

# RECORD YEAR FOR ICE WaRM

## *HIGHLIGHTS AUSTRALIA'S EMERGING ROLE IN GLOBAL WATER RESOURCES MANAGEMENT*

Australia is widely regarded as one of the key nations in developing the next generation of leaders in water resources management around the world.

That growing profile was underlined late in 2012 by Prime Minister Julia Gillard signing the four-year India-Australia Water Science and Technology Partnership agreement to boost cooperation on water management.

The partnership, which is supported by AusAID under its South Asia regional programme, is a significant step in strengthening and sustaining relevant water expertise in South Asia, a heavily-populated region which is reliant on sound water management as a cornerstone of its economic and social development.

The Adelaide-based International Centre of Excellence in Water Resources Management (ICE WaRM) plays a significant role in Australia's rising reputation in the water management sector, facilitating and providing access to the outstanding expertise available in this country.

The range of cutting-edge knowledge and training provided by ICE WaRM and its strategic partners has contributed to improving water resources management techniques in more than 20 nations – from analysing the management of the Millennium Drought in Australia to enhancing water efficiencies in the Middle East and Central Asia and reinforcing the management of cross-border river systems in South East Asia.

ICE WaRM Chief Executive Richard Hopkins says the organization's work is showing results in Australia and many of its partner nations and he believes its role will only increase as water management takes on a higher profile worldwide.

"In Australia as well as the developing nations, there is increasing concern about providing sustainable water supplies to meet all demands, including maintaining the environment," he says. "With that comes a thirst for the latest knowledge and approaches to long-term water resources management. Along with our role in encouraging world-leading water resources management in this country, more and more developing nations are turning to Australia and ICE WaRM to assist in expanding their knowledge and skills base. It's a privilege to be considered as one of the key brokers and facilitators of training and information – and we're already seeing positive impacts of our work."

Within Australia, ICE WaRM has introduced a multi-award winning Master of Water Resources programme which is provided by partner universities across the country.

The nested programme includes studies at Master, Graduate Diploma and Graduate Certificate levels and is suitable for both Australian and international graduates and professionals already working in water management and related industries.

Both core and elective subjects are available to be taught externally, an increasingly popular option for Australian-based students.

Students in rural areas who are close to a regional campus can enrol as internal students and take a part in face-to-face learning using the Access Grid – a high-tech system which allows them to join lectures and tutorials with on-campus students in a number of locations around Australia.

As well, ICE WaRM's short course programmes for professionals in the water and related industries – with classes lasting between one day and one week – attracted record numbers in 2012.

Most popular among the course options are the comprehensive Australian Water School, Water Essentials, Hydrology and Hydraulics for Non-Engineers, Groundwater Essentials, Desalination, Climate Change Adaptation and water management related to the mining and energy industries.

One of the keys to the success of the short courses is the calibre of the presenters, all of them leading experts in their specialist areas.

They offer the latest knowledge and skills which are relevant to a variety of sectors, including Commonwealth, State and Local Government, water utilities, the environment, energy, mining, education, research, agriculture, irrigation, construction and development.

ICE WaRM also has recently established a strategic alliance with water resources management modelling specialist, eWater – a membership-based, not-for-profit enterprise which has emerged from a Cooperative Research Centre based at the University of Canberra.





ICE WaRM and eWater jointly are offering special courses in support of eWater's software, usually through specifically-tailored, non-award, intensive short courses.

Among eWater's modelling programmes are the popular stormwater software called Music, and Source, the next generation of hydrologic modelling. Source has been trialled in several representative catchments in Australia and has undergone thorough peer reviews before its general release in 2012. The key Australian water management organisations have agreed to adopt it and there is substantial international interest in its application.

Building on long-standing relationships with countries in the Mekong River basin of South East Asia, and with the support of organizations such as

AusAID, the World Bank and the Asian Development Bank (ADB), 2012 was a record year for international delegations taking part in ICE WaRM's acclaimed Professional Development Programmes (PDP) and high-level short programmes.

Among the groups working with ICE WaRM was the first multi-country delegation from Central Asia – 15 high-ranking water professional from Uzbekistan, Kazakhstan, Turkmenistan, Kyrgyzstan and Tajikistan, who spent eight days in Australia with funding support from the ADB.

The water management issues in the Central Asian republics are many and varied, but few are more urgent than the work to rejuvenate the Aral Sea region. In what is recognised as one of the world's greatest environmental concerns, over just 50

years the Aral Sea has been reduced from one of the planet's four largest inland water bodies to four separate pools covering just 10 per cent of its original area.

While remedial work is now underway, it will be a long and arduous task to counter the huge environmental challenges, which include significant changes to the local climate.

Two visits by major groups from Africa also underlined ICE WaRM's increasing role in that region.

The first was made up of high-profile academics and water professionals from six sub-Saharan nations, five members of the Southern Africa Development Community (SADC) – Malawi, Zambia, Kenya, Botswana and Zimbabwe – plus Rwanda.

They were followed by a delegation from Botswana, South Africa, Zimbabwe and Mozambique, which are members of the Limpopo Watercourse Commission – one of the new regional institutions emerging from within the SADC.

Several thousand years after the introduction of irrigation by the people of Mesopotamia, labelled by classical scholars as the Cradle of Civilisation, ICE WaRM hosted two groups of water professionals from the Tigris-Euphrates basin, now Iraq – including 22 emerging leaders of the nation's Ministry of Water Resources.



Iraqi officials are dealing a series of water resources management challenges, including the impact of the conflicts in the region since 2003, severe salinity, supply issues and complex relationships with the upstream nations of Turkey and Syria.

ICE WaRM's network also spreads to South America, with an earlier visit to Australia by the Brazilian Minister of National Integration, accompanied by 15 senior officials and advisers.

These growing links supplement the long-running relationships between ICE WaRM and more than 30 partner institutions in the Mekong sub-region, including the Mekong River Commission (MRC).

The most recent visit from the sub-region included 17 high-level researchers, educators and managers from the four MRC nations - Cambodia, Lao PDR, Thailand and Vietnam – and from upstream dialogue partners Burma/Myanmar and Yunnan Province in China.

In addition to these group programmes, ICE WaRM helps enrol students supported by development agencies and other organizations, as well as itself offering a limited number of scholarships – which, in many cases, lead to life-changing experiences.

Nepali student Sanjina Upadhyay received an ICE WaRM international scholarship in 2011. She has now completed her Master degree and is enrolled for a PhD in Aquatic Ecology at the University of Adelaide.

Sanjina recently wrote to ICE WaRM expressing her gratitude for the opportunities it has provided.

"I had mentioned in my ICE WaRM scholarship application that this scholarship would not only help me to enhance my career, but also provide an opportunity to help women in forgotten corners of the world realize their full scholastic potential," Sanjina wrote. "And indeed it is culminating accordingly."

Richard Hopkins sees the growing popularity of ICE WaRM's international and domestic education and training programmes as a sign of a positive future for water resources management.

"There are many challenges facing the sector," he says. "But it is encouraging that water management has risen to prominence on the political, economic and social agendas, as well as being recognised as a crucial environmental and sustainability issue."

