AN INPUT-OUTPUT MODEL OF NORTHLAND'S ECONOMY:

WITH APPLICATION TO FORESTRY

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the requirements of the degree of Doctor of Philosophy
at the University of Auckland

Christopher I. Moore

Department of Theoretical and Applied Mechanics
School of Engineering, University of Auckland,
New Zealand

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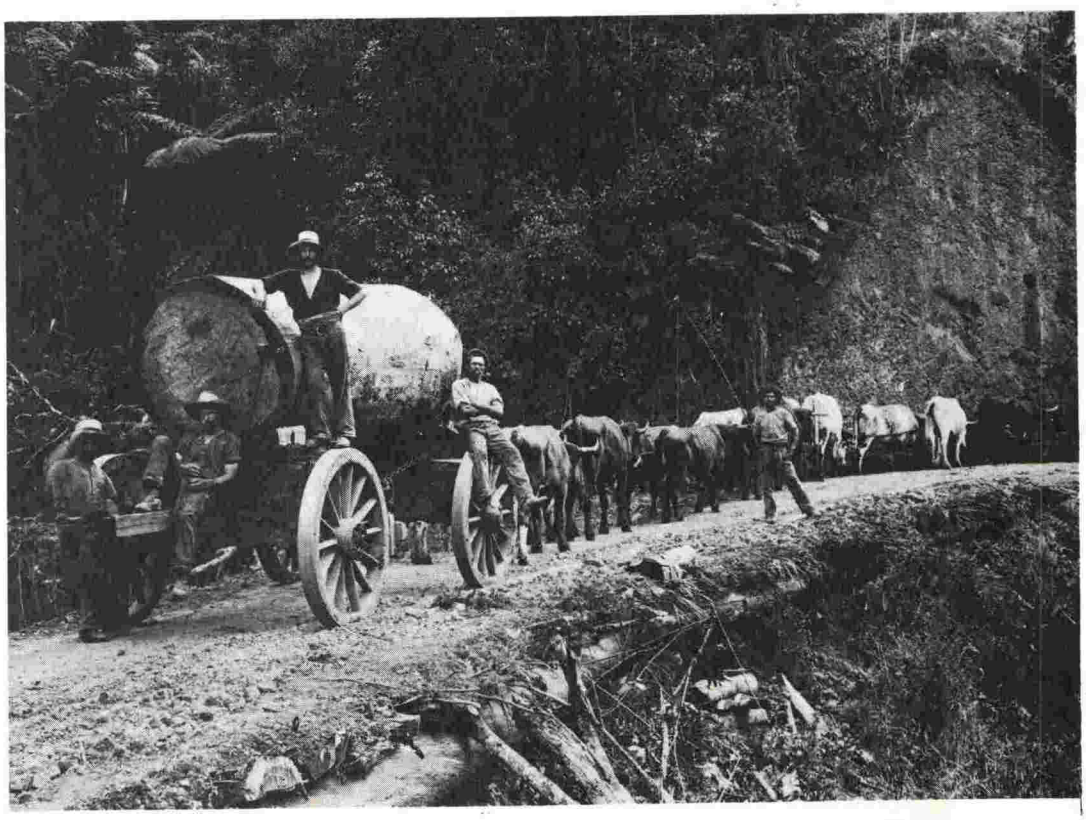

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ABSTRACT

This work presents a 50-industry input-output model of Northland's economy and demonstrates how input-output analysis could be used to enhance regional planning in New Zealand. As it is the first regional input-output model in this country to incorporate significant survey and secondary data the survey procedure and model construction are outlined. The input-output table is used to discuss important regional transactions and the purchase and sales patterns of industries. The model analyses industries' contributions to export receipts and import payments and calculates the impact of changes in export receipts on regional income and imports. A comprehensive multiplier analysis of Northland's economy covers output, income, employment and imports and confidence limits for the multipliers are developed using the Monte Carlo technique to simulate survey errors. The model explores the economic implications of forestry expansion in Northland and discusses the areas available for afforestation, planting rates, tree management, wood supply and wood processing options in the region. The modifications made to the model and data requirements for simulating forestry expansion are outlined and employment and income impacts given for three types of processing complexes and for forestry expansion as a whole. Finally an economic evaluation is made of the impacts of processing-plant construction and supporting services.

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