

French-Australian Collaborative Initiative for Water and Land Management

– a proposition for discussion –

French and Australian researchers and their industry partners have a number of fields of common interest and complementary capabilities in many areas of land and water management. Both countries have developed their water and land resources, as well as their associated infrastructures to suit their own climatic, population and socio-economic needs, and for many years, both countries have been seen as world leaders in the management of these resources for different reasons. Australians have had to develop management strategies to deal in particular with extreme climate variability and now climate change, and the French have a long history of successful development of national and international water management companies, as well as managing the environmental quality of rivers for multiple uses. In addition, both countries have a strong presence in the development of water and land management in other regions of the world such as the Pacific and Africa through a range of national and international aid organisations. However, despite both countries successes in working to improve water and land management in their own countries and abroad, serious challenges remain for which both countries could benefit from learning from each others knowledge and in working together. Of a myriad of possible themes that could be targeted, just three are outlined here as a starting point to discussion.

Theme 1: Urban water in transition

One of the first challenges is to understand the issues now facing urban water management under increasing populations (over 50% of the world's population now lives in urban areas), city sprawl, housing density and water variability conditions. Attempts are underway in both countries to trial a collection of new water management technologies, pricing structures and institutional and legislative arrangements to transition to more sustainable forms of management, yet how this process is taking place and what forms of transition (i.e. low-carbon, local self-sufficiency, smart technologies) are desirable for different populations and how to achieve these changes still requires much study.

Theme 2: Transboundary water sharing and development

A second extremely serious challenge lies in the management of water systems that cross administrative boundaries such as large river systems and aquifers, as millions of people's livelihoods and possibilities for development and sustainable living are linked to these collective systems. How acceptable water sharing agreements and policies for management of these systems can be developed in a socially equitable, economically efficient, culturally sensitive and environmentally sustainable manner is still in need of further research, as many current policies are failing to live up to expectations and not managing to sustain or enhance the collective well-being and health of the populations and ecosystems dependent upon them.

Theme 3: Unpacking water and land quality for multiple uses

Under situations around the world of increasing ecological degradation, intensification of land use and competing socio-economic values for how water and land resources should be used and managed, increased attention is required on how the quality of water and land needs to be managed to satisfy a large number of competing objectives. Public health, food and industrial production, recreation and scenic amenity are just some of the concerns that come into conflict when certain water sources are found to be polluted above acceptable levels or land is contaminated or rendered unusable by salinisation or acid-sulphate reactions. How can we better manage our limited resources for a range of selected uses? For example by: differentiating different quality water sources into separate distribution systems; allocating land to use based on soil quality and managing this quality; managing pollution at the source (i.e. direct water recycling and systems for runoff treatment in diffuse pollution areas); treating water to the needed standard of the use and no more; or developing water quality norms or management strategies in common resources (i.e. an estuary) that caters for a range of uses. All of these are areas where further French-Australian collaborative research and practice would prove fruitful for ensuring the sustainable development of our nations.

Proposed next steps:

To start this collaborative initiative, a small joint Forum with one part in France (13-17 June 2011 in Montpellier) and another in Australia (2012) will be set up to investigate current knowledge and key issues of interest under these themes, as well as the potential for further funded projects.

Existing collaborative links could be drawn upon, including between the ANU, CSIRO and Cemagref to invigorate this initiative, that could also be expanded based on interest and funding opportunities, for example to include the CNRS, CIRAD, Veolia, French water competitiveness clusters, Australian CRCs, the Goyder Institute and a range of other universities and industry/government partners.

Funding propositions for the two forums

Potential contributions could be sought from Cemagref and the ANU Water Initiative for funds to organise each forum. A small amount of aid may be available from the French Embassy in Australia (budgets permitting) for organisation of the 2012 forum. The current proposition is for institutes or individual researchers to finance their own travel to attend the forums, or to apply themselves for other available sources of funding.

Organisation of researcher exchanges as another activity of the initiative

To develop the collaboration further, continued support of researchers on short-term scientific visits could be jointly supported.

Preliminary outputs

From the forums and researcher exchanges, a couple outputs could be envisaged:

- 1) A proposal for an edited book could be developed to capitalise on the knowledge developed by the two countries. Such a book could present a variety of cases from French and Australian land and water management, comparative analyses and synthesis pieces looking at current and future challenges.
- 2) Possible international or bi-lateral funding arrangements for future collaborative projects and researcher exchanges could be investigated and project proposals developed to continue research and development work on topics of mutual interest and importance both countries. Such projects may have expanded foci and expand cooperation to other geographical areas, including Africa and the Pacific.