What is a fit for purpose extension system for the New Zealand Sheep and Beef Industry?

Professor Hamish Gow, Lincoln University New Zealand

Dr Robyn Dynes, AgResearch New Zealand





AN INSTITUTIONAL ANALYSIS OF THE NEW ZEALAND AGRICULTURAL EXTENSION SYSTEM

INTRODUCTION

Four decades after the privatisation of the New Zealand Agricultural Advisory Services, the sheep and beef sector extension system faces numerous challenges. Over this period, the extension delivery system has become increasingly siloed, fragmented, and focused on production.

The lack of investment in suitable delivery mechanisms, trained extension agents, and interdisciplinary systems approaches has hindered farmers' access to and adoption of new technology, innovation, market and land use opportunities. While, concurrently, farmers have faced increasing financial, regulatory, market, and policy constraints to their license to operate.

Current institutional arrangements have instead relied upon market incentives whereby either sales representatives push content marketing about their proprietary products, packaged as extension, to farmers or industry bodies push the provision of traditional technology transfer as extension.

Consequently, incoming farmers are the first generation to navigate change without the assistance of an integrated systems level "honest broker" extension agent at their side. A new model is required.

PROJECT OBJECTIVES

- Complete an evolutionary institutional analysis of the New Zealand extension system to explain evolution of extension and on farmer adoption of technology;
- Undertake a comparative institutional analysis of the different models of public and private extension to determine their impact and adoption rates;
- Develop a model for design of future extension systems in the New Zealand sheep and beef sector.

METHODOLOGY

An exploratory sequential design will be used (Cresswell & Clark, 2011). This is a mixed methods approach which allows for an interative and sequential investigation of New Zealand Agricultural extension through three key phases:

- Historical institutional analysis;
- Comparative institutional analysis;
- Extension model development.

Each phase has unique questions and will help develop and inform the next phase. Each phase is developed to contribute to the overall objective (Cresswell & Clark, 2011).

OUTCOMES

- Define effective agricultural extension for a NZ context
- Map the historical institutional evolution of extension in NZ (incentives & behaviors, innovation responses, rules of the game, market failures)
- Comparative instituional analysis of the different extension models currently used and emerging and their impacts
- Identification of the leading principles for the design, development and delivery of fit for purpose extension in NZ
- Empirical testing of models within the context of an extenstion case study
- Conceptual contribution using common language, descriptions and models

KEY DEFINITIONS

Extension More than a component of agricultural education and research – it also has a critical role in advancing innovation and to the knowledge system (Rivera, 2011) Four broad concepts: technical transfer, participatory, one-to-one advice and group empowerment (Black, 2000) ...a function that can be applied to various areas of society. It operates in the industrial, health and education sectors, as well as agricultural and rural The process of helping farmers to achieve their goals, become aware of and to adopt improved technologies to increase their income, production efficiency and welfare (World Bank, 2024).

Institutions

- Old institutional economics change (Veblen, 1899) Rules and collective action (Commons, 1931)
- New institutional economics
- Transaction costs (Coase, 1937)
- Property rights (Coase, 1960) • Rules of the game (North, 1989) Persistent groups of norms of
- behaviour, coordinated expectations (Nabli & Nugent

KEY THEORIES

Theoretical Foundations - Extension Diffusion of Theory of planned Social cognitive innovation theory theory behaviour (Rogers, 1962) (Ajzen, 1991)

General systems Social learning (Bertalanffy, 1950)

(Badura, 1977)

(Banduras, 1989)

Theories of Institutions

Transaction cost theory (Coase, 1937) Property rights theory (Locke, ; Coase, 1960) Agency theory (Ross and Mitnick, 1973) Theory of public choice (Buchanan, 1977) Institutional Analysis and Development (Ostrom, 1990)

CONTRIBUTION TO KNOWLEDGE

Demonstrate how institutional analysis will:

- Explain the evolution of the current market failure
- Identify comparative best practices within current institutional arrangements
- Design agricultural extension models and systems which deliver improved outcomes
- Identify critical areas for investment in capacity and capability building at an individual, organisational and systems level
- Elevate the benefit of institutional and systems analysis and design in extension disciplines

This PhD is supported by the New Zealand Ministry for Primary Industries' Food transitions 2050 Scholarship Presented at the 2025 AIAEE Conference, Inverness \$cotland