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**THE IMPACT ON FARMERS OF  
CHANGES IN RURAL SERVICING  
INFRASTRUCTURE**

**A Thesis presented in  
Partial fulfilment of the Requirements  
for the  
Degree of Master of Agricultural Economics  
at Massey University**

**Murray George Rabel**

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## ABSTRACT

This study provides an overview of changes in rural servicing infrastructure over the period 1985 to 1990. The changes in infrastructure stem from 1984, when the then government changed economic policy to a dominant goal of economic efficiency. With this goal in mind government intervention in the provision and pricing of rural services has been rationalised with the transfer of many responsibilities to the private sector and the introduction of user-pays as a system of funding service provision. Concurrent with the changes in conduct and funding and in line with the goal of efficiency, government has endeavoured to minimise transaction costs, hence improving the environment in which rural services are traded.

This thesis identifies trends in the changes in rural services and studies the implications for farmers and local community of a continuation of these trends. The direct and indirect impacts of changes in rural services is assessed in both qualitative and quantitative terms where possible, at both the farmer and the community level. To this end measurement of qualitative impacts was attempted using the non-market valuation technique, contingent valuation. In addition to assessment of on-farm impacts, off-farm impacts are investigated using business directory data and by analysing changes in non-government services using a structure/conduct/performance framework.

To obtain the information required, three survey's were undertaken. One of a large group of hill country farmers in the Wanganui area, one of non-government services and a personal survey of farmers in the Mangamahu Valley. Business directory data which provides information on the number of servicing units and persons engaged in those services is used to assess the impact of changes in rural servicing infrastructure and government policy on the two communities of Raetihi and Ohakune.

The thesis concludes by showing that demand for rural services has declined, as has the supply of services. This decline was occurring prior to 1984 and has been accelerated by changes in rural service infrastructure since 1984. The decline in the demand for services and rationalisations has meant the loss of some services, but all are still available even if it means greater cost and travel. Most farmers have accepted changes as a gain in efficiency.

## CHAPTER 1

### INTRODUCTION

#### 1.1 Objectives

Government assistance to the New Zealand agricultural sector has undergone major reform over the years 1984 to 1990. Historically government was involved in agriculture through assistance programmes designed to: promote the development of marginal lands, boost total agricultural output and hence increase foreign exchange earnings, to compensate agriculture for the adverse cost effects of protection offered to labour, manufacturing and financial industries, and to arrest deteriorating terms of trade. The result of these policies has been a steady deterioration of New Zealand's relative standard of living.

In 1984 the Labour Government accelerated programmes of economic liberalisation started in the mid 1970's. The objective of these programmes was to maximize economic growth through enhanced economic efficiency, thus improving New Zealand's standard of living. These policies have seen government assistance to agriculture removed or at least drastically reduced. Most of this assistance was in the form of direct transfers such as price, input and tax subsidies. However, more assistance has been provided in indirect forms through the subsidised pricing and provision of services. Although much has been documented on changes in direct price support to agriculture, the area of governments involvement in the indirect provision and pricing of rural services has not received much attention in literature.

One reason this area of research is neglected is because the impact of changes in rural services is difficult to quantify. Given that there is this difficulty in quantifying the impacts does not mean its force is less powerful in terms of its direct and indirect impacts on the individual farmer and at the local community level. Being a student of agricultural economics, this thesis takes a slightly

different approach to the approach taken by rural sociologists and geographers in assessing changes. To this end a major part of this thesis is devoted to trying to quantify the impacts of change in rural services as well as obtaining the traditional qualitative data.

Research is needed to assess the distributional impacts of this major change in government policy. By assessing changes in rural services, market failure due to the impacts and consequences of policy changes can be identified. This thesis provides a broad picture of changes in rural servicing infrastructure over the period 1985 to 1990. Changes in government involvement in the supply of rural services and the rationale behind the changes are documented. The impact of changes in public funding, and hence the demand for rural services is assessed at the farm and community levels. Finally investigated are the impacts of changes in government's role in setting the legal and regulatory frameworks and economic climate in which rural services are provided.

The overall objective of this thesis is to identify the impact on farmers and local communities of changes in rural servicing infrastructure and government policy. Specific objectives are:

1. Review the literature as to any previous similar studies undertaken.
2. Identify and determine the impact in dollar terms (where possible), at both the individual farmer and local community level, of the effects of the changes in the rural economy over the period 1985 to 1990, as it pertains to rural services (e.g. government charges, transport services, changes in services provided by Government and their cost, etc.), government agencies (e.g. Post Office, Telecom, Electricorp, etc.), and government departments (e.g. Ministry of Agriculture and Fisheries).
3. Determine the attitude of the farmers and local community to these impacts and changes.

4. Identify trends in the changes in these rural services and study implications for farmers and local community of a continuation of these trends.
5. Recommend to the Policy Unit any policy initiatives that could be considered in the national interest.

To achieve these objectives, hill country farmers in the Wanganui, Waitotara and Waimarino areas were surveyed in October 1990. The postal questionnaire was designed to assess the on-farm impact of changes in rural services, lost services and farmers' opinions on change. In addition to the farmer survey a separate survey dealt with non-government businesses actually involved in the provision of rural services. This data was complemented by business directory data obtained from the Department of Statistics, which provided information on business units and persons engaged in rural services from 1987 to 1990 in the area studied. The business data was modified to assess the impact of changes in rural servicing infrastructure and government policy on the two communities of Raetihi and Ohakune.

Besides identifying the changes that have occurred in rural servicing infrastructure, it was also considered important to measure, where possible, the impacts of these changes. In some situations this can be done by calculating the extra cost involved in obtaining the service. However in many cases the loss (or reductions) can only be expressed qualitatively in terms of reduction in choice, increased risk, loss of peace of mind etc. Hence qualitative changes can have important consequences for the welfare of those affected. To this end measurement of some of these qualitative impacts was attempted, using non-market valuation techniques, the contingent valuation approach and the hedonic pricing approach. The first approach was built into the personal interviews in the form of willingness to pay questions for services lost. The hypothesis underlying the second approach is that property values are affected by rural services.

In assessing the farm impact of changes in rural services no distinction is made between the family unit and the farm as a business. Recent investigations by Le Heron and Roche (pers. comm Le Heron, 1990) indicate the impact is different at the two levels. The social consequences of economic efficiency can cause conflict between the family and business sides of farming.

The impact of government reform in the provision of services was limited to reviewing education, weed and pest control, catchment services, transport, communications, road services, fuel and advisory services. The rationale behind the omission of irrigation is because the area studied did not have a government irrigation scheme. Reform in meat inspection was omitted because all farmers surveyed were unaware of the exact cost of user-pays for meat inspection, as it was deducted from the cheque for the meat slaughtered at the freezing works. While changes in financial services have had a major effect on farmers, much has already been documented on their impact and farmers' reactions to higher interest rates. Changes in research and development have a slow flow-on effect to farmers, hence the on-farm impact would not have been felt at the time of this study.

## 1.2 Outline of the Thesis

**Chapter Two** describes government involvement in the provision of rural services and identifies changes that have occurred over the period 1985 to 1990. The chapter concludes with a literature review of previous New Zealand studies on changes in rural services.

**Chapter Three** introduces the concept of non-market evaluation. The Contingent Valuation Method (CVM) is then described in detail with various sections covering the important properties and elements of the technique. A discussion on why the hedonic's application proved to be infeasible concludes the chapter.



**Chapter Four** presents the methodology used to quantify the loss of rural services, and to identify the impact on farmers and local community of changes in rural servicing infrastructure and government policy.

**Chapter Five** examines the impact of changes in rural servicing infrastructure at the community and business levels. Business directory data provides information on changes in the number of activity units and persons employed by rural services. The same data is then used to show the impact on the two rural communities of Raetihi and Ohakune. The results of a survey of non-government services are then presented to conclude the evaluation of the impact at community and business levels.

**Chapter Six** expands on the previous chapter in presenting the results of re-surveying the Mangamahu Valley and the application of Contingent Valuation. By comparing the results of this survey to a similar survey conducted in the valley in 1978 some interesting trends are identified.

**Chapter Seven** presents the result of the postal survey of hill country farmers. The attitudes of the farmers to changes in rural services is identified and where possible the data has been quantified to determine the dollar impact at the farm level.

**Chapter Eight** concludes the study with a discussion of the trends in changes in rural services and the implications for farmers and local community of a continuation of these trends. A discussion of the objectives set and how they have been met is presented. The chapter concludes by identifying areas in need of future research and recommending policy initiatives that could be considered in the national interest.