

# ENVIRONOMICS

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## Welcome from the Director

There is no doubt that economics is being increasingly evoked as an input into the development of environmental policy. This is particularly the case in the consideration of alternative policy responses to global climate change, the growing popularity of market-based instruments in securing nature conservation goals and the introduction of individually tradable quotas in fisheries. Economists have welcomed the injection of their way of thinking to the consideration of environmental issues. The discipline has much to offer in the analysis of resource use choices whether or not they have environmental consequences. Tools of analysis developed across a variety of applications over the discipline's 200 plus year history are progressively being refined for application in environmental contexts. Many of the EERH projects are engaged in that process.

The two newly commissioned projects under the Hub's umbrella are good illustrations. Dr Ralf Steinhauser's (Research School of Social Sciences, ANU) project "Learning from the Irrational" involves an exploration of consumption theory to provide a better understanding of what may appear to be "irrational" choices made by consumers regarding



Professor Jeff Bennett speaking at the Commonwealth Environment Research Facilities Conference in Canberra in September



goods with environmental attributes.

Dr Emma Aisbett's (Crawford School and RISS, ANU) project uses well developed production economics theory to search for relationships between the output capacity of industries and their use of ecosystem services.

These novel studies build on the extensive conceptual base provided by economics to provide policy makers with greater insights into the role played by the environment in generating well being for the people of Australia. And on behalf of the other members of the Hub, I'd like to welcome Ralf and Emma to our group of environmental economists.

*Professor Jeff Bennett, Director,  
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## Making headway on community and expert valuation of ecosystems

Project Leader - Associate Professor Michael Burton, (UWA)

The EERH project "Divergence between Community and Expert Valuation of Ecosystems" will address a question fundamental to the ongoing management of environmental assets – who's values should be used in determining priorities?

The project aims to understand the basis for public values towards aspects of ecosystems, as revealed by non-market valuation surveys, and compare them with values held by scientists working in the area. Of particular interest is the question of whether there is a true divergence in the underlying values held, or a divergence in the understanding about how the objectives can be achieved, or the ecological processes at work.

This leads to the issue of the knowledge base held by the public and whether increased understanding leads to the values revealed in experimental studies converging with those of the experts. If they do not, then it implies that some mechanism is needed to reconcile the differing values in the policy process.

Divergence will be tested using a non-market valuation technique, with a survey instrument common to both scientists and the public. Convergence will also be tested using the same technique, with the inclusion of increasing levels of information for different samples drawn from the public and opportunities for deliberation amongst scientists.

According to project leader, Associate Professor Michael Burton one of the biggest challenges facing the project will be developing a survey that can be easily understood by the public, while at the same time being accepted by the scientists as an accurate description of the ecological system.

The project is rapidly gaining momentum with recent efforts focused on establishing a set of case studies in Western Australia.

The first case study will be focused on broad scale conservation planning priorities in the south west of Western Australia. It links with the South West Australia Ecoregion Initiative (SWAEI) – a partnership of over 20 government departments and NGOs – whose objective is to develop a conservation plan for the region.

The SWAEI is working within a systematic conservation planning process – this requires explicit goals to be set and is an ideal setting for comparing expert and community preferences.

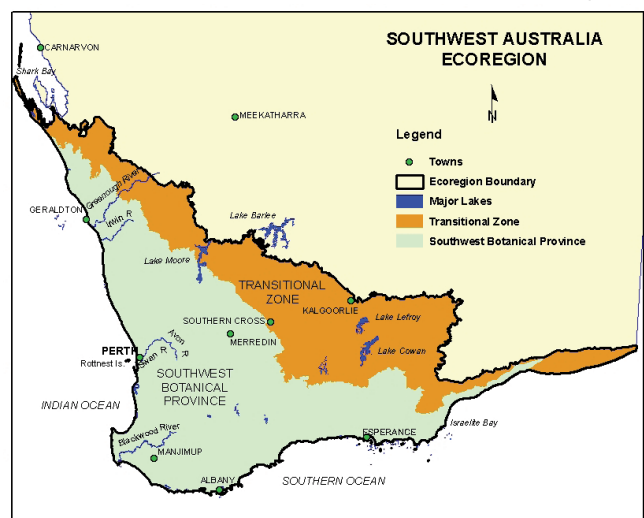
However, Michael Burton is quick to point out that the vast spatial extent of the ecoregion adds a layer of complexity.

'The sheer number of valuable assets, diversity of ecological processes, as well as the existing fabric of administrative boundaries will need careful consideration in the design of the survey instrument', he said.

'As a consequence, it is likely that the people interviewed will be at three levels – the general public, scientists and regional NRM groups, who would have an important role in implementing any plan', he said.

Discussions are underway for the second case study to be linked with the Tropical River and Coastal Knowledge (TRACK) Research Hub.

A number of valuation studies have been initiated within TRACK. These will look at the values held for both ecosystem



and use values associated with water management in a number of the Northern rivers.

The EERH focus on values held for different aspects of the ecosystem will be complementary and more importantly, will provide an opportunity for integrating the findings from the two research hubs.

Initial discussions with Professor Peter Davies (UWA) and Dr Anna Straton (CSIRO) from the TRACK Research Hub indicate that there are strong synergies between the two projects.

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## Learning from the Irrational: A study of Environmental Preferences

Dr Ralf Steinhauser, RSSS (ANU)



*Dr Ralf Steinhauser, special research funding initiative project leader*

Dr Ralf Steinhauser, of the RSSS Economics Program, has recently been awarded funding for research on "Learning from the Irrational: A study of Environmental Preferences" as a part of the Environmental Economics Research Hub.

The aim of the research that Ralf will undertake is to understand the behaviour of people interacting with the environment which cannot be explained by neoclassical economic theory. These phenomena are often referred to as irrational behaviour as they fall short of being predicted by standard utility maximizing selfish preferences. Rather than discarding these behaviours as non-rationalizable one can learn from them.

Understanding the different behaviours and analysing their patterns will help construct economic models with more

realistic psychological foundations. In turn these will help to make better predictions of people's reactions to future interventions. These insights can help to make environmental policies more effective and possibly widen the range of useful tools for intervention.

This will be work at the intersection of environmental and behavioural economics dealing with individual or household level data that is related to environmental issues.

Ralf Steinhauser is a research fellow at the Economics program at the Research School of Social Science at the Australian National University. He holds a Ph.D. from the University of California, Berkeley, where his main fields of specialization were Environmental Economics, Applied Econometrics and Behavioural Economics. His dissertation is titled "Essays on Voluntary Reduction, Regulation, and Forecasting of Emissions."

Before he studied in California he received a Master of Arts in Economics and Management Science and a B.A. (Vordiplom) in Business Administration from the Humboldt-Universität zu Berlin.

In other recent research Ralf looked at improving econometric methods to forecast carbon dioxide emissions and reasons for voluntary emission reductions of some US states. He also looked at optimal privatization of government owned firms and differences in Corporate Social Responsibility among large corporations with different Corporate Governance stringency.

### INTRODUCING SONIA AKTER, Climate Change Analysis, ANU

After finishing my masters degree in main stream economics from York University, Canada in 2003, I joined the Department of Economics, North South University (NSU) as a lecturer in my home country (Bangladesh).

Besides teaching economics courses in NSU for three years, I worked as a core researcher in Poverty Reduction and Environmental Management (PREM) program funded by the Dutch Ministry of Foreign Affairs in Bangladesh.

In 2006, I was awarded an Australian Leadership Award by the Australian Government to pursue my PhD degree at the Australian National University under the supervision of Jeff Bennett. I moved to Canberra from Dhaka in January 2007, to start my PhD at the Crawford School of Economics and Government.

My PhD research project is part of the Climate Change Analysis Theme now lead by Dr Frank Jotzo. The main objective of my project is to enhance policy makers' understanding about public preferences for climate change policy in Australia.

The project furthermore aims to address the issue of uncertainty associated with climate change mitigation

actions. More specifically, the project aims to reveal whether Australian households, in the face of substantial scientific uncertainty about the causes and consequences of future climate change, are supportive of the proposed Carbon Pollution Reduction scheme.

Both contingent valuation and choice modelling, two widely used stated preference techniques, will be used in a wide scale web-based survey in the beginning of November 2008. Upon completion of the project, I hope to be able to provide useful information to policy makers that will help shape Australian climate change policy.



*Sonia Akter has recently commenced work in the Hub at the Crawford School of Economics and Government, ANU*

## HUB THEME LEADERS CONTACTS

### Theme A.

Establishing viable markets to achieve environmental goals  
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### Theme B.

Climate change analysis  
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### Theme C.

Advancing Australia's capability for social and economic analysis of environmental issues at the regional scale  
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### Theme D.

Valuing environmental goods and services  
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## Introducing Jonelle Cleland

We welcome Jonelle Cleland to the EERH project 'Divergence between Community and Expert Valuation of Ecosystems', where she will be employed for the next 12 months as a research associate. According to project leader, Associate Professor Michael Burton 'the project will draw on Jonelle's diverse background and skill set, particularly in the areas of policy evaluation, stakeholder engagement and choice modeling'.

'Jonelle is also developing a keen interest in the role of complementary and competing knowledge bases in policy design and implementation – an outcome of her PhD study', Michael said.

Jonelle has recently submitted her PhD thesis on Western Australia's Salinity Investment Framework, which involved a case study of priority setting in policy and practice.

In the past she has worked as a research associate with Dr Steven Schilizzi on the Land and Water Innovation Project, 'Breaking through the Equity Barrier in Environmental Policy'. She also completed consultancies for state government NRM agencies; catchment and local action groups; and industry. This involved an array of topics and tasks including the establishment of social water requirements and a review of decision support frameworks as well as applications for community funding grants and the preparation of resources for the purpose of community education and corporate promotion.

Prior to her PhD journey, Jonelle was employed by the Water and River Commission (now the Departments of Environment and Water) where she delivered an NRM strategy for the Moore River Catchment; established a community-based water quality monitoring program for

the Moore River Estuary; and walked over 100 kilometres of the Moore River to assess the condition of its foreshore.

Jonelle says she is looking forward to a new challenge and being part of a larger research endeavour.

*Jonelle Cleland, works with Associate Professor Michael Burton on his Hub project based at UWA*



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