (EHS, ESD, IEGL, IIGH, IIST, INWEH, and GIST).

A strong partnership emerged amongst the lake commissions working in American and African Great Lakes in the project called: **Twinning of Lake Commissions in the Great Lakes Region**. The five commissions are: the Lake Victoria Basin Commission (Kenya, Tanzania, Uganda), the International Joint Commission (Canada and USA), the Great Lakes Fisheries Commission (Canada and USA), the Lake Victoria Fisheries Organization (Kenya, Tanzania, Uganda), and the Lake Tanganyika Authority (Burundi, DR Congo, Tanzania and Zambia). In a policy-focused workshop in June 2009, the project partners developed a consensus framework for long-term cooperation amongst the five commissions, and identified a number of shared challenges.

Much-needed capacity development was successfully achieved in the **Caribbean Coastal Pollution Project (CCPP)**. This project is engaged with partner institutions in eight countries: Belize, Dominican Republic, Guatemala, Honduras, Jamaica, México, St Lucia and Trinidad & Tobago. It has paid particular attention to: (a) the capacity of coastal marine managers to monitor pollutants and to ameliorate coastal pollution; (b) the ability of environmental managers to mount investigations that trace pollutants to their land-based sources; and (c) the awareness-raising of the public to recognize the seriousness of pollution, leading to mobilizing the political. Details of the capacity development activities and training workshops are provided in the Capacity Development section of this report.

The second phase of a demonstrably successful project was launched in March 2009: **Sustainable Management of Marginal Drylands (SUMAMAD - 2)**. The 5-year project funding is provided by the Flemish Government of Belgium. The project involves a collaborative network of researchers and institutions in 11 countries (Bolivia, Burkina Faso, China, Egypt, India, Iran, Jordan, Pakistan, Syria, Tunisia and Uzbekistan), and is jointly managed by UNU-INWEH and UNESCO. The second phase pays specific attention to climate change and policy measures needed to effectively adapt to the changes in marginal drylands.

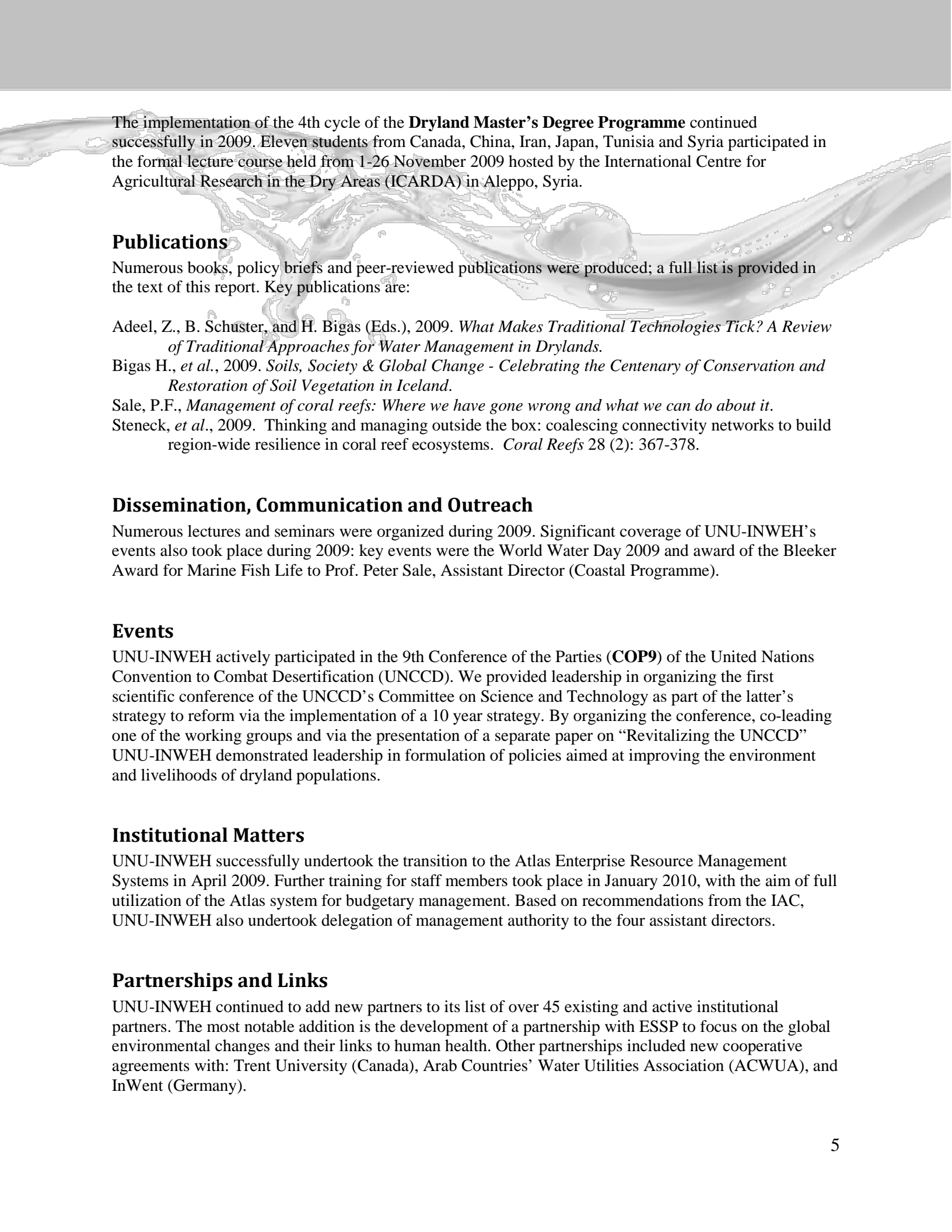
In partnership with UNU-IIGH and UNU-EHS, we launched in March 2009 a joint global initiative called **Global Vulnerability Mapping**: This initiative will measure, map and mitigate the vulnerability of individuals and communities to water-related diseases in the face of global environmental change. The project will be initially focused on dengue and chikungunya fevers in Malaysia as a proof of concept. The findings from the preliminary work will be used to launch the global mapping exercise; three graduate students are actively conducting research on this project.

Capacity Building Activities

A significant focus of the **CCPP** project was on developing the capacity of laboratories in the Caribbean region to understand and respond to their coastal pollution challenges. This included training of 3 individuals from the laboratories in Jamaica and Mexico took place at the University of Windsor and Trent University in March 2009. Provision of analytical equipment to these two laboratories and supporting visits by international experts reinforced the training.



Testing fish locally for pollutants (Mexico)



The implementation of the 4th cycle of the **Dryland Master's Degree Programme** continued successfully in 2009. Eleven students from Canada, China, Iran, Japan, Tunisia and Syria participated in the formal lecture course held from 1-26 November 2009 hosted by the International Centre for Agricultural Research in the Dry Areas (ICARDA) in Aleppo, Syria.

Publications

Numerous books, policy briefs and peer-reviewed publications were produced; a full list is provided in the text of this report. Key publications are:

Adeel, Z., B. Schuster, and H. Bigas (Eds.), 2009. *What Makes Traditional Technologies Tick? A Review of Traditional Approaches for Water Management in Drylands*.

Bigas H., et al., 2009. *Soils, Society & Global Change - Celebrating the Centenary of Conservation and Restoration of Soil Vegetation in Iceland*.

Sale, P.F., *Management of coral reefs: Where we have gone wrong and what we can do about it*.

Steneck, et al., 2009. Thinking and managing outside the box: coalescing connectivity networks to build region-wide resilience in coral reef ecosystems. *Coral Reefs* 28 (2): 367-378.

Dissemination, Communication and Outreach

Numerous lectures and seminars were organized during 2009. Significant coverage of UNU-INWEH's events also took place during 2009: key events were the World Water Day 2009 and award of the Bleeker Award for Marine Fish Life to Prof. Peter Sale, Assistant Director (Coastal Programme).

Events

UNU-INWEH actively participated in the 9th Conference of the Parties (**COP9**) of the United Nations Convention to Combat Desertification (UNCCD). We provided leadership in organizing the first scientific conference of the UNCCD's Committee on Science and Technology as part of the latter's strategy to reform via the implementation of a 10 year strategy. By organizing the conference, co-leading one of the working groups and via the presentation of a separate paper on "Revitalizing the UNCCD" UNU-INWEH demonstrated leadership in formulation of policies aimed at improving the environment and livelihoods of dryland populations.

Institutional Matters

UNU-INWEH successfully undertook the transition to the Atlas Enterprise Resource Management Systems in April 2009. Further training for staff members took place in January 2010, with the aim of full utilization of the Atlas system for budgetary management. Based on recommendations from the IAC, UNU-INWEH also undertook delegation of management authority to the four assistant directors.

Partnerships and Links

UNU-INWEH continued to add new partners to its list of over 45 existing and active institutional partners. The most notable addition is the development of a partnership with ESSP to focus on the global environmental changes and their links to human health. Other partnerships included new cooperative agreements with: Trent University (Canada), Arab Countries' Water Utilities Association (ACWUA), and InWent (Germany).

Development on Twinning

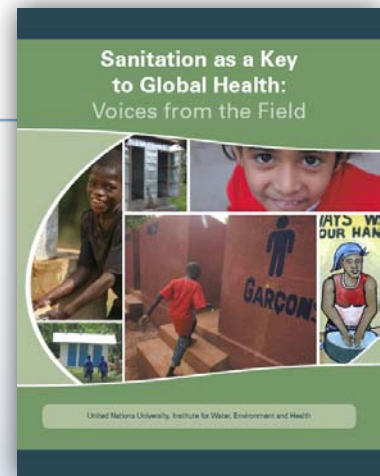
We continued negotiations with the Alexandria University, Egypt to set up a joint research facility, leading up to the establishment of a twin institute. Based on the initial discussions with the senior university management, a review was undertaken at the Alexandria University and in conjunction with the Egyptian Ministry of Higher Education. We plan to establish a joint research facility, which would initiate joint research activities and secure funding from international donors and the Egyptian Government. The administrative burden will be minimal because the facility will be supported by the Alexandria University.

Development of Graduate Degree Programmes

UNU-INWEH is actively developing a joint Master's Degree programme with McMaster University, called "Water Without Borders." The programme is intended to attract students from a range of backgrounds (natural sciences, human sciences, and health sciences) and disciplines (e.g., geography, engineering, business, philosophy, and medicine) corresponding with the academic specialties at McMaster University. The programme will focus on the common need to investigate key research issues at the water-health nexus while contributing to both policy and capacity building. In late 2009, the programme proposal was presented to the Ontario Council on Graduate Studies (OCGS) for its approval. The joint programme was formally approved by the McMaster University Senate in March 2010; the programme is planned to start in fall 2010.

Important Research Outcome

UNU-INWEH finalized the publication of a policy brief entitled: Sanitation as a Key to Global Health – Voices from the Field. The policy brief – which summarizes the findings of a major international workshop organized by UNU-INWEH – highlights the moral, civil, political and economic need to bring adequate sanitation to the global population. The report makes it very clear that water-related diseases are responsible for a significant proportion of the global burden of illness – for example, adding up to 1.5 million children under the age of 5 dying each year from preventable diseases. Lack of access to clean, safe water and adequate sanitation facilities are to blame. What is new in the findings, however, is the realisation that a focus on drinking water alone does not necessarily result in improved access to sanitation. Additionally, the report points to the need for smart investment into sanitation-provision initiatives: ones that develop the market at the bottom of the pyramid and facilitate local business development and entrepreneurship. It becomes, therefore, not just a question of sanitation provisioning but strengthening the local economy.



Director's Introduction

Development of new programmes and activities continued at UNU-INWEH during 2009 and early 2010, with continued strong support from the Canadian Government and a growing network of partner institutions throughout the world. A significant development was the election and appointment of Director UNU-INWEH as the Chair of UN-Water – a consultative mechanism comprising 26 UN agencies and numerous international organizations focused on water. This offers a unique opportunity for UNU and UNU-INWEH to demonstrate leadership within the United Nations system as well as the international water community. An immediate result was the convergence of all UN-Water Members in Hamilton in February 2010 to undertake the meeting of senior programme managers.



**UN-Water Members Meet
in Hamilton
(Canada)**

We continued negotiations with the Alexandria University, Egypt to set up a joint research facility, leading up to the establishment of a twin institute. Based on the initial discussions with the senior university management, a review was undertaken at the Alexandria University and in conjunction with the Egyptian Ministry of Higher Education. We plan to establish of a joint research facility – a precursor to formally establishing a UNU-INWEH twin. Such a facility would initiate joint research activities and secure funding from international donors and the Egyptian Government. The administrative burden will be minimal because the facility will be supported by the Alexandria University.

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UNU-INWEH's Comparative Advantage

UNU-INWEH offers a number of comparative advantages, linked to its core competencies and demonstrated experience; these include:

- **Resource Leveraging:** UNU-INWEH has consistently demonstrated the highest resource leveraging amongst the UNU family of institutions, when compared in proportion to the core funds received from the host government. These leveraged resources allow flexibility in delivering on our strategic priorities. At the same time, allocation of financial resources by funding partners clearly indicates that our work is responding to the needs expressed by developing countries, and these partners recognize the added value we bring to the table.
- **Research Management Capability:** Through a consortium of world-class experts and researchers, UNU-INWEH has established and led regional and global-scale research initiatives on critical water issues and related ecosystem services – particularly those related to great lakes, drylands and coastal ecosystems. This capability has positioned us to receive an increasing number of requests for support from developing countries and funding partners.
- **Delivery of Targeted Capacity Development:** UNU-INWEH promotes a paradigm of integrated, demand-responsive capacity development, based on community ownership and broad participation. Through many focused and targeted training programmes in developing countries, UNU-INWEH addresses the development of indigenous capacity – scientific, educational, managerial, technological and institutional – for effective water management. A most important aspect of this work is fostering development of and strengthening institutions in developing countries.
- **Project Implementation Experience:** There is an extensive experience in conceptualization, development, management and successful implementation of regional-scale projects within UNU-INWEH. The knowledge gained from these projects is key in ensuring on-time and effective delivery to other recipients and regions of the world.
- **Network Development:** UNU-INWEH carries considerable experience of successful development, implementation and sustained interest in networks of experts and institutions – a major emphasis is on learning networks that synthesize and disseminate knowledge.
- **Formulation of Focused Policy Recommendations:** UNU-INWEH formulates unbiased, science-based policy recommendations on key subject areas for development and management of water resources. There has been significant uptake of these recommendations by the scientific community and key UN agencies. A specific example is the uptake of our policy recommendations by the UNCCD Executive Secretary, who has cited core information and key policy guidelines from our reports in his public presentations.



Academic Programmes

Programme 1: Freshwater Ecosystems

This programme aims to better manage the freshwater ecosystems – including rivers and lakes, their watersheds, and freshwater deltas and wetlands – by overcoming two core challenges developing countries: The first is limited or absent scientific knowledge on water quality and quantity, and ecology and ecosystem services. The second is failure at the policy level to manage freshwater ecosystems in an integrated and holistic fashion.

Environmental Changes, Impacts and Responses in the Mekong Delta: This 3-year project has been developed in response to an urgent need in the Mekong Delta region to better understand the current state of human and ecosystem wellbeing and to formulate policies for coping with tomorrow’s challenges. Significant collaboration between seven UNU sister units (EHS, ESD, IEGL, IIGH, IIST, INWEH, and GIST) has occurred during proposal preparation based on a strong confluence of interest and the scope of the situation in the Mekong Delta. The project aims to improve human health and wellbeing in the Mekong Delta, located in Cambodia and Vietnam. This is to be achieved through a synthesis of existing scientific information, development of new assessment tools, and providing scientifically-grounded policy guidance. Enhancement of institutional and human capacity in the region forms a key element of the project. A first planning workshop of the project partners was organized in CanTho, Vietnam in July 2009. The workshop underlined both the need for the project as well as the strong interest in mutual collaboration to undertake the project.

“Twinning” of Lake Commissions in the Great Lakes Region: This “Lake Twinning” project involves five lake commissions in Africa and North America with similar mandates and a breadth of common interests, challenges and experiences. The five commissions are: the Lake Victoria Basin Commission (Kenya, Tanzania, Uganda), the International Joint Commission (Canada and USA), the Great Lakes Fisheries Commission (Canada and USA), the Lake Victoria Fisheries Organization (Kenya, Tanzania, Uganda), and the Lake Tanganyika Authority (Burundi, DR Congo, Tanzania and Zambia). The project fosters international collaboration amongst the five commissions with the goal to enhance effectiveness of great lakes management by all. A second Lake Twinning Policy Workshop was held in the Niagara region in mid-June 2009. This workshop was attended by commissioners, officials and diplomats; it was organized in conjunction with the centennial celebrations of the Boundary Waters Agreement between Canada and USA. The workshop participants developed a consensus framework for long-term cooperation amongst the five commissions, and identified a number of shared challenges.



Great Lakes Commissions Meet in Niagara Falls (Canada)

GEF International Waters Scientific Synthesis (IW:Science):

In early 2009, UNU-INWEH started a new initiative requested by the Global Environment Facility (GEF) that focuses on its International Waters projects. This \$2 million project, funded by GEF, aims to provide a synthesis of scientific knowledge contained in GEF's International Waters portfolio with a GEF investment of over \$1 billion matched by over \$4 billion in co-finance. The purpose of the exercise is to extract scientific knowledge, identify programme gaps, improve science-to-policy bridging, and contribute to strategies for allocation of resources in the future. Project partners include UNEP, UNESCO, the Scottish Association for Marine Science, the Land-Ocean Interactions in the Coastal Zone network, UNU-EHS, UNW-DPC, the Canadian Water Network and the University of Plymouth. A first inception workshop was held in Bonn, Germany, in March 2009. The first working meeting, consisting of ca. 100 scientists coming together to begin a coordinated analysis of the International Waters portfolio, was held in Macau in January 2010; UNU-IIST hosted the conference.



WVLC – UN Water Virtual Learning Center: This flagship e-learning initiative commenced in 2001 and continues with more partners in developing countries being added. It is directed to practicing professionals in the water community wishing to upgrade their knowledge of modern water management concepts and practices. The program is a specialized, undergraduate-level program for individuals, usually with undergraduate degrees, but with little or no previous training in IWRM. Other individuals may take the courses as part of a self-directed learning experience. The curriculum is CD-ROM based and Internet-supported and consists of 10 courses, totalling approximately 250 learning hours. A UNU “Diploma in Integrated Water Resources Management” is offered upon successful completion. The curriculum is being disseminated through a global network of regional training centers (RCs), which manage the educational process and provide regional “customization”. The first Regional Centers are located at the Asian Institute of Technology (Thailand), the University of Ghana (Ghana), the University of South Pacific (Fiji), and the University of Nairobi (Kenya). Additional Regional Centres in the Arab Gulf University in Bahrain and Centro del Agua del Trópico Húmedo para América Latina y el Caribe (CATHALAC) in Panama were recently established. CATHALAC is also translating the curriculum into Spanish so a wider audience in Central and South America can be reached. The WVLC programme will be extended with enrichment courses in Earth Sciences/Groundwater and Public and Environmental Health.



Programme 2: Coastal Zone Ecosystems

Activities within this programme focus on threatened coastal ecosystems of tropical waters – particularly mangroves and coral reefs. UNU-INWEH builds and synthesizes scientific knowledge about these systems to impact policy formulation and application. We are also expanding our efforts to build capacity of developing countries to monitor and actively manage their coastal ecosystems. The research and policy bridging function is also selectively directed to tropical coastlines. It aims to deliver major policy guidance on conservation management, including management of land-based sources of toxic pollution and nutrient overload, which are a major threat to all types of coastal ecosystems.

Caribbean Coastal Pollution Project (CCPP): This project, funded by the World Bank through the Canada Persistent Organic Pollutants Fund, aims to build a network among environmental managers, analytical laboratories, and other pertinent governmental agencies in the Caribbean countries. The project facilitates the measurement, evaluation and eventual reduction of pollution entering into the coastal environment. The project addresses some of the specific data gaps identified in past pollution management initiatives in the region. It includes eight countries: Belize, Dominican Republic, Guatemala, Honduras, Jamaica, México, St Lucia and Trinidad & Tobago. Through targeted workshops, lab visits and assessments, baseline monitoring and sampling, data analysis, outreach and networking, the project has brought particular attention to: (a) the capacity of coastal marine managers to monitor pollutants and to ameliorate coastal pollution; (b) the ability of environmental managers to mount investigations that trace pollutants to their land-based sources; and (c) raising awareness of the public to recognize the seriousness of pollution, leading to mobilizing the political will to bring about real change. A second training workshop was organized in Merida, Mexico, in January 2009. A follow-up training session was organized for laboratory staff from partner institutions in Jamaica and Mexico at the University of Windsor and Trent University, Canada, in March 2009. A baseline monitoring data set of contaminants in a coastal fish species has been collected in all 8 countries and entered into a spatial database. Two targeted research projects were initiated involving local senior and junior academics and management agency personnel in field activities as well as in data interpretation and analysis. A final workshop for this phase of the project was held in December 2009 at which preliminary results and data of the monitoring and research activities were presented.

Coastal Zone Management in the Arabian Gulf: This US\$4.5 Million, multi-year project, launched in 2007, is a partnership between UNU-INWEH and Nakheel (a subsidiary of the Dubai Port Authority) that contributes to the strengthening of coastal environmental management, particularly in the Arabian Gulf and other tropical ecosystems. These systems are facing increasing pressures from pollution and urban development. A second regional capacity building workshop, focused on Marine Environmental Monitoring Methods, was organized in February 2009 in partnership with UNEP; participants from 9 countries in the region took part in the training activity. The primary focus of this project has been to implement an environmental monitoring program for aquatic ecosystems surrounding Nakheel marine developments, and to undertake environmental research to better understand the patterns and processes governing ecological dynamics in these systems. The long-term goal is to build a proactive environmental management program to ensure sustainability of these environments. The global economic crisis has impacted the funding available for this project; it was accordingly decided to conclude the project by the end of 2009, completing 3 years of research work. The substantial baseline of monitoring data and significant advances in understanding of the system dynamics will be captured in a number of publications to be completed in 2010. These will be a valuable reference for many of the emerging coastal development projects in this region.



Training in Dubai for marine monitoring methods
(United Arab Emirates)



Programme 3: Dryland Ecosystems

This programme aims to assist developing countries in dryland areas to better manage their land resources and to achieve sustainable use of their water and biodiversity resources. There is a particular focus on development of alternative livelihoods for dryland communities in order to reduce stress on natural systems. This also ties in closely with poverty reduction in these communities. Success of these livelihoods depends on building capacity of these communities, ensuring support from governments through enabling policies, and providing solutions that fit the social and cultural constraints in those communities.

Sustainable Management of Marginal Drylands (SUMAMAD - 2): This 5-year project was formally initiated in March 2009, following the funding approval by the Flemish Government of Belgium. It builds on the first, 4-year phase (2003-2007) that focused on assisting developing countries in Northern Africa and Asia to enhance the sustainable management and conservation of their marginal drylands. In the new phase, the SUMAMAD-2 emphasizes training, capacity building and interaction with landowners and farmers. It also pays specific attention to climate change and policy measures needed to effectively adapt to the changes in marginal drylands. The project involves a collaborative network of researchers and institutions in 11 countries (Bolivia, Burkina Faso, China, Egypt, India, Iran, Jordan, Pakistan, Syria, Tunisia and Uzbekistan), and is jointly managed by UNU-INWEH and UNESCO. The first international workshop of this project was organized in cooperation with the Central Arid Zone Research Institute in India (November 2009).



Focus on Quinoa production (Bolivia)

Ensuring Impacts from Sustainable Land Management (SLM) – Development of a Global Indicator System (KM: Land). This is a Global Environment Facility (GEF) funded project under the dryland ecosystems program. The project has three specific objectives: i) develop global- and project-level indicators which demonstrate global environmental benefits and related local livelihood benefits derived from actions on combating land degradation; ii) exchange and disseminate knowledge and practices generated through sustainable land management projects and programs through a Learning Network; and iii) provide the means to measure results and performance of SLM projects and programs. The project has developed a system of core indicators for use at the global and project levels within the land degradation (LD) focal area (FA) of GEF. Based on a new hybrid Sustainable Land Management (SLM) Framework, four global-level indicators (land cover, land productivity, water availability and rural poverty) have been formulated together with five core project-level impact indicators (land use, land productivity, total system carbon, water availability, and human well-being). The project is focused on the development of a KM: Land Learning Network to facilitate the dissemination of lessons learned from GEF projects and to enhance the exchange of information and ideas between SLM professionals.

UNCCD COP9: UNU-INWEH actively participated in the 9th Conference of the Parties (COP9) of the United Nations Convention to Combat Desertification (UNCCD). We provided leadership in organizing the first scientific conference of the UNCCD's Committee on Science and Technology as part of the latter's strategy to reform via the implementation of a 10 year strategy. By organizing the conference, co-leading one of the working groups and via the presentation of a separate paper on "Revitalizing the UNCCD" UNU-INWEH demonstrated leadership in formulation of policies aimed at improving the environment and livelihoods of dryland populations.



Programme 4: Water-Health Nexus

The programme's long-term goal is to build, in a staged manner, a global 'Learning Network' for provisioning of safe water services. This network would comprise science, governments and civil society groups as well as practitioners dedicated to improving management and delivery of safe water knowledge to rural and remote areas. A special focus is on rural, remote communities that are often overlooked in the international development community.

Solutions to Polluted Lake-shore Drinking Water in Rural African Communities: Through a funding grant provided by AGFUND, the main objective of the project is to develop an integrated planning framework for the provision of safe drinking water to lakeside communities, based on a synthesis of regional Great Lakes experiences. Applicability of this framework is being tested through a pilot project in Kenyan communities in Kisumu, on the shore of Lake Victoria. The pilot project will lead to the planning, implementation and operation of community-based, women-led pollution control and drinking water treatment programmes. These lake water treatment programmes and technologies are designed to be replicable on a large-scale throughout the African Great Lakes Region. A community-based assessment exercise was undertaken in Kisumu, Kenya during May 2009.

Vulnerability Mapping: This initiative will measure, map and mitigate the vulnerability of individuals and communities to water-related diseases in the face of global environmental change. The project is a joint UNU initiative (INWEH, IIGH and EHS). A project workshop held in Malaysia in March 2009 was attended by 25 international researchers. Partial funding for this event was secured from the Canadian Institutes for Health Research (CIHR). An outcome of the meeting was to focus on dengue and chikungunya fevers in Malaysia as a proof of concept to be undertaken in 2010. The findings from the preliminary work will be used to launch the global mapping exercise and to secure additional external funding, particularly from the Asian Development Bank who has expressed an interest in the initiative. Three graduate students are conducting research on this project as part of their academic programmes.

Safe Water Provisioning Knowledgebase: The development of an interactive knowledgebase of safe water provisioning solutions for rural, remote and otherwise marginalised communities around the world will provide simple, yet comprehensive information on proven solutions in order to empower and inform decision-makers. The initiative began with a workshop that was held in Hamilton in June 2009, funded by the Canadian Water Network. As a result of that meeting, UNU-INWEH has expanded the project partnerships to include additional research networks and aboriginal representatives. The initiative will continue with a survey of potential end-users of the knowledgebase to identify their requirements for content and accessibility. This stakeholder consultation will take place in late 2010.

KAPE - Knowledge, Attitudes, Practices, and Empowerment: The project focuses on the provision of safe water to marginalized communities in the Lake Victoria basin of Kenya. Graduate students from McMaster University are working with researchers at UNU-INWEH to collect data (through focus groups, interviews, community mapping and photovoice) related to water and sanitation. While data collection is on-going, already major differences are observed in knowledge, attitudes and practices across genders, age groups, and family status. The community's perspectives must be incorporated into the empowerment stage of the research, which will involve the development of (sustainable) interventions. Funding for the next phase of the research has already been secured from the Social Sciences and Humanities Research Council of Canada (SSHRC).

Capacity Building Activities

- ② Many students have completed WVLC programme and received UNU diplomas. To date, the following are the number of successful participants: Asian Institute of Technology (Thailand): 23; University of South Pacific (Fiji): 10; University of Ghana (Ghana): 15; Arabian Gulf University (Bahrain): 17; and, University of Nairobi (Kenya): 10.
- ② Dryland Master's Degree Programme: The recruitment for the 4th cycle of the Master's Programme was completed in September, 2009. Eleven students from Canada, China, Iran, Japan, Tunisia and Syria participated in the formal lecture course held from 1-26 November 2009 hosted by the International Centre for Agricultural Research in the Dry Areas (ICARDA) in Aleppo, Syria.
- ② Ninth UNU-INWEH & UNESCO International Course on Biodiversity in Mangrove Ecosystems held at the Centre of Advanced Studies in Marine Biology Annamalai University, India from 2-16th November 2009. 16 participants from East Asian region participated in the training.
- ② A Training Workshop on Laboratory Methods and Procedures was held in Merida, Mexico, 19-20 January 2009 for 20 participants from 8 developing countries in the Caribbean and Central America.
- ② Training of 3 individuals from regional lead laboratories in Jamaica (University of West Indies Pesticides Laboratory) and Mexico (CINVESTAV Unidad Merida Laboratory) took place at laboratories at the University of Windsor and Trent University for 2 weeks during March 2009. UNU-INWEH is also supporting a one month secondment (Fall, 2009) of a graduate student from the University of West Indies to University of Windsor to be trained in laboratory techniques for extracting and analysis of persistent organic pollutants from native (Caribbean) oysters sampled during summer 2009 in Jamaica, Mexico and Trinidad.
- ② Three students (two from Colombia and one from Costa Rica) supported within the CRTR project through fellowships, finalized their M.Sc. degrees during 2009. Two other supported students (Mexico, Venezuela) continue studies towards Ph.D. degrees.
- ② Workshop "Connectivity in Coral Reef Ecosystems: Lessons to Date and Goals for the Future" held 7-11 March, CRILOBE, Moorea, French Polynesia, with 16 scientists from 5 countries. Main product now in final preparation: "Connectivity Handbook, Guide for Reef Managers"
- ② Workshop "Connectivity Science and Coastal Reef Management in the Caribbean" to take place 9-11 November 2009 with scientists from the CRTR Connectivity Working Group and managers from Mexico, Belize, Guatemala and Honduras.
- ② Training Workshop "Marine Environmental Monitoring Methods" was held at Zayed University, Dubai, UAE, 15-17 February 2009 for approximately 30 participants from the Arabian Gulf region.

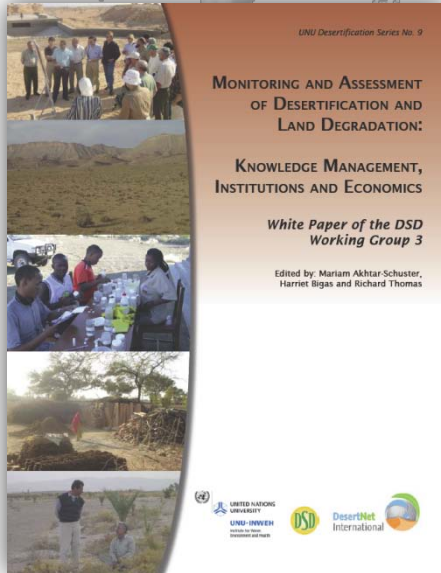


Field work for the mangroves training course (India)

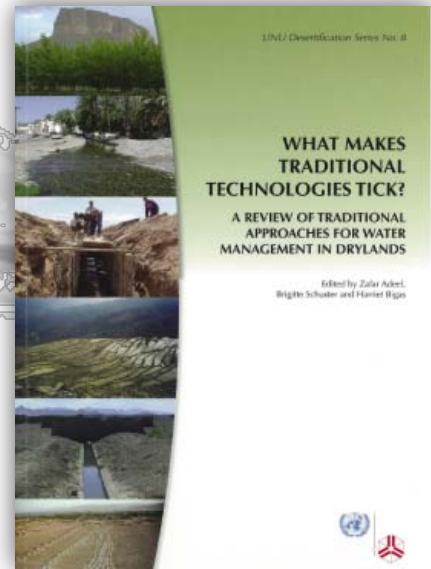
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Adeel, Z., B. Schuster, and H. Bigas (Eds.), 2009. *What Makes Traditional Technologies Tick? A Review of Traditional Approaches for Water Management in Drylands*, United Nations University, Hamilton, Canada.



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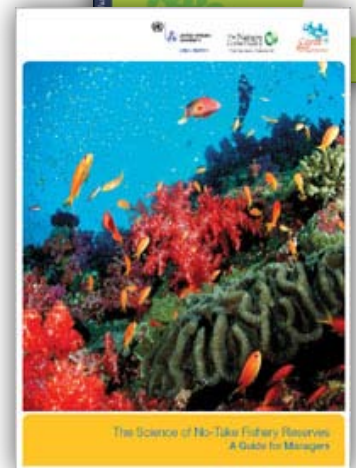
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Peer-Reviewed Book Chapters:

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Botsford, L.W., J.W. White, M.A. Coffroth, C.B. Paris, S. Planes, T.L. Shearer, S.R. Thorrold and G.P. Jones, 2009. Connectivity and resilience of coral reef metapopulations in marine protected areas: matching empirical efforts to predictive needs. *Coral Reefs* 28 (2): 327-337.

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Hepburn, R.I., P.F. Sale, B. Dixon and Daniel D. Heath, 2009. Genetic structure of juvenile cohorts of bicolor damselfish (*Stegastes partitus*) along the Mesoamerican barrier reef: chaos through time. *Coral Reefs* 28: 277-288.

Jones, G.P., G.R. Russ, P.F. Sale and R.S. Steneck, 2009. Theme section on "Larval connectivity, resilience and the future of coral reefs." *Coral Reefs* 28 (2): 303-305.

La Rovere, R., Bruggeman, A., Turkelboom, F., Aw-Hassan, A., Thomas, R. 2009. Options to improve livelihoods and natural resources in dry environments, *Journal of Environment and Development*, Vol. 18, No. 2, 107-129

McCook, L.J., G.R. Almany, M.L. Berumen, J.C. Day, A.L. Green, G.P. Jones, J.M. Leis, S. Planes, G.R. Russ, P.F. Sale and S.R. Thorrold, 2009. Management under uncertainty: guide-lines for incorporating connectivity into the protection of coral reefs. *Coral Reefs* 28 (2): 353-366.

Munday, P.L., J.M. Leis, J.M. Lough, C.B. Paris, M.J. Kingsford, M.L. Berumen and J. Lambrechts, 2009. Climate change and coral reef connectivity. *Coral Reefs* 28 (2): 379-395.

Sale, Peter F., 2008. Management of coral reefs: Where we have gone wrong and what we can do about it. *Marine Pollution Bulletin* 56: 805-809.

Steneck, R.S., C.B. Paris, S.N. Arnold, M.C. Ablan-Lagman, A.C. Alcala, M.J. Butler, L.J. McCook, G.R. Russ and P.F. Sale, 2009. Thinking and managing outside the box: coalescing connectivity networks to build region-wide resilience in coral reef ecosystems. *Coral Reefs* 28 (2): 367-378.

Dissemination, Communication and Outreach

Seminars: The following seminars were organized in 2009:

- ② Inaugural UNU-INWEH - MIEH Distinguished Lecture Series -- *The Vital Importance of Context* - Mr. David Malone, President of IDRC, 13 October 2009, Hamilton



David Malone at the Inaugural Distinguished Lecture
with Dr. Bruce Newbold and
Dr. Zafar Adeel
(Canada)

- ② 2nd UNU-INWEH Climate-Change Seminar -- *Global Governance: Five Gaps, the 2004 Tsunami, and Climate Change* - Prof. Ramesh Thakur (CIGI) - 24 September 2009, Hamilton.
- ② 12th UNU-INWEH Water-Health Seminar -- *Pollution of the Greater Dhaka Watershed* - Dr. Khawaja Minnatullah (World Bank) - 11 September 2009, Hamilton.
- ② 1st UNU-INWEH Climate-Change Seminar -- *Climate Change and Water Stress: A Recipe for Desertification* - 22 June, Carleton University, Ottawa.
- ② 11th UNU-INWEH Water-Health Seminar -- Dr. Isaac Luginaah speaks about: *Abandoning of Farms in Search of Food* (Northern Ghana) - 4 March 2009, Hamilton.
- ② Special Seminar -- Dr. Zafar Adeel speaks to the Water Environment Association of Ontario about: *The Global Water Crisis - Engineers' Role* - 21 January 2009, Hamilton.
- ② 10th UNU-INWEH Water-Health Seminar -- Mr. Lorenzo Caponetti speaks about: *Indigenous Traditional Knowledge* - 21 January 2009, Hamilton.

Media Outreach: The following news stories were captured during 2009:

- ② Mar 2009 – World Water Day; Transboundary water challenges
- ② Jun 2009 – Dr. Peter Sale honoured with Bleeker Award for distinguished contributions to studies of marine fish life; Indo-Pacific Fish Conf, Australia
- ② Jul 2009 – Video interview of Dr. Zafar Adeel on the Economic Crisis (UNU-ONY)

Staff Presentations:

- ⑩ Adeel Z. *The Global Water Crisis - Engineers' Role*. Invited presentation to the Water Environment Association of Ontario, Hamilton, January 2009.
- ⑩ Adeel Z. Land Degradation, *Water Management & Climate Change: Global Drivers of Change*, Invited lecture to the UNU Geothermal Training Programme, May 2009.
- ⑩ Adeel Z. *Wag the Dog! Using Science to Manage the American and African Great Lakes*, Keynote Speech at the Great Lakes Connecting Channels Conference, University at Buffalo, Buffalo USA, June 2009.
- ⑩ Adeel Z. *State of the Ecosystems*, Invited keynote presentation at the 1st International Undergraduate Conference on Climate, Water, Weather & Society, Shanghai, China, July 2009.
- ⑩ Adeel Z. *Seeing Traditional Technologies in a New Light - Using Traditional Approaches for Water Management in Drylands*, Presentation at the World Water Week, Stockholm, Sweden, August 2009.
- ⑩ Adeel Z. *Land Degradation & Climate Change*, Invited Keynote Speech to the High-Level Segment of the UNCCD 9th Conference of the Parties, Buenos Aires, Argentina, September 2009
- ⑩ Adeel Z., *Investing in Ecological Innovation*, Keynote speech at the Greenomics Conference, Dubai, UAE, October 2009.
- ⑩ Adeel Z., *EIAs in Developing Countries - An International Perspective*, Keynote speech at the OAIA Conference “Environmental Assessment at a Crossroads”, Toronto, Canada, October 2009.
- ⑩ Elliott S. J. *Research at the water-health nexus: achieving eco-health through understanding the hydro-social*. Invited Presentation at the International EcoHealth Forum, Mexico, December 2008.
- ⑩ Elliott S.J. *From Snow to Water: A Spatio-Temporal Analysis of Risk*. Invited presentation to the Institute for Risk and Health Research, Durham University, England, November 2008.
- ⑩ Schuster-Wallace C.J. *The Global Water Crisis*. Invited presentation to Universiti Kebangsaan Malaysia, Malaysia, March 2009.
- ⑩ Schuster-Wallace C.J. *Water-Health Nexus – A Global Crisis*. Invited presentation to McMaster University, School of Geography and Earth Sciences, Earth Sc 2WW3 Water and the Environment, Hamilton, February 2009.
- ⑩ Van Lavieren, H. *Public Health in Developing Countries: Challenges and Solutions*, Poster presented at the Ross University Research Day, May 2009.
- ⑩ Van Lavieren, H. *Research on Persistent Organic Pollutants (POPs) in the Caribbean: Reflections on Environment, Health and the Policy Challenge*, Presentation at the Medical Geography Conference at McMaster University, Hamilton, June 2009.

UNU-INWEH organised a parallel session at the International EcoHealth Forum in Mexico, December 2008. The session consisted of presentations on UNU-INWEH and on the future of research at the water-health nexus by Dr. Ulisses Confalonieri, Dr. Kris Ebi, Dr. David Waltner Toews and Dr. Susan Elliott. Approximately 50 people attended the event.

Events in 2009

Election of UN-Water Chair: In a formal election conducted within the UN-Water members, I was chosen for the next two years as the chair of the UN-Water group (<http://www.unwater.org>) – a consultative mechanism on water comprising 26 UN agencies and numerous international organizations focused on water. UN-Water has grown significantly in the last few years and has emerged as an effective coordination platform for a wide range of global water leaders. It has also been increasingly plugged into larger policy processes like the G8 Summit and major water dialogues. Among other things, it is great news for UNU-INWEH and due recognition of our institutional strength. Location of the UN-Water Chair in Canada also offers some interesting opportunities for engagement down the road.

World Water Development Report: UNU-INWEH participated in the official launch of the 3rd World Water Development Report “Water in a Changing World” in Istanbul in March 2009. This included media outreach to North American networks, including *inter alia* leading press stories in the UN Wire, Globe & Mail (Toronto), and the Hamilton Spectator.



Drylands Science Conference at UNCCD COP9: UNU-INWEH, as a member of the Dryland Science for Development (DSD) Consortium, organized and participated in the first scientific conference of the UNCCD held during its COP-9 meeting in Buenos Aires, Argentina, from 22-24 September, 2009. The topic of the conference was ‘Biophysical and socio-economic monitoring and assessment of desertification and land degradation, to support decision-making in land and water management’. The preparation of three ‘White Papers’ preceded the conference, with UNU-INWEH co-leading the paper on ‘Knowledge Management, Institutions and Economics’. The conference was considered the highlight of the UNCCD COP-9 and was widely reported in the media.

Side event at UNCCD-COP-9: UNU-INWEH hosted a side event at the COP-9 on the GEF-funded project ‘Ensuring Impacts from SLM: Development of a Global Indicator System (KM:Land)’ which focuses on developing global- and project-level indicators for the GEF Land Degradation Focal Area. Indicators developed from this project will be applied to new projects to combat land degradation under the GEF-5 replenishment cycle.

Distinguished Lecture Series: As part of ongoing collaborations between the United Nations University and McMaster University, UNU-INWEH and the McMaster Institute for Environment & Health (MIEH) have established a joint public lecture series. This annual lecture will bring high profile individuals (both Canadian and International) to Hamilton in order to share their experiences on issues, solutions and opportunities at the water-health nexus. Mr. David Malone, President of the Canadian International Development Research Centre was the inaugural speaker and presented “The Importance of Context”. The event, held at the McMaster Innovation Park in October 2009 was well-received by the audience.

Institutional Matters

Delegation of Management Authority: Based on recommendations from the UNU-INWEH International Advisory Committee (IAC), significant management changes were implemented in 2009 in order to further streamline the approval process within the institute. Assistant Directors for the four programmes were formally given the authority to approve obligations, requisitions, equipment purchase, travel requests and contracts. This delegation of management authority has resulted in acceleration in approval times and greater effectiveness in processing routine administrative tasks. The transition is also effective in vesting greater level of responsibility within each of the programmes.



The International Advisory Committee met in Ottawa for the first time in its history
(September 2009, Canada)

Transition to a New Enterprise Financial Management System: The transition from FBPMS to the Atlas Enterprise Resource Management Systems was completed in 2009. The new system became fully functional in April 2009. It led to significant improvements and is anticipated to garner further enhancements as staff members and project managers become fully versed in its functionality. For example, the ability to approve obligations and requisitions on-line allows managers access from anywhere in the world. It also allows for a consolidated and more systematic categorization of our budget.

Considerable time was expended by the UNU-INWEH support team in learning the new management environment, transferring data and obligations into the Atlas system, and updating internal recording mechanisms. Training of staff members, particularly project managers, took place in January 2010. It is, therefore, reasonable to expect that the UNU-INWEH will be able to fully utilize the functionality of Atlas within 2010.

Partnerships and Links

The following is a listing of new partnerships that were formalized in 2009. The list of institutional partners is in addition to over 45 existing and active institutional partners of UNU-INWEH.

Trent University: A new agreement of cooperation was signed with the Trent University in October 2009. This agreement will facilitate collaborative research, development of training curricula and other capacity building activities in support of improved and sustainable coastal and watershed management, safe water provisioning and the water-health nexus. Particular emphasis is placed on collaborative projects that have an international focus and projects that emphasize the needs of aboriginal communities. Prof. Chris Metcalfe of Trent University was appointed as an Adjunct Professor at UNU-INWEH, duly recognizing his leadership in the water research sector and his ongoing collaboration in many joint projects.

ESSP: In early 2009, UNU-INWEH initiated a dialogue to develop a joint international networking project called Global Environmental Change and Human Health (GECHH), which will link our water-health activities with the global research programmes being undertaken by Earth Systems Science Project (ESSP). It should be noted that ESSP is a joint initiative of four global programmes: IGBP, IHDP, WCRP and Diversitas. The joint agreement of cooperation was finalized in June 2009. The GECHH project was formally launched in January 2010.



ACWUA: In early 2009, UNU-INWEH initiated a dialogue with the Arab Countries Water Utilities Association (ACWUA) in order to developing cooperative training activities in the Arab region. It is agreed that UNU-INWEH will develop multidisciplinary, multi-level training modules to serve the needs of the Arab countries. A formal agreement of cooperation will be signed in November 2009 in Hamilton.

InWent: UNU-INWEH has entered into a partnership with Internationale Weiterbildung und Entwicklung (Inwent) to undertake capacity building activities related to integrated water resources management in the Middle East region. It is anticipated that these activities will receive funding from the European Union.

Development on Twinning

A detailed discussion on this subject was undertaken during the meeting of UNU-INWEH's International Advisory Committee (IAC). The IAC carefully reviewed the proposal of establishing a UNU-INWEH twin institute in a developing country. It was generally acknowledged that this will be a long-term process, which could take up to ten years to be completed, though first steps could be taken immediately. The need for substantial financial and human resources as well as the opportunity costs were highlighted as major risks in the process. On the other hand, IAC members also emphasized the opportunities that twin institutes offer for example, in terms of addressing the challenge of brain drain that leads to loss of capacity in developing countries. IAC members offered their support to establish contacts and initiate partnerships.

The following recommendations were made by the IAC:

- UNU-INWEH needs to carefully review various institutions in terms of their suitability as a twin partner applying criteria such as thematic overlap, research capacity, strategic location, reputation, linkages with other institutions, and availability of funds.
- In order to ensure long term sustainability of the twin partnership it will be critical to build on an existing, well-resourced institution, rather than building an institute from scratch. Flexibility will have to be exercised in constructing these partnerships.
- Regarding the scheduling of this process, the target should be that first steps will have been taken within 2 years. Within this time frame a twining partner should have been identified and a senior individual within this partner institution, who is supportive of the concept, must have been identified. Setting up the twin institute will take a lot longer, between 6 and 10 years. Building on the existing contacts and partnerships, e.g. with the Alexandria University (Egypt), is likely to accelerate the process.
- The twining partnership has to focus on developing a good thematic programme that builds on existing capacities and research strengths within UNU-INWEH, while enhancing capacities within the twin institution.
- In order to support this process, UNU Centre will need to consider augmenting the capacity of UNU-INWEH and providing additional financial resources for the costs of bringing up the twin institution to the required level. In this respect, the entirety of costs required for the process needs to be taken into account, including human and financial resources as well as opportunity costs of the time invested in the process. These are significant costs and fundraising for this cannot be done by an individual RTC/P, and a central UNU facility for fundraising should be set up. The Rector has indicated that one of the Vice Rectors will be responsible for pursuing this on a global level.
- A strong argument needs to be made to explain to donors the advantage of this twining approach as compared to conventional institutional building in Africa or Latin America. One possible advantage of the twining model is that the overhead costs may be lower.
- The host country agreement of UNU-INWEH will be affected and would likely need to be re-negotiated and modified to incorporate the new element of twinning. This can also potentially influence the time taken for development.

Subsequently, UNU-INWEH conducted preliminary discussions with the Alexandria University (Egypt) in June 2008 on the subject of establishing a UNU-INWEH twin institution in Egypt; an overview of Alexandria University is provided in Annex A. The University is quite interested in pursuing this idea further based on a number of potential benefits to them. There is a good thematic overlap of the University's expertise with UNU-INWEH's programme matrix. Importantly, it is a central location to operate programmes in Africa and the Middle East, two of the most water-scarce regions, while offering good connections to Europe.

In early November 2008, the UNU-INWEH Director visited Alexandria University and met with senior University officials to further explore the concept. These discussions were particularly fruitful in evaluating the potential for Alexandria University to host the twin UNU-INWEH institute, including reviewing commonality of broad strategic and thematic interests, and Alexandria University's interest in engaging internationally in Africa and the Middle East. In September 2009, the newly-appointed President of Alexandria University indicated that the university is keen to initiate the planning process for the joint research facility. A planning workshop will help in the development of timelines and specific activities.

The discussion has also helped identify a number of issues that need further consideration and require guidance from the Rector and the UNU Council. These are briefly described here.

- **Investment of Resources for the Planning Process:** There is a significant investment needed in the early stages, both in time (opportunity) and financially, for this effort to be successful. Using UNU-INWEH's core funds for this purpose will require a discussion and re-negotiation with the Canadian Government. Such negotiation could, in turn, be a time consuming process and would require endorsement at the federal cabinet level. An alternative will be the creation of a corporate pool of funds at the UNU level, which can be used to defray the costs associated with the early stages of this partnership building.
- **Sustainability of Core Funds from a Developing Country:** Availability of core funds for the twin institution from a developing country (e.g., the Egyptian Government) will require in-depth negotiations and a strong political commitment. Preliminary discussions with the Rector on this subject suggest that there is a broad expression of interest from the Egyptian Government to develop engagement with UNU at large. While this would offer a favorable starting point, such negotiations typically take 3 to 5 years to conclude, based on previous experience within the UNU family. Undertaking these negotiations will also divert attention and resources of UNU-INWEH from other strategic priorities.
- **Better Definition of Institutional and Personnel Model:** Many details of how the twin institutions will operate are as yet undefined. In particular, there is a need to find a personnel model in which the leadership by the key faculty member(s) in Alexandria University in the planning/development process is recognized, and for them to be considered as candidate(s) for heading the Twin Institution, once established. Other processes, like sharing of a common advisory committee, a shared budget plan and deployment of financial obligations like contracts with partners, are also unclear.

Development of Graduate Degree Programmes

UNU-INWEH is engaged in two joint academic programmes that are primarily aimed at granting Master's level degrees that include research work and subsequent acceptance of a thesis. A brief description of both programmes is provided here.

Master's Degree Programme in Integrated Land Management in Dry Areas:

This joint Master's Degree is an ongoing international programme designed for capacity enhancement in developing countries to facilitate management of their drylands resources. It is intended to provide to young professionals and scientists an international perspective on resource management approaches for drylands. It also provides unique networking opportunities with the partner institutions.

New partners have joined the programme in the last two years – it is now jointly organized by: UNU, the Institut des Régions Arides, Tunisia (IRA), the Cold and Arid Regions Environmental & Engineering Research Institute (CAREERI) of the Chinese Academy of Sciences, the Institut National Agronomique de Tunisie, Tunisia (INAT), ICARDA and Arid Land Research Center (ALRC, Tottori University, Japan). UNU-INWEH works closely with UNU-ESD in the implementation of this programme. During 2008, a third cohort of six students started the programme.

A Steering Committee of the programme, comprising all the project partners, meets regularly to oversee programme implementation. It *inter alia* ensures that this programme continues to develop strong linkages with the leading dryland research institutions in developing countries. In its latest meeting in Alexandria (November 2008), it considered the proposal to change the nature of the programme to one in which fellowships are provided to students from developing countries. Such an approach, subject to approval by the UNU Rector and Council, would allow greater operational flexibility.

The existing and potential partners have also expressed a strong interest in extending the programme to include a Ph.D. degree; this can be achieved when financial resources for the programme have been secured to cover a longer period.

Master's and Ph.D. Degree Programme “Water Without Borders”:

This is a new initiative under development between UNU-INWEH and McMaster University. It aims to develop an academic programme that will focus on the multi-disciplinary aspects of the nexus between human health and management of natural ecosystems, particularly safe drinking water. The academic programme will be linked to joint research activities with a particular focus on global issues and those of concern to developing countries. It is anticipated that the students attending the programme will also reflect diverse geographical and professional backgrounds.



The programme fits well in the strategic development processes at both institutions. UNU-INWEH has already identified the water-health nexus as a major growth area for its programme in the coming few years. Similarly, McMaster University is engaged in developing a new programme called “Collaborations for Health,” which aims to advance cutting-edge, interdisciplinary research that will help establish McMaster as the premier health university in Canada.

It is anticipated that the programme will become operational in the next academic year (Fall 2010), subject to approval by the Ontario Council on Graduate Studies (OCGS). If successful, McMaster University will grant the degrees to the successful students.

Achievements and Challenges

In its 12th meeting, the International Advisory Committee of UNU-INWEH duly recognized that we are entering a significant phase in our institutional evolution. This phase marks the international recognition of our institutional bona fides and a strong presence of our “social capital” in the global water community. Appropriately, it offers many opportunities and challenges. Provided below is a brief summary of key achievements in 2009, and some challenges in the coming years.

UNU-INWEH has emerged as a leader in the research and policy community focused on the issues of desertification and land degradation. Two specific initiatives culminated in the 2009 at the 9th Conference of Parties of the UNCCD: organization of a first scientific conference to support the work of Committee for Science Technology of UNCCD, and development of a policy paper entitled “Revitalizing the UNCCD.” The former was undertaken in partnership with a number of other international partners and with support from GTZ. The conference identified major changes that need to be undertaken, including development of an independent scientific body, and presented itself as an alternative to the business-as-usual discussions at the UNCCD. The latter was undertaken in cooperation with eight world-class leaders in the land degradation arena. The policy paper, presented at the ministerial roundtable at COP9, highlighted the need for significant and immediate changes in the approach towards land degradation. In particular, it underscored the need for expanding the mandate of the UNCCD to explicitly include land degradation in all parts of the world, not just drylands. Both initiatives provided new and significant insights into the policy formulation processes related to land degradation.

UNU-INWEH also established a strong network of “friends” in Ottawa, which includes institutions and individuals who are and can be critical to ensuring the sustainability and impact of our work within the host country. Notable institutions include Canadian International Development Agency (CIDA), International Development and Research Centre (IDRC), Carleton University, the International Joint Commission (IJC), and the United Nations Association of Canada (UNAC). A number of representatives from Ottawa-based NGO’s are also a part of this loosely-formed network. The location of UNU-INWEH in Hamilton offers a challenge in maintaining robust relationships in Ottawa; formulation of this network and periodic organization of a number of public events in Ottawa are ways to overcome this.

UNU-INWEH’s success and evolution also highlights new challenges that must be overcome. Foremost amongst those is building a strong relationship with the provincial government of Ontario. Significant efforts are being made to engage the provincial government, particularly through new international capacity building activities that would also benefit Ontario. It is anticipated that these efforts will lead to a new relationship with key departments, including the Ontario Ministry of Environment, in the coming biennium. A significant event was a visit by the Ontario Premier Dalton McGuinty to UNU-INWEH, where he met with the UNU-INWEH Director and UN-Water officials.

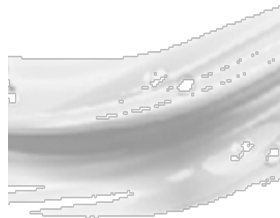
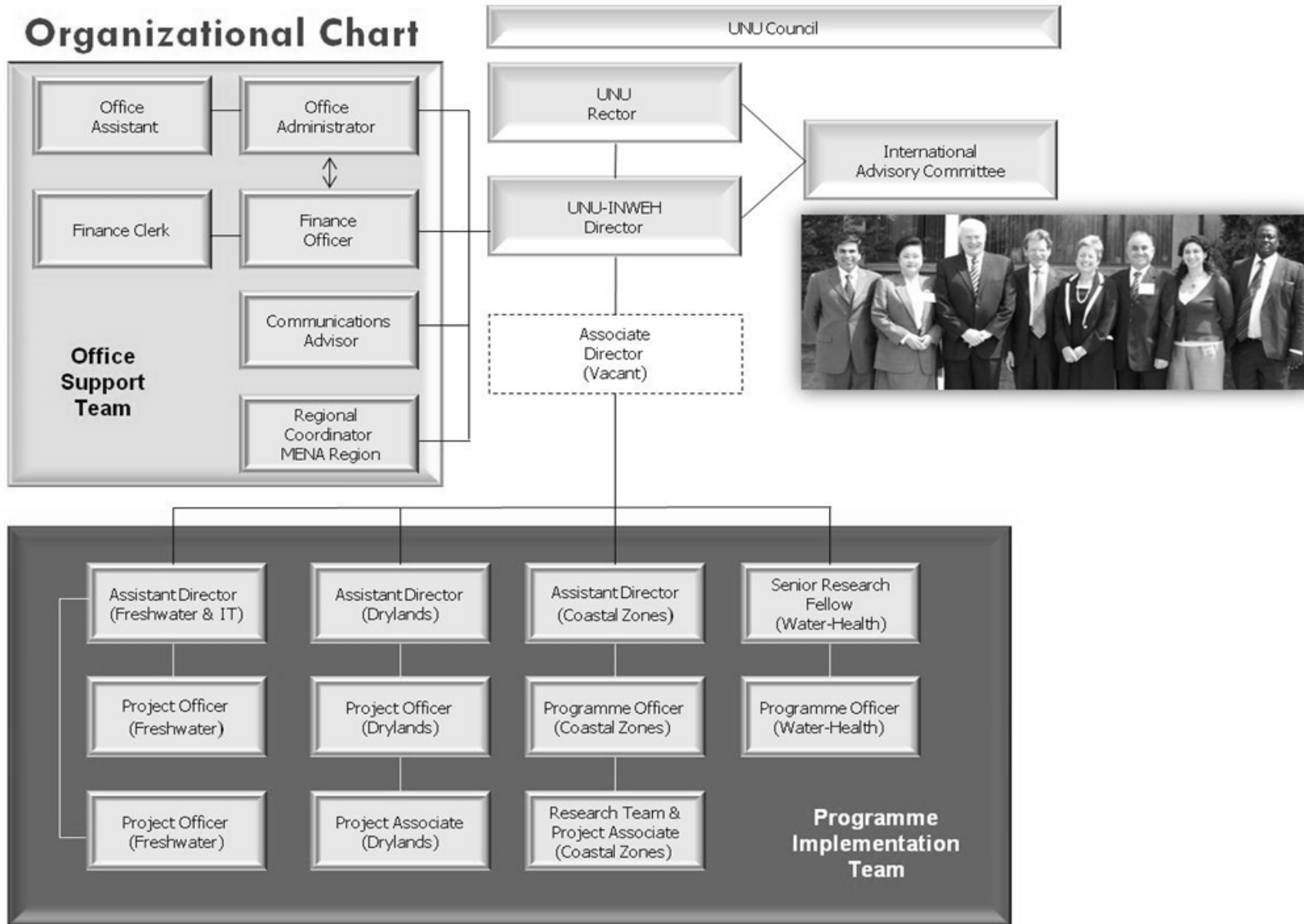


Premier McGuinty visits UNU-INWEH (Canada)

Another key challenge is the development of a twin institution in Egypt. Although significant headway has been made during 2009, the relatively slow pace of discussions with the Alexandria University indicates that significant effort and resources will need to be invested. A planning workshop in 2010 is anticipated to be a significant milestone in this direction.

Annexes

Organizational Chart





Staffing Table for 2009

Dr. Zafar Adeel, Director
Prof. Colin Mayfield, Assistant Director (IT and Freshwater)
Prof. Peter Sale, Assistant Director (Coastal Programme)
Dr. Richard Thomas, Assistant Director (Drylands Programme)
Prof. Susan Elliott, Senior Research Fellow
Mr. Terry Collins, Communications Advisor
Dr. Walid Saleh, Regional Coordinator, Middle East and North Africa
Ms. Hanneke Van Laveren, Programme Officer (Coastal Programme)
Dr. Corinne Wallace, Programme Officer (Water-Health)
Dr. Bhim Adhikari, Project Officer (Drylands)
Dr. Velma Grover, Project Officer (Freshwater)
Mr. Andrew Dansie, Project Officer (Freshwater)
Dr. David Feary, Research Associate (Coastal Programme)
Dr. Elise Marquis, Research Associate (Coastal Programme)
Dr. Geórgenes Cavalcante, Research Associate (Coastal Programme)
Ms. Harriet Bigas, Project Associate (Drylands Programme)
Ms. Lisa Benedetti, Project Associate (Coastal Programme)
Mr. Andrew Bauman, Research Technician (Coastal Programme)
Mr. Paolo Usseglio, Research Technician (Coastal Programme)
Mr. Michael Bernardo, Technical Assistant (Coastal Programme)

Mr. Bradley Berquist, Finance Officer
Ms. Ann Caswell, Office Administrator
Ms. Irene Gaerdes, Office Assistant
Ms. Maria Baby, Finance Clerk

Prof. Ken Drouillard, Adjunct Professor UNU-INWEH, U. Windsor
Prof. Gail Krantzberg, Adjunct Professor UNU-INWEH, McMaster University
Prof. Chris Metcalfe, Adjunct Professor UNU-INWEH, Trent University