The Onsite and Decentralised Sewerage and Recycling (ODSR) Conference was held in Benalla, Victoria in October and was very well attended by 220+ delegates from all states in Australia, as well as from the USA, Canada and New Zealand. The conference continues the strong link that has developed with professionals from these countries, which I first observed at the International Water Association (IWA)'s 6th International Specialized Conference on Small Water & Wastewater Systems in Fremantle in February 2004. The then AWA National Onsite Interest Group (NOSSIG), Onsite New Zealand and the US’s National Onsite Wastewater Recycling Association (NOWRA) participated in a joint effort with the conference.

ODSR at Benalla was the first meeting of the newly formed AWA’s interest group in Small Water and Wastewater Systems, formed by the merger of NOSSIG and Integrated & Decentralised Water Systems in September. The new name aligns with the International Water Association’s specialist group and is a welcome development.

I attended the four keynote addresses and listened to half of the fifty technical presentations equivalent to one stream of the two parallel streams, but missed the 12 workshops arranged in parallel with the two streams. Solutions for towns with failing septic tanks, septic tanks in nutrient-sensitive environment and the problem of direct discharge of raw greywater to the stormwater system received much attention and interests, because the Victorian government is providing funding (reportedly over $40 million in regional areas) to assist with overcoming these problems. Not surprisingly the workshops covered topics related to these and ranged from selection of technologies, engagement with the community, regulatory compliance and achieving the ideal close loop system.

Papers reported progress in technology, including systems incorporating the use of membrane separation/reverse osmosis, and so very high quality water can be produced. The reliability of membrane technology is now so high that the possibility of water reuse in onsite and decentralised applications appears to be unlimited.

There is also evidence of the interest of the private sector for onsite and decentralised systems as these are perceived to increase the environmental and sustainability image of the land development and hence value of the real estate. Ben Kele presented in his keynote paper a case study that showcases the confluence of advances in technology, interest of the private sector and more importantly how the regulatory requirements are met. The paper is appropriately titled a New Dawn for Decentralised Sewerage. My own group, the Environmental Technology Centre, presented nine papers on various aspects of onsite and decentralised water systems being implemented at three land developments near Perth, but there are numerous case studies reported from all parts of Australia. These are worthwhile reading for those who would like to find out what is currently happening in Australia.

I commend the proceedings of the conference, because the papers were thoroughly reviewed by two reviewers plus by Sarah West. Feedback was provided to authors and only revised papers were published. Outlines of the workshops are also included in the proceedings.

For a relative veteran, having chaired the IWA Specialist Group on Small Water and Wastewater Systems from 2000-04 and followed developments in this field, I learnt something new at the conference. This is the concept of utilising the Soil Mantle, which I understand as the top soil where micro-organisms are active and roots of plants reside, that was promoted by the International Keynote Speaker, Professor George Tchobanoglous. He advocated that if wastewater is distributed evenly in the soil mantle, then there is unlikely to be ponding or run-off of excess water and nutrients. In practice this means that...
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Water from a septic tank, for example, could be distributed at closer intervals using subsurface drips at shallow depth or even perhaps on top of the soil beneath a layer of mulch, without having to consider the type of soil (porous sand or tight clay). This is in stark contrast to the current practice guided by AS1547 of having to consider the type of soil and the need to conduct soil permeation test.

Professor Tchobanoglous’ other ideas can be gleaned from his Home of the Future, shown in Figure 1 and taken from his keynote paper at the conference, ‘The Role of Onsite and Decentralised Wastewater Management in the Twenty First Century.’

I had the privilege of interviewing George Tchobanoglous during the conference, and realised that he had just spent a couple of weeks with various state and local government agencies and water authorities in Victoria making his expertise available as part of the sponsorship programme to bring him to the conference. I asked him three broad questions as an expert from the US, who, as an outsider, can see more clearly than a local. Here are his answers, though seen through a lens coloured by my interpretation.

What is your impression of the onsite and decentralised wastewater scene in Australia (Victoria specifically)?

There are two separate regimes for the management, operation of centralised and onsite/decentralised systems. Not only are they separate, one by a water authority or equivalent and the other by a local authority or equivalent, but they are also distinct from each other, with apparently little interaction between the two. Centralised systems operate primarily in urban areas and onsite systems in regional and urban communities in Victoria. The septic tank is still the main form of onsite system, and failure is common. The development of alternative technologies is hampered by a lack of standardisation, and the implementation of onsite technologies by a lack of clarity about the responsibility for management of onsite systems.

It was refreshing to me to hear George confirm what some of us have observed about the dilemma we are in, that water authorities which have the expertise in sewerage but do not want to be involved in fixing and managing septic tanks and onsite and decentralised systems, and local authorities which do not have the expertise in onsite technologies having to deal with failing septic tanks or implementing alternatives.

This led to my second question: Do you have suggestion or solution for the problems facing communities with failing septic tanks?

Water authorities and local councils should work together, initially by setting up pilot programmes to demonstrate what properly designed, installed, run and managed onsite or decentralised systems can achieve. Technology is currently not the constraint to the solution, but clear government policy on the responsibility, management and funding for onsite and decentralised systems is. The long-term solution lies in working with the regulatory authorities to achieve clear and unambiguous governance for onsite and decentralised systems.

My final question was on the future of onsite and decentralised systems: What is your outlook for onsite and decentralised systems?

He reminded me of his keynote address (see above), illustrated by his Future House. He added that not all features will be adopted, and new features may appear, but the future for onsite and decentralised systems is bright because we want a sustainable future.

Finally I must mention that I enjoyed the conference dinners (two of them instead the usual one), where raffles were sold which raised nearly $2,000 for Australian WaterAid, with prizes provided by some of the delegates.

I recommend the Conference Proceedings to you, which can be purchased from AWA.