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Development of ecological economics in Australia and New Zealand

Murray G. Patterson*

New Zealand Centre for Ecological Economics, School of People, Environment and Planning, Massey University, Private Bag 11222, Palmerston North, New Zealand

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Abstract

This paper reviews the development of ecological economics in Australia and New Zealand since its beginnings in the late 1970s. A historical account is presented that focuses particularly on the activities of the Australia New Zealand Society for Ecological Economics and key ecological economics research activities. Achievements of ecological economics in Australia and New Zealand are assessed, using a range of quantitative and qualitative data. The main areas of expertise developed by Australian and New Zealand ecological economists were found to be: theoretical foundations and visions for ecological economics; biodiversity and resilience; input–output analysis; heterodox valuation approaches; analysis of economy–environment interactions; sustainability indicators; sustainable agriculture, fisheries and oceans; and energy/thermodynamics. Both countries are ranked at the top (or near the top) of the world rankings in terms of per capita ISEE membership and publication rates in *Ecological Economics*. A defining feature of ecological economics in Australia and New Zealand has also been its practical and problem-solving focus and the level of end-user engagement. The paper concludes by discussing the challenges that face the future development of ecological economics in Australia and New Zealand.

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1. Introduction

The history of ecological economics thinking can be traced back to the pre-classical economists most notably the French physiocrats in the 18th century, as well as the British classical economists of Malthus,

Ricardo and Mill. As is well known, many ecological economics ideas, such as the ‘steady state’ and ‘carrying capacity’, indeed had their roots amongst the theorising of the classical economists. [Martinez-Alier \(1987\)](#) also links the development of contemporary ecological economics to other theorists such as Geddes, Clausius and Soddy that came from a variety of disciplinary backgrounds ranging from town planning to thermodynamics.

* Tel.: +64 6 3504346; fax: +64 6 3505689.

E-mail address: M.G.Patterson@massey.ac.nz.

Despite this well-established rationale for an ‘ecological’ approach to economics, this approach lay very much dormant until the late 1960s–early 1970s when economists such as Boulding (1966), Georgescu-Roegen (1971) and Daly (1973) insisted on an approach that understood the ecological and thermodynamic limits to economic activity. It was not however until 1989 that the International Society for Ecological Economics (ISEE) was established, and the first international conference of the Society took place in Washington DC, in May 1990 (Costanza, 2003). The history of the development of Australian and New Zealand ecological economics can be understood within this context. Although early theoretical and empirical research took place in Australia and New Zealand throughout the 1980s, the Australia New Zealand Society for Ecological Economics (ANZSEE) was not formed until 1995.

The purpose of this article is to trace and explain the development of ecological economics in Australia and New Zealand over its 25-year history. The main events, achievements and contributions of Australasian¹ ecological economics are documented and discussed, drawing on data and information from historical records, interviews, research publications and citation analyses. Although every effort has been made to present a ‘fair and balanced’ view of this history, this is ultimately a personal account of these historical events that may not necessarily directly correspond to the perspective of others.

2. Early beginnings (late 1970s–early 1990s)

Interest and involvement in ecological economics in Australasia predated the formation of the Australia New Zealand Society for Ecological Economics (ANZSEE), which occurred in 1995, and for that matter the ISEE. In New Zealand, John Peet, Charles Perrings, Martin O’Connor, Murray Patterson, James Baines, Louis Arnoux and others were involved in research in the early 1980s that had a distinct focus on the ‘biophysical functioning of the economy’, which

grew out of their frustrations with the neoclassical approach to economics. This early ecological economics research was very much stimulated and influenced by HT Odum who visited New Zealand in 1979 as a sabbatical visitor at the University of Canterbury. During this time Odum analysed and modelled the New Zealand economy using his energy framework (Odum and Odum, 1980). His eco-energetic analyses of the New Zealand economy brought into question many of the assumptions of the conventional (neoclassical) model of the economy, and he therefore arrived at policy prescriptions that were both controversial and generated much debate.

Malcolm Slesser of the University of Strathclyde also visited New Zealand in 1981, and his work on the thermodynamics of the economy was also influential as a result of the active research links that he maintained with several New Zealand researchers (Slesser, 1978). Out of this environment came a number of publications on the interaction and role of energy in the economy by New Zealand ecological economists: Carter et al. (1981), Baines and Peet (1983), Patterson (1983), and Peet (1986). This work was extended by Grant Ryan in his PhD, and later on in the mid-1990s he was commissioned to apply his energy-based economic modelling approaches to analysing growth options for European Union countries (O’Connor and Ryan, 1999).

Charles Perrings was at the University of Auckland in New Zealand from 1978 to 1990. Over that time he carried out groundbreaking research in ecological economics, including work on integrating economics and thermodynamic thinking. For example, Perrings (1986) found when applying von Neumann-Sraffa type models of the economy, that the mass conservation principle contradicts the ‘free disposal’, ‘free gifts’ and ‘non-innovation’ assumptions of such models. Much of Perrings’ early New Zealand ecological economics’ research is outlined in his book “Economy and Environment: A Theoretical Essay on the Interdependence of Economic and Environmental Systems” (Perrings, 1987). Associated with Charles Perrings at the University of Auckland, was Martin O’Connor who was his PhD student and later was appointed to a lectureship at the university. O’Connor (1986, 1991, 1992, 1994) produced a number of publications on the thermodynamic and biophysical nature of economic processes, as well as on the broader epistemological

¹ The term ‘Australasia’ is commonly used to collectively refer to both Australia and New Zealand, even though they are separate sovereign states. Accordingly the terms ‘Australasia’ and ‘Australasian’ are used throughout this article.

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