

Spring 2002 Inaugural Seminar Program

4.00 pm, Tuesday 15 October

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National Centre for Development Studies
Asia Pacific School of Economics and Management
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Input Controls, Efficiency and the Management of the Australian Northern Prawn Fishery

Venue: Seminar Room 1, National Centre for Development Studies, 2nd floor of J.G. Crawford Building (13), Ellery Crescent, Australian National University, Canberra.

Abstract: This paper is a study of the production technology and relative efficiency of vessels harvesting tiger prawns in the northern prawn fishery (NPF), one of Australia's largest and most lucrative fishing areas. It is based on a unbalanced panel data set of 226 observations among thirty-seven vessels for the years 1990 to 1996, and employs a technique which specifies a stochastic frontier production function in order to decompose the variation in the output of fish due to unbounded random effects from those that result in differences in technical inefficiency among fishing vessels in the industry. Estimation of this output frontier provides key information on the relative importance of inputs in the harvest of tiger prawns, output elasticities, returns to scale and the economic performance of each fishing vessel, year to year. The level of technical inefficiency is shown to depend positively on gear headrope length and negatively on either A-units or fuel expenditures. The point is especially relevant since input controls in the form of A-unit restrictions over vessel size and engine power in the fishery during this period appear to have resulted in a substitution toward less efficient but unregulated inputs, decreasing overall efficiency in the NPF.

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