

FARMERS' RESPONSES TO ECONOMIC RESTRUCTURING
IN HURUNUI AND CLUTHA COUNTIES:
PRELIMINARY ANALYSIS OF SURVEY DATA

by

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PREFACE

Primary production is undergoing rapid changes at the present time and there are two broad areas where these changes have an impact. The first and most immediate impact is on farmers themselves as they seek to adjust to a new economic order. The second impact is on the character of the structure of agriculture. Decisions taken now by individual farmers add up to longer term changes in the overall character of the primary production industry. The AERU contributes to understanding primary production by undertaking research which focuses on these two types of changes.

A topic of immediate concern is farmers' responses to economic restructuring. In this research report Dr Fairweather begins the process of studying changes in primary production by reporting the results of a survey of farmers in Hurunui and Clutha counties undertaken in August/September 1986. The report gives a general overview of farmers responses and includes data on financial situation in conjunction with attitudes, needs, and approach to farming.

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DIRECTOR

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SUMMARY

The preliminary results from a 1986 survey of farmers in Hurunui and Clutha counties are presented in this report. The survey included 384 farmers and the results give an indication of how farmers were responding to changes in government policies.

Some of the results are as follows. Nearly one quarter of respondents say they have to make a major adjustment. Few seek to diversify, but over one quarter have developed new land uses. Many have adopted a low input policy with expenditure cut back by \$10,000. While most respondents disapproved of government policy there were 20 percent who did approve. Most respondents wanted recognition, financial advice and change in government policy, but few wanted financial or technical advice from MAF. There was awareness that the future of primary production would be dominated by market related factors. In general, the report presents much descriptive data parts of which should be of value to a wide range of people with rural interests.

While the literature on farmer adjustment suggests that there are two different types of management strategy, the New Zealand data reveal four approaches to management strategy and three types of motivation for farming. The four types of manager are: 'financial manager', 'productivity increaser', 'individualistic worker' and 'lifestyle farmer'.

CHAPTER 1

APPROACHES TO UNDERSTANDING FARMERS' RESPONSES TO ECONOMIC RESTRUCTURING

1.1 Introduction

The intention of Chapter 1 is to provide a background to economic change in agriculture. The changes that have occurred internationally are used to show that the events in New Zealand are not unique. Later in this chapter some literature is reviewed in order to show what role farming strategy and structural change play in economic adjustment. Finally, the problem for research is defined in terms of the need to know accurately how farmers respond to economic change.

1.2 International Background and Policy Issues

Similar conditions affect the position of farmers in Australia, Europe, Canada and the United States. In general terms, there are problems of overproduction and low commodity prices combined with high interest rates and falling land values. These factors result in acute financial pressure on farmers. The situation in the US has received wide attention. Tweeton (in Hillman, 1984) states that there are three problems with farming: overproduction, the level and variation of return on resources, and high farm failure rates. According to Walston and Roberts (1985) farmers in the US now face their worst situation since the 1930's, and there have been bank failures and declining machinery and input sales. They argue that the inevitable result is a remorseless fall in farm numbers.

Similar descriptions are found for other countries. In the last five years bankruptcies in Canada increased from 0.04 percent of census farms to 0.45 percent of census farms (Kooters and Arthur, 1985). For Britain, Nix (1985) states that overproduction, decreased product prices and relatively steady input prices have resulted in a drop in farm income since 1976.

The similarity of the problems facing farmers serves to illustrate the international character of contemporary agriculture. In fact, as Schuh (1986) argues, agriculture can be understood only in the context of trends in the global economy. To some extent all producers are linked to international trends in food prices. Typically, commodity prices show a long-term price decline. Also, there is an international food and monetary system which can force adjustments in any country's agricultural sector regardless of changes in internal cost structure. It appears that many Western nations have agricultural sectors adversely affected at the present time by these international trends.

There are data which support the view that the problems faced by farmers are caused, in part at least, by declining commodity prices. International Monetary Fund data show that the weighted index of primary commodity prices has fallen from a high of 100 in 1980 to 76 in 1985 - the same level as for 1974. The index of market prices for food shows a decline from 89 in 1983 to 75 in 1985. Specifically, beef prices and lamb prices both followed the trend and declined steadily.

For agricultural raw materials (including wool) the index increased from 84 in 1983 to 88 in 1984, then declined to 77 in 1984. Fine wool followed this particular pattern while coarse wool declined steadily.

Generally then, the international prices of agricultural commodities have declined since 1980. It is difficult to evaluate the significance of the decline, and on the above figures it is appropriate to note that falling international prices have coincided with changes in domestic policy and economy to add to farmers' financial burdens.

Another common element to farmers' current problems derives from changes in the extent of borrowing. It appears that a significant proportion of individual farmers, but not necessarily all of them, have increased their rate of borrowing in the last decade. Borrowing has been successful where commodity prices are stable, government policies supported agriculture, and while farm land prices increased. Borrowing appears to have characterised farming in Europe, North America, and Australasia. For example, farmers in Ireland avoided debt up to 1970 and then in the 1970's took up more credit (Atwood, 1983). In Atwood's view not all the borrowing was subject to careful scrutiny, and some loans would have involved repayment problems even if there were not an economic down-turn in agriculture. The issue of the wisdom of borrowing remains open and is not resolved by apportioning blame after the fact. It seems fair to say that agricultural borrowing became a popular strategy for many farmers and this change in behaviour has been an important factor in the current financial crisis.

There have been a wide variety of policy responses to farmers' financial problems and many suggestions for improvement. For example, the UK Economist (1985) emphasises that the family farm problem in the US is a liquidity problem not an insolvency crisis, hence it would be unwise to influence commodity prices because of the adverse consequences which would follow. In their view, new policy should be aimed at decreasing debt service repayments. Tweeton (in Hillman, 1984) advocates sound monetary and fiscal policy to promote national economic growth, and payments to farmers to store grain buffer stocks in order to achieve stable prices. On another tack, Schwab (1985) suggests using the 1939 mortgage moratorium statute, subsidisation of interest rates, and the establishment and deployment of farm debt review loans. However, some research on the 1930s US farm foreclosure moratoria suggests that while some farmers averted foreclosure, there were failures despite the provision of assistance (Alston, 1984). Yet another suggestion is group farming which is thought to provide economies of size from specialisation (Bartholomaeus, 1981). Finally, Nix (1985) advocates greater budgetary control and low cost farming which may have high management and investment savings when compared to high input farms. Alternatively, farmers can attempt to improve the quality of product, undertake auxiliary enterprises to add value to their produce (e.g., cheesemaking), or take on a part-time job.

Few observers analysing the farm debt problem and possible policy options consider the broad trends in agriculture and what general kinds of policy changes are needed for the future. Given the rapid changes in agriculture and the acute problems farmers face it seems relevant to thoroughly reappraise agricultural policy. Cochrane (1985) does this by giving an historical overview of US farm structure change and agricultural policy. He concludes that high prices have accompanied increased production because of government programmes. Early adopters of new technology have enjoyed a permanent rise in

income and have then expanded farm size, thereby increasing the price of land. Generally, programmes aimed at helping mid-sized farms have actually contributed to their demise. Cochrane advocates removal of all price and income benefits, while at the same time advocating a government role in assisting necessary adjustments, especially debt restructuring of indebted farmers rather than forcing them out of production. Some farmers need managerial guidance.

Similarly, Urban (1985) takes a critical view of past agricultural policy and advocates a general rural development policy rather than a farm policy as traditionally conceived. He argues that since the 1920's US agricultural policy has focused on control of prices, supply, farm credit, and productivity increases via federal and state research and development. Rapid social and economic changes were needed to achieve these policy goals. Urban argues that these post-1920 policies are dangerous now because they lead to overpricing of products, dislocation of farmers and suppliers, and decrease the effectiveness of the food production system. Thus, what is needed is a strong rural economy of independent businesses and recognition that differences in regional production require specific policy. Thus, local and regional groups should be involved in directly-funded programmes but without the link between farmers and federal government. Similar criticisms of the relevance of traditional agricultural policy have been made by Lee (1983) in response to recent changes in farm structure.

It is quite clear that agricultural policy is in a state of change, at least in terms of discussion about general objectives if not in terms of practical application. The acute financial problems faced by farmers in many countries suggests that new policies may emerge in the present decade. One of the issues in New Zealand is establishing a distinctive agricultural policy in an environment where agriculture is subordinated to the dictates of macroeconomic policy.

1.3 The New Zealand Case

According to the 1986 Agricultural Review Committee, the main elements of farmers' financial problems in New Zealand are static world prices and wide ranging economic policy changes (State of Agriculture Report, 1986). Among the latter are the floating of the New Zealand dollar, removal of interest rate and other controls, and a reduction in subsidies. The results of the new policies included a high exchange rate for most of 1986, which disadvantages all exporters, and high domestic interest rates. Farmers faced declining sheep and beef gross incomes, increased input costs deriving in part from continued inflation, and very high interest rates. In addition, land values have declined thereby increasing debt to equity ratios. Prior to policy changes there have been droughts which were 'an important' backdrop to current financial problems.

The farm problem in New Zealand can be examined from a number of viewpoints. The Meat and Wool Boards' Economic Service provides one of the better documented examinations of farmers' financial problems, although their interpretation of their survey data must be accepted cautiously. The following account gives an overview of the main findings of the Meat and Wool Boards' Economic Service and includes some cautionary comments.

The Meat and Wool Boards' Economic Service research papers (Nos. 1930 and 1931, 1986) conclude that the prices of farm inputs used by sheep and beef farmers increased by 13.2 percent between January 1985 and January 1986, compared with a 10.1 percent increase the year before. Interest charges showed the biggest increase so that high interest rates, coupled with increased borrowing, meant that interest charges were the largest single expenditure item on an average farm. In addition, the papers note that sheep productivity, while less than the previous year, was still at a high level. Stocking rates were expected to fall. Prices received at the farm gate had fallen by 17 percent so that the terms of exchange were expected to decline by 27 percent over the 1985/86 year. Gross farm income for 1985/86 was estimated to fall by 22 percent or \$28,200 per farm. With respect to farmers' debt, data show that with a 40 percent decrease in land values, which is a reasonable estimate of the actual decline in land value, there was an increase from six to 18 percent of farmers with equity less than 50 percent of total farm value. In general, farmers faced increased input costs and declining returns which manifest as cash flow problems and increasing debt to equity ratios.

Later reports from the Meat and Wool Boards' Economic Service show similar findings, and although many farmers experienced limited improvement on some financial indices, there were many facing acute financial problems. In addition, the Boards state that farmers are adjusting to the present economic environment by moving to a system of lower inputs and lower outputs.

However, the Meat and Wool Boards' Economic Service historic data show that rapid increases in interest rates and other input costs have occurred before. For example, interest rates increased by 23 percent between 1980 and 1981, and repairs and maintenance increased by 27 percent between 1978 and 1979. At the same time as farmers faced these large increases in input costs farm land values increased by 22 percent. It is more sanguine to suggest that it is the combination of financial pressure with falling land values which makes for a different situation in 1986. Earlier input increases were found to be tolerable in an environment of rising land values.

Surprisingly, other data show some decreases in input prices. According to the Statistics Department, the all farming input price index for the March 1986 quarter decreased by 1.2 percent, and for the June 1986 quarter decreased by 2.6 percent. By September 1986 the quarterly decline was a minimal 0.6 percent. The Statistics Department all farming inputs price index excludes expenditure on interest, government charges and wages. These Statistics Department data suggest that there was a lowering of many input costs through 1986.

Generally then, as the Meat and Wool Boards' Economic Service argues, farm income generated from the market has been insufficient for the needs of the farm operation. For a considerable period of time many farmers have been net borrowers, borrowing more than was being repaid annually. Such farmers were forced to borrow for both development and to finance current expenditure, and this borrowing was initially possible because of high and increasing levels of farm equity bought about by rising land values. This explanation fits in with detailed research on farmers consumption and borrowing behaviour on North Island hill country farms (Beck and Dent, 1984). They argue that farmers are not averse to borrowing but that they may be averse to incurring significant levels of debt. Thus, in times of inflation,

farmers will borrow because it is possible to hold or even improve their debt to equity ratio.

The wisdom of this borrowing policy has been questioned before the current crisis in 1986. In October 1984 Atwood noted that the growth of farmers' equity, when aggregate farm incomes have been static, can create an unrealistic degree of willingness to take on loans against the security of the farm property. Atwood emphasised that few farmers would be willing to meet debt repayments out of equity. However, despite this and presumably other warnings, farmers considered that their level of borrowing was an acceptable and profitable business practice. Given the environment at the time in which the decision to borrow was made, it is most likely that the decision was rational.

The Advisory Services Division of MAF provides another viewpoint on sheep and beef farming with its farm monitoring system (MAF, 1986). The data are based on a selection of a small number of farms that are thought to be typical for the area and for farm type. For the all classes representative farm, gross farm income for the 1985/86 season was expected to be down by at least \$28,000 or 24 percent on last season's income. Revenue from sheep sales was down by 46 percent, from cattle sales down by 18 percent, and from wool sales down by 13 percent. Farmers adjusted by reducing farm working expenditure on fertilizer, repairs and maintenance, weed and pest control, and labour. Total farm working expenditure was down \$11,000 or 18 percent over the previous season. Total financial charges increased 13 percent in the 1985/86 year and required 27 percent of gross farm income -- interest payments alone accounting for 20 percent of gross farm income. On balance, the seasonal current account deficit was \$5,173.

During 1986 farmers have been organised via their union, the Federated Farmers, to protest to the government and to urban New Zealanders that farmers are suffering both financially and in terms of morale. For farmers, the 1986 coincidence of policies and prices severely threatened their livelihood and the farm itself as equity was eroded. Their protest has focused on key problem areas in the economy, such as the exchange rate, inflation, government spending, and unbalanced policy. Farmers appealed to government for some kind of softening of policy, and for even application of policies to all sectors of the economy. On Wednesday 30 April 1986 a large group of farmers and rural people marched on parliament to protest against government policies. Early in 1986 there was little sophistication to the farmers' argument and few new ideas which represented a viable path between the perceived extremes of new and old policy. Government's response has been to advocate that farming has to operate on a sound business basis like any other business, and not receive special support. Implicit in government policy is the view that structural adjustments are necessary in which profitable commodities are produced instead of unprofitable commodities. This policy implies that new areas for investment are required.

1.4 Farming Strategy and Structural Change

One element of the contemporary crisis in agriculture is the general management strategy of farmers. Of particular relevance is the logic of management strategy, that is, what the long-term goal of farming is to the farmer. It is the general goal which, for example, provides an orientation to the option of borrowing for development.

Some recent overseas research finds two broad strategies: one of 'intensification' and one of 'extensification' or enlargement (Ploeg, 1985). The 'intensification' strategy avoids purchased inputs and seeks productivity increases per unit of input by pursuing the "craftsmanship" of production. Production increases are gained by knowledge applied to management and day to day work. The farmer attempts to preserve independence and self sufficiency. In contrast, the enlargement strategy involves delegating work tasks and coordinating farm management via market relations. The farm is developed and expanded in size and scale by adjusting to evolving economic conditions. Ploeg found that both strategies can lead to increased production, and in Italy at least, the enlargement strategy was predominant among contemporary dairy farms.

It is possible that both strategies exist among farmers in New Zealand. Obviously, the enlargement strategy has been popular between 1951 and 1971 when there was a rapid decline in the number of farms. Enlargement may be still important after 1971 on pastoral farms which have tended to increase in size. We may have at present two groups, one of which tends to follow the intensification pattern and another group which tends to follow the enlargement pattern. The latter strategy would have predisposed farmers to take on developments and then suffer as returns were not sufficient to pay back development and borrowing costs. The former strategy, if it has been adopted in New Zealand, would mean that there is a group of farmers better able to survive the current economic changes largely because of their past management strategy. It remains to be seen whether these two strategies have been operational in New Zealand and if they have been, to what extent each has been adopted.

Somewhat similar dichotomies of farmers have been found in the US associated with different cultural groups. For example, Salamon (1985) finds that farms in a German ethnic group are smaller and more diversified than a group of Yankee farmers. The former group are motivated to replicate the family farm and farming goals, whereas Yankee farmers are driven by entrepreneurial motives and tend to develop crop monocultures. Flora and Stitz (1985) produced similar findings for these two ethnic groups, but while German origin was a good proxy for yeoman farming, US-born farmers were not necessarily entrepreneurs. Even British research reports generally similar types of farmers' strategies. A detailed study of 400 Scottish farms between the 1978/79 and 1982/83 seasons (Wagstaff, 1985) finds many farms in the high performance category were low input farms and that high input use appears to result in small and uncertain gains in terms of unit cost. While this research is on a different tack to that which includes ethnic background, it does show that there can be two strategies in overall farm management, and that the 'intensification' strategy can be economically viable.

The above literature indicates that there are at least two general approaches to farming management. These strategies may be related to the degree of financial stress farmers have faced. Looking at farmers' responses in terms of intensification or extensification would be useful in understanding farm management.

Other research has focused on individual farmers' responses to changed crop economies, and examined the implications of these changes for farm structure at the aggregate level. For example, Gladwin and Zabawa (1984) studied farmers who faced a major decline in commodity

price for tobacco and looked at the overall changes in the pattern of agricultural development. For these Florida farmers, tobacco was 65 percent of the value of total agricultural production. The study focused on the decision to cut back production and on the decision on how to cut back production. Relevant to NZ conditions is the finding that some tobacco producers diversified into nursery crops and tomatoes because these crops required management similar to tobacco production. However, high capital requirements and changing markets led to many failures in these new commodities. Out of 51 farmers, 19 became larger, 11 became smaller and part-time operations, nine left farming and 12 retired. Over the years following the first year of low tobacco prices, the full-time farms became larger operations with larger gross sales, net farm income and assets, and also larger debts and debt/asset ratios. Part-time farmers, by adopting a conservative strategy, maintained a greater share of assets.

The structural changes in the county derived from individual farmers' responses to changed crop economies. The findings showed that farmers had to get bigger, get off-farm work, or get out of farming, responses which have been quite typical of many farm structure adjustments in the US. These responses fit in with the growing dual structure of US agriculture where the few remaining full-time farms produce most of the total agricultural production.

Barlett (1984) found different responses in another county-level study of farmers' response to drought and increasing debts. Results from a survey and from interviews showed that there were three types of farmers. First, and least affected by economic changes, were retired and disabled small-scale farmers most of whom had not borrowed money. Second was a group of part-time farmers on larger farms who work 40 hours per week off-farm. Both the first and second group accounted for 56 percent of all farms, owned 30 percent of all land, and while some of them lost savings and income from drought few faced bankruptcy. The third group were full-time farmers with farms at 283 hectares on average, about five times larger than the first or second group. Most of those full-time farmers had some off-farm income. However, 37 percent were in serious financial trouble with debts greater than 75 percent of assets.

The farmers in this county had a number of strategies to cope with drought and low prices. These strategies and who undertook them are listed below:

1. Increase area operated (mostly full-time farmers - 42 percent)
2. Decrease area operated (many, mostly retired/disabled - 38 percent)
3. Increase hired labour (few, some full-time farmers)
4. Decrease hired labour (about one third of all farmers)
5. Increase off farm work (all, most full-time farmers - 29 percent)
6. Use irrigation (most full-time farmers - 46 percent)

Other adjustments included renting land rather than buying land, and during the adjustment period there were very few land sales.

Barlett argues that the family farm will survive better than other types in the current phase of farm structure change in the county

studied. Of the full-time farms, it is the renters and the large scale farms with more than 50 percent hired labour who were going bankrupt. These two types had the greatest debts and had been in farming for less time than the full-time family farms which owned most of their land. Thus for Barlett, the farm crisis will not necessarily weed out the best managers but select farmers who established early.

It is clear from the above research that the structural implications of farmers reactions to financial crisis are ambiguous. One study reports that family farms must get big, get off-farm work, or get out of farming. Other research shows that established family farms with less than 50 percent hired labour and who have not borrowed to develop are the survivors of the financial squeeze. The findings reflect a major divide in the theoretical literature over the long-term prospects for family farms. One viewpoint has it that family farms will be subordinated to capital and take on the characteristics of industrial production based on wage labour. The other viewpoint argues that the household labour characteristic of family farms provides greater scope for survival.

1.5 The Research Problem

There is only a small amount of factual information on farmer's responses to economic restructuring and changes in NZ agriculture as a whole. There are opinions about possible changes in NZ agriculture. For example, Neil Taylor of the New Zealand Meat and Wool Boards' Economic Service (1986b) suggests that there may be increases in farm size, increased corporate ownership, and more extensive management farming (i.e., decreased inputs and outputs). Taylor sees little option for diversification within traditional agriculture because of lack of management skills, physical limitations, high capital requirements, and market uncertainty. He sees more opportunities in the area of new products and new markets. This view is shared by Mr Moyle (1986), the Minister for Agriculture and Fisheries, who sees the problem as one of under-marketing of existing produce.

Pessimism regarding change is also recorded in the MAF Advisory Services Division survey of sheep and beef farmers. They find that where diversification into horticulture has occurred, both decreased product prices and high interest rates on money borrowed for diversification are weakening the financial base of the whole farm. The Advisory Services Division also states that farmers are adopting the following short-term survival tactics:

1. sale of capital stock, plant or machinery
2. non-replacement of plant and machinery
3. sale of farm timber
4. sale of part of farm
5. seeking off-farm work by farmer or spouse
6. reducing labour

Longer-term tactics included increasing crop area, reducing sheep numbers in favour of cattle, and changing to all wool farming. The Division found that farmer morale was low, and with an uncertain environment combined with high levels of stress, there was little forward planning.

A more optimistic view of the future can be gained from the results of John Pryde's 1985 farmer opinion survey (Pryde and McCartin, 1986). In response to a question on whether they were currently intending to set aside some part of their farm for the development of activities other than the type of farming they were presently involved in, about one third replied in the affirmative. Of these, 32 percent nominated goat farming, 25 percent horticulture, 15 percent deer farming, and ten percent trees. Thus, at least some farmers appear to have the resources to undertake changes in production.

At the present time we lack an informed view on two key aspects of restructuring in agriculture. The first area concerns the individual responses of farmers. An important part of this research would include study of farmers' perception of new agricultural policy and to document in general terms their responses to economic change. The second area concerns the collective response of farmers, that is, the changes in primary production as a whole. The sum of all individual changes influence the overall structure of agriculture. The present research addresses the first of these issues and seeks to analyse farmers' responses to economic change. The above literature review suggests that farmers can make a variety of responses to economic change and that these responses may be associated with different types of management strategy. The remaining task is to present up to date data on restructuring. Following the methods chapter, survey data are presented and analysed in order to provide a description of contemporary adjustments and responses. Finally, the results are discussed in terms of the need for extended analysis of the data and additional research on farm structure, and in terms of understanding farming strategy in the New Zealand context.

CHAPTER 2

METHOD

2.1 Introduction

The general objective of the empirical research was to learn about pastoral farmers' responses to economic change in 1986. The survey was designed to give an indication, in two selected regions, of how farmers saw government policy, their own situation, and what they were doing in order to adjust to the financial downturn in primary production. This chapter outlines the method used and presents data relevant to an evaluation of that method.

2.2 The Questionnaire, Sample, and Response Rate

A seventeen page questionnaire was prepared in booklet style containing a four paragraph, introductory letter requesting assistance (see Appendix 1). Respondents answered questions by writing a number in a box, or by writing an occasional comment. Questions covered seven topics, namely: farm information, approach to farming, government policy, financial situation, coping strategies, assistance needed, and farmer information. The questions sought to describe farmers' situations and their responses to the financial downturn. In addition, the questions sought to address the issue of intensification and extensification, and approach to farming.

Rather than a comprehensive survey based on a sample from all New Zealand farmers, the author, in consultation with the Ministry of Agriculture and Fisheries, decided to focus on two specific counties. Hurunui and Clutha counties were selected because they represented pastoral agriculture and because they both had a large number of farms. Both counties have a clear majority of sheep-beef farms. Hurunui County is north of Rangiora and includes Loburn, Amberley, Waikari, and Hawarden. Clutha County is south of Balclutha and includes Clinton, Owaka and Chaslands.

The sampling frame was the June 1986 Valuation Department list of all holdings in each county. The list excluded residential land, forestry land, and the residual category of "other" land. From the list of 2,217 cases a one third sequential sample was taken yielding a sample of 739 cases. The questionnaire was posted on the 5th August 1986 and a reminder card posted on the 22nd August 1986. Most replies were received by September.

From the 739 questionnaires mailed out a total of 426 replies were received. This number returned represents an unadjusted response rate of 58 percent. There were 384 usable responses giving a final response rate of 53 percent.¹ The presence of 22 incompletable questionnaires reflects the fact that the questionnaires were sent to all holdings listed regardless of size. Many of these 22 cases were on

1 Of the 739 questionnaires mailed out there were 15 returned by the Post Office as "gone no address" and five returned with a note that the original occupier had either moved or sold their land. Taking these 20 cases off the original 739 leaves 719 of which 426 is a 53 percent response rate. From the remaining questionnaires received 22 were sent back incompletable because the respondents considered them to be irrelevant.

smallholdings or were retired from farming. For the remainder of this report the results are based on the replies received from the 384 usable questionnaires.

The Valuation Department records provide a means to evaluate replies in terms of full or part-time activity. More full-time farmers replied than did part-time farmers, so that the response rate from full time farmers was 60 percent.

2.3 Sample Representativeness

The 384 replies represent 17.3 percent of the total farm population for Hurunui and Clutha counties. Past research (Fairweather, 1985) has shown that a 17 percent sample is sufficient to be a representative sample for surveys of farmers. In addition, it is possible to evaluate the representativeness of the sample by comparing it with known standards. In this case some characteristics of the sample are compared with the Agricultural statistics for 1984. Table 1 shows farm type in terms of number and area for both counties. The data shows that the distribution of farm types is similar for both sets of data. It is reasonable to conclude that the survey sample is representative of the population for Hurunui and Clutha counties.

Table 1

Comparison of Farm Type Using Agricultural Statistics
Data and Survey Data

	Survey			Agricultural Statistics		
	No.	%	Area (hectares)	No.	%	Area (hectares)
<u>HURUNUI</u>						
Horticulture	11	6	14	28	3	11
Dairy	4	2	64	16	2	45
Sheep/Beef	139	74	447	645	76	412
Arable	15	8	134	44	5	80
Other	19	10	18	114	13	1288
Total	188	100	345	847	99	492
<u>Clutha</u>						
Dairy	7	4	95	28	4	88
Sheep/Beef	162	91	335	649	88	300
Arable/horticulture	5	3	234	17	2	254
Other	4	1	94	44	6	1267
Total	178	99	318	738	100	349

Table 2 shows the patterns of farm size distribution for each county for the same two sources of data. Again, there is general similarity in the distributions. The two tables indicate that the sample is representative.

Table 2
Comparison of Farm Size Distribution Using Agricultural
Statistics Data and Survey Data

Size Range (hectares)	HURUNUI		CLUTHA	
	Survey	% Agr.Stats.'84	Survey	% Agr.Stats.'84
< 5	11	7	2	2
5-9	7	9	3	3
10-19	7	7	4	4
20-39	9	10	1	4
40-59	4	6	1	3
60-99	8	8	6	7
100-199	13	13	22	23
200-399	16	19	41	36
400-799	11	10	15	12
800-1199	6	5	3	2
1200-1999	5	2	1	2
2000-3999	1	1	1	1
> 4000	1	1	-	-

2.4 Limitations of the Method

There are three limitations to the method. First, the survey provides information from one point in time, namely August and September 1986. The method does not provide direct information on changes in attitude or response to a questionnaire over time. However, to some extent this problem can be mitigated by attempting to learn about the fundamental qualities of the respondents which are unlikely to change over time. Second, the questionnaire is not suitable for studying detailed aspects of farmers' responses to economic change. For example, only summary data are available on financial situation. The objective of the research was to cover all major aspects of farmers' responses in order to give a comprehensive overview of their situation rather than detailed information on specific issues.

The third limitation relates to the generality of the findings. The two selected counties have about 2000 farms but there are approximately 60,000 farms nationally. Thus, on a statistical basis the results may not be generalisable to New Zealand primary production in general. However, both counties have a clear majority of pastoral farms, and they may, to some extent, be taken to represent pastoral farming. It seems likely that, in general terms, pastoral farmers in Hurunui and Clutha counties will respond to economic changes in ways similar to pastoral farmers elsewhere.

CHAPTER 3

RESULTS

3.1 Introduction

The primary source of data is the questionnaire survey and the following presentation of results is based on this source. Each section below begins with a summary of the main findings in that section. The initial objective is to describe the general characteristics of the respondents and to build up a profile of the "typical" farmer.

3.2 General Characteristics of All Respondents

A number of questions focused on general farm information, and taken together they give a description of the typical farmer respondent. In summary, most of the respondents are full-time, sheep-beef farmers on a farm of 381 hectares on average. They are owner-operators with financial control of the farm, and on average, they are 44 years old. The farms are typically freehold and organised as individual ownerships or partnerships. The farms are just as likely to have unpaid family workers as paid farm workers or managers.

The average size of farm for all respondents was 326 hectares, with a mode of 16 hectares and a median 199 hectares. These data reflect the relatively large number of smallholdings included in the sampling frame. With respect to type of farm, Table 1 (see earlier) shows that most respondents (82 per cent for both counties) have sheep/beef farms and there are small proportions of all other types of farm. The average size of sheep/beef farm is 381 hectares, with 35 or nine per cent of these being high or hill country grazing farms, and 277 or 72 per cent of these being fattening farms.

Most respondents (69 per cent) were full-time farmers and seven per cent were part-time farmers, defined in the questionnaire as deriving most income from their farm. The remaining category was smallfarming, deriving most income from off their farm, and this category was the second largest at 21 per cent. Generally, the results reflect the wide range of farm sizes and types included in the sampling frame but clearly show that the typical respondent is a full-time farmer. Thus, most respondents (at least 57 percent and probably more) are full-time, sheep/beef farmers.

Other data show that 78 per cent of all respondents said their occupation was farmer. Other occupations were professional (three per cent), self-employed (six per cent), and wage earner (eight per cent). Regarding prior occupations 28 percent said they had always been a farmer, 23 per cent said they had been farm labourers, and 13 per cent said wage-earners. Most respondents (89 per cent) said they were owner-operators and 91 per cent said they had control over the financial management of the farm. The average age was 44 years, mostly men responded (92 per cent), and they had operated their present farm for 14 years on average. Respondents had been farming for 21 years on average, although there is a large group who said they had been farming for 10 years. Thus, the typical respondent is a male farmer of 44 years with financial control over an owner-operator unit.

Some other information is available on the farm itself. Almost all land is freehold tenure and held as either individual ownership (33 percent) or as a partnership (46 percent). This proportion shows more partnerships than the national figures based on the agricultural census (47 percent and 39 percent respectively for 1985) and suggests that the pastoral sector is among the leading sectors which are making the change from individual ownership to partnerships. Other survey data show that dairy, arable and grazing farms have about equal individual and partnership ownership, whereas fattening (the majority) and horticulture have more partnerships than individual ownership.

In the last five years 164 respondents (43 per cent) bought or sold land, with most of this group (121) buying land. The average size of land bought was 214 hectares, (modal and median size 80 hectares), while the average size of land sold was 409 hectares (modal and median size 60 hectares). Thus, most of the land transactions involved purchases of about 80 hectares, typically added on to sheep/beef farms with an average size of 381 hectares. It is probable that some of the units of land bought are the same as those sold because the sizes are similar. In addition, national farm size data show a trend of declining numbers in the 40 to 200 hectare range, and the addition of 80 hectares to farms of 381 hectares fits this general trend.

There is some data on farm work organisation. While most respondents are owner-operators, there are 26 per cent who say that there are two people who do the physical work on the farm. This number corroborates the point noted above that there were a significant number (46 per cent) in partnerships. The fact that more people say they are in partnerships than work as two owner-operators suggests that some of the partnerships are with spouses who do not usually do physical work on the farm. There are 141 or 37 per cent of the total number of respondents who said they had one or more unpaid family workers.

There were very few private lessees or sharefarmers. However, there were 68 (ten per cent) paid farm workers, nine (two per cent) paid farm managers, and 57 (15 per cent) paid family workers making a total of 134 (35 per cent) paid employees. Since in most cases respondents who selected these paid worker categories said they employed one person, it is likely that 134 farms employ one person on average. As noted above, there is an approximately equal number of unpaid family workers.

Finally, some county comparisons are available. Table 3 shows some differences in extent of farming activity for each county. Also full time farmers are larger in Hurunui county, while part-time farmers are larger in Clutha county. There are more part-time, small farm or retired farmers in Hurunui county than in Clutha county, and comparing full-time farmers, versus non full-time farmers for both counties produces a significant Chi-square at the 0.01 significance level. These findings are explained by the greater proportion (30 per cent) of businesspersons, professionals, self-employed or wage earners in Hurunui county compared with eight per cent in Clutha county. Hurunui county is close to Christchurch which means that there is a greater proportion of non-pastoral farms occupied by a range of people with non-farm occupations.

Table 3
Number and Size of Farm by Extent of Farming and County

	Hurunui	Clutha	Sign. Level
Full-time	115 524 ha	143 375 ha	*
Part-time	14 58 ha	11 158 ha	**
Small farmer/Retired	52 22 ha	21 33 ha	
Other	7 375 Ha	3 122 Ha	
Total	188 345 ha	178 318 ha	
No Response	18 —		
	384		

In the following analysis data from all respondents is used and these data are taken to represent the "typical" farmer described above. Where the type of farm or farmer is relevant then the data are broken down accordingly. Of immediate concern now is the financial situation of the respondents.

3.3 Financial Situation

In summary, 71 per cent of respondents said their financial situation was worse than last year. One third of respondents had a deficit of -\$15,000 and two-thirds had an average surplus of \$20,000. Typically, gross income had declined by \$22,000 since the previous financial year. Twenty per cent were in a difficult or crisis situation whereas 40 per cent were in a sound position. Debts derived from refinancing existing debt and from development expenditure.

All respondents were asked to describe their financial situation and compare it with their last financial year (i.e., 1984/85). Seventy-one per cent said it was worse than their last year, 21 percent said about the same as their last year, and six per cent said it was better than their last year. In addition, respondents were asked to describe in approximate terms their current financial situation for the 1985/86 year. Table 4 shows a summary of financial situation and includes data specifically for full-time farmers and for sheep/beef farmers. The deficit and surplus figures are averages and show the number of respondents in each situation. Fewer respondents provided these data.

The table shows that full-time farmers had lower off-farm income and higher figures for all the other categories when compared with all respondents. However, the net result in terms of either deficit or surplus was much the same. The higher off-farm income for all respondents reflects the higher proportion of non full-time farmers with significant off-farm income in this group.

Table 4
Approximate Financial Situation 1985/86

	All Respondents (n = 240) \$	Full-Time (n = 197) \$	Sheep/Beef (n = 118) \$
Farm Income	81,255	106,537	84,993
Off-Farm Income	14,150	5,117	8,760
Gross Income	93,602	113,620	95,774
Total Cash Expenditure	90,470	110,166	92,769
Deficit	-15,612(71,36%)	-16,292(61,41%)	-15,962(62,39%)
Surplus	20,293(125,64%)	22,411(88,59%)	20,779(99,62%)
"Round Figures"			
Gross Income 84/85	108,000 (298)	140,000 (216)	113,000 (254)
Gross Income 85/86	86,000 (283)	111,000 (206)	89,000 (243)
Difference	22,000	29,000	24,000

The sheep/beef group has lower farm income than the full-time group, possibly reflecting better financial conditions for the latter type of farm. However, the figures for the sheep/beef group are quite similar to the all respondents group.

Regardless of group, the table shows that just over one-third of respondents were in a deficit situation to the extent of about \$15,000 on average. The maximum deficit was stated as -\$70,000 and 22 out of the 71 cases (36 per cent) were at or below -\$20,000. The most frequent deficit figure was -\$10,000. The table also shows that just under two-thirds of respondents were in a surplus situation to the extent of about \$20,000 on average. The maximum surplus was \$100,000 and 49 out of the 125 cases (39 per cent) were at or above \$20,000. The most frequent surplus figures were \$10,000 and \$20,000 (ten each).

In general, the data show a wide spread of financial situations with most respondents in a surplus situation.

Table 4 also shows respondents' statements of gross income in round figures for the last two financial years. These data are a check on the accuracy of the specific figures and they show similar levels of gross income. Typically, gross income has declined by about \$22,000, and by up to \$29,000 for full-time farmers. A gross income for 1985/86 equal to 1984/85 would have left most respondents in a surplus situation. Surpluses would have ranged from \$5,000 to \$40,000.

Other data are available which gave an opportunity for respondents to express how they perceive their financial situation. Table 5 shows the relevant data for all respondents.

Table 5
Respondents' Statement of Financial Situation

	No.	%
Sound position, no need to make significant adjustments	147	39
Delicate position, can hold on with minor adjustments	152	40
Difficult situation, have to make some major adjustments	64	17
Crisis situation, may not survive	12	3
	—	—
No Response	375 9	99
	—	—
Total	384	

The first category reflects a sound financial situation, and it is surprising that there are 147 cases here when there are 125 in Table 4 who have a surplus, regardless of size. However, not all respondents replied to the questions on which Table 4 data is based. Table 5 also shows that an equally large number (152) are in a delicate financial situation, and some degree of major change is required for 20 per cent of all respondents, with three per cent thinking that they may not survive.

While the above data give an overview of respondents financial situation, there is some additional data on financial factors that contributed to their current financial situation. Table 6 shows the areas for borrowing over the last two years. Most respondents (29 per cent) selected refinancing existing debt as their largest area of

borrowing and many (21 per cent) selected development. These two areas accounted for half of all the cases, with remaining responses spread evenly over the other five options. Thus, respondents' financial troubles have not occurred suddenly but are to a large extent a product of earlier debt situations.

Table 6
Largest Area of Borrowing in Last Two Years

	No.	%
Land	25	14
Building	16	9
Livestock	16	9
Plant and Machinery	22	12
Refinancing	52	29
Development	38	21
Other	12	7
	—	—
Did not borrow	181 165	101
	—	—
No Response	38	
	—	—
Total	384	

Two other points conclude this section on financial situation. For those respondents with a cash deficit, most (44 per cent) said they will try to finance their deficit through their traditional financier such as a bank or a stock agent. Thirteen per cent mentioned the Rural Bank discount scheme and 17 per cent mentioned off-farm work by themselves or their spouses. However, while the focus of the responses was on negative aspects of financial situation, there was optimism for the future presumably from those who were in a sound position. There were 153 (41 per cent) who stated that they believe they will have a cash surplus over the next five years, and this is more than the 77 (21 per cent) who answered in the negative. This latter number roughly equates with the 69 in Table 5 who are in a difficult or crisis situation.

It is clear from the above data, despite being an overview of financial situation, that a significant proportion of respondents were in a serious financial situation in August and September of 1986. While it can be argued that some respondents may have been over-reacting and exaggerated the description of their situation, it is equally likely that some respondents would knowingly or even

unknowingly understate their situation. On balance the data give a reasonable indication of how difficult farmers were finding the 1986/87 financial year. The next section goes on to consider what farmers are doing in response to their financial situation.

3.4 Farmers' Responses to Economic Change

In summary, 65 per cent of respondents are unlikely to change their management strategy while 32 per cent are inclined to change or adjust management strategy. Twenty-eight per cent have already developed new land uses, typically deer, goats and trees. Adjustments to management include a low input policy, hiring less labour and using more unpaid family labour. However, some respondents have increased stock or increased area cropped. Forty-two per cent have the same or higher expenditure and 58 per cent have decreased expenditure. Off-farm investment will increase.

The issue of response to economic downturn involves attitude to change. Table 7 shows how all respondents choose to classify themselves with respect to changing their farm management situation.

Table 7
Preferred Management Strategy

	No.	%
I have to change and diversify into new types of production	30	8
I have to change and adjust my present farming system	91	24
I have no choice but to stay with my present farming system	149	40
My present farming system is quite adequate	92	25
I have to look for ways out of farming	14	4
		—
No Response	8	101
	—	
	384	

Most respondents (40 per cent) say they have no choice regarding changing management strategies while one quarter say their farming system is adequate. These two groups, accounting for 65 per cent of all respondents, are unlikely to change their management strategy. However, about one third are inclined to change although for most of these respondents it is an adjustment rather than diversification. Finally, 14 respondents (4 per cent) say they have to leave farming, and this number is higher than those who said they were in a crisis financial situation in Table 5 above.

Some questions focused on new land uses actually undertaken or intended. Some respondents (28 per cent) have already undertaken a new type of land use or new management system. Typically, about 20 per cent of their farm has been developed with this change, and most of these respondents expect a return from the new land use in about six months. Most (66 per cent) of this group said that undertaking development did not contribute to their financial downturn while 28 per cent said it did, and the remainder were unsure.

Table 8 shows the types of new land uses undertaken or intended. Deer, goats, and trees are the most popular types of development already undertaken. The average deer herd size is 58 and the average goat herd size is 80, but in both cases the distribution of sizes is broad. However, the most popular land uses intended are trees and horticulture.

Table 8
New Land Uses Undertaken or Intended

	Undertaken		Intended	
	No.	%	No.	%
Deer	19	22	8	12
Goats	16	18	5	7
Trees	12	14	19	28
Horticulture	6	7	12	18
Cropping	5	6	2	3
Other	29	33	22	32
	—	—	—	—
	87	100	68	100
No Response	297		316	
	—		—	
	384		384	

In addition to making adjustments to land uses, farmers can adjust their management strategies in other ways. At the time of survey, respondents could either have only considered or else adopted a wide range of management strategies. Table 9 lists 13 management options and indicates which are most popular as indicated by all respondents. The adopted column shows that respondents had preferred to adopt a low input policy (64 per cent), hire less labour (33 per cent), and use more unpaid family labour (31 per cent). Typically respondents cut back on obvious expenditure items. An equal proportion had either increased stock (21 per cent) or decreased stock (22 per cent) and income had been sought by off-farm work (19 per cent) or sale of assets (16 per cent). The table shows that each measure had already been undertaken by many respondents although many of the options were still under consideration by about ten per cent of all respondents. Increasing farm size was the most popular item still under consideration.

Table 9
Management Strategies Considered or Adopted²

	Considered		Adopted		Total	
	No.	%	No.	%	No.	%
A low input policy	48	12	245	64	257	67
Increase farm size	66	17	19	5	85	22
Decrease farm size	40	10	15	4	55	14
Increase crop area	40	10	48	12	88	23
Decrease crop area	26	7	28	7	54	14
Hire more labour	23	6	5	1	28	7
Hire less labour	32	8	125	33	157	41
Off-farm work	44	12	72	19	116	30
Use more unpaid family labour	26	7	120	31	146	38
Buy irrigation or other technology	19	5	12	3	31	8
Sell stock, plant, machinery, trees	30	8	62	16	92	24
Increase stock carried	24	6	79	21	103	27
Decrease stock carried	43	11	86	22	29	34

It is interesting to note that adjustment to management strategy includes increasing size or scale of operation. As many respondents had increased farm size, crop area and stock carried as had decreased farm size, crop area and stock carried. While most respondents sought to recoup income there were some who purchased technology or hired more labour and appeared to expand their enterprise. It seems that financial pressure induces both cutbacks and expansion, albeit to a limited extent.

Cutting back expenditure is a popular response to financial downturn, as indicated above. Table 10 shows the extent to which total capital expenditure on plant, machinery, and fences etc. has changed over the 1985/86 financial year. The table shows that 42 per cent have the same or higher expenditure while 58 per cent have decreased expenditure. Some of those respondents with the same expenditure as last year may have had a low level of expenditure for both years.

² Table percentages do not add up to 100 per cent because quite frequently more than one option was selected by each respondent.

Table 10

Extent of Change in Total Capital Expenditure

	No.	%
More than last year	18	5
Equal to last year	132	37
Decreased by up to \$10,000	100	28
Decreased by \$10 - \$20,000	59	17
Decreased by \$20 - \$30,000	18	5
Decreased by \$30 - \$50,000	20	6
Decreased by over \$50,000	7	2
	-----	-----
No Response	354	100
	30	

	384	

Most expenditure cutbacks were less than or equal to \$10,000, but 17 per cent of all respondents have cut back from \$20,000 to \$30,000. Other data show that for those who did cut back, it was mostly in the area of fertiliser, and plant and machinery expenses. As the data in Table 9 indicate there are a small number of respondents who have adjusted to economic change by increasing expenditure.

The last topic to consider is what impact all the above changes in management have on future investment patterns. Table 11 shows the extent of future on-farm and off-farm investment for the 171 or 44 percent who anticipate a cash surplus over the next five years. In the table it is assumed that what is not invested on-farm is invested off-farm. The data shows a fairly even distribution, with 35 per cent investing more than half of their surplus off-farm, of which 15 per cent will invest all of their surplus off-farm. Of those considering off-farm investment 60 per cent say that this will increase in amount and 33 per cent say it will stay the same.

Table 11
Distribution of Future Investments

	No.	%
All on farm	34	20
Over half on farm	38	22
Exactly half on farm	39	23
Less than half on farm	34	20
None on farm	26	15
	171	100
No Response	213	
	384	

3.5 General Attitudes

In summary, respondents blame government and processors for the farming recession although one-fifth support government policy. Respondents believe government policy is unfair and want greater government intervention in the economy. Respondents want recognition and practical help rather than coping skills training, and remarkably few appear to want financial or technical information. They see a trend towards marketing and financial sophistication and believe meat processing and marketing should change.

The results presented so far have given a description of the "typical" respondent and then described both financial situation and responses to it. The financial data can be supplemented by describing a range of general respondent attitudes. These attitudes provide insight into the situation as farmers see it and provide some depth of understanding to farmers' responses to economic change.

The first area of study is the cause of farming recession. Table 12 shows a list of ten groups of people and the importance respondents attached to each group as the cause of farming recession. The rows across shows the percentage of all respondents who considered that group as either very important (VI), important (I), neutral (N), unimportant (UI), or very unimportant (VUI). The number in parentheses is the sum of the adjacent figures and indicates where most of the respondents rank that particular group. The question was answered by 363 or 94 per cent of respondents.

Table 12
Importance of People as Cause of Recession

	VI	I	% N	UI	VUI
Farmer politicians	15	26 (55)	29 (55)	24	6
Processors-management (1)	40 (85)	45	11	4	0
Processors-marketing (1)	38 (80)	42	16	4	1
Processors-labour (3)	52 (79)	27	9	8	5
Independent marketers	13	34 (72)	38	12	3
Past government (4)	26 (75)	39	18	14	3
Overseas farmers (2)	9	32 (59)	27	23	8
New Zealand farmers	14	27 (51)	24	23	12
Overseas governments (2)	26 (70)	44	15	10	5
Present government (3)	59 (83)	24	7	5	5

The table shows that nearly all groups are given considerable importance. However, present government and all three sub-groups of processors are seen as most important. In contrast, overseas farmers, New Zealand farmers, and independent marketing are seen as important or neutral. All classes, except farmer politicians, have a skewed distribution to the very important end of the continuum. Clearly, there is ambivalence in attitude to farmer politicians.

The results in Table 12 obscure how respondents evaluate specific clusters of groups. While most groups are seen as important it is possible that some respondents would select only one or two groups as important. By presenting the data for all respondents together these differences are cancelled out. Factor analysis is a suitable method for locating specific clusters of groups which are seen to be related as to a cause of recession. On Table 12 there are numbers from one to four next to some of the groups, and like numbers link up groups which were associated as important. The first association links both management and marketing of processors. Some farmers obviously look to meat and dairy company administrators, for example, as a major cause of farming recession. The second association expresses a concern that it is overseas farmers and governments that are the cause of recession. The third association blames unions and government, while the last association blames the past government.

These factor analysis data show face validity with four fairly obvious areas for ascribing the cause of farming recession. This finding in itself may not be directly useful, but it does show the heterogeneity of belief among respondents. Questions on the importance of 13 factors, as opposed to people, as the cause of farming recession produced similar findings in that all factors were ranked as important. Factor analysis again produced four associations but these did not appear to be informative.

In general, the data on the farmers' view of cause of the farming recession can aid in appreciating how farmers see economic restructuring. The data do not contribute to evaluating what are the actual causes of recession.

Other attitudinal questions focused on government policy. While most respondents (68 percent) disapproved of government policy, there was a core of 21 per cent who did approve. On the topic of economic goals, respondents gave their ranking of importance and their view of government's ranking of importance. For 'decreasing the budget deficit' and 'increasing economic performance' the two sets of rankings were similar. However, 'decreasing inflation' and 'making agriculture economically sound' were approved of more by farmers than what they thought government would approve. These results suggest that respondents do not believe that the government is entirely sincere when it says reducing inflation and strengthening agriculture are important.

Respondents' main complaint about government policy is that it has been unfair. Most respondents (90 per cent) say that the government has not been even-handed in its restructuring of the economy. The outcome of government policy is seen as leading to low incomes and a struggle to survive for 40 per cent of respondents, while 24 per cent see a gradual rundown. In contrast, the remaining 24 percent see government policy leading to long-term strength and stability. As an alternative to present policy, 30 per cent want a greater economic role (e.g., managed float, interest rate control), 22 per cent want distortions removed, and 16 per cent want a more even-handed policy. Almost two-thirds (60 per cent) agree that government policy is deliberately hurting farmers.

The data on attitudes to government policy show general disapproval, even though a small group of respondents support government policy. Respondents believe that the policy is unfair and they feel that they are being victimised.

The questionnaire included a variety of questions on assistance and information needs. Table 13 shows the importance of a number of types of assistance, and for these data there is clearer discrimination than in earlier tables using the five point importance scale. The table shows that most respondents rank the following as important: financial advice, recognition of the problems facing farmers, and change in government policy. Of these first three it is recognition that is ranked most important. Of lesser importance are long term loans and general information for survival. Ranked as fairly neutral are stress management, short-term loans, and retraining. These data reflect the belief respondents have that their situation is poorly understood by other people. They would favour assistance that is directly related to the farm operation rather than assistance related to themselves.

Table 13
Importance of Types of Assistance

	VI	I	% N	UI	VUI
Financial advice	38 (81)	43	12	5	2
Recognition	48 (88)	40	8	4	0
Stress management	10	25 (59)	34 (57)	23	8
Short term loans	18	38 (57)	19	17	7
Change in government policy	54 (81)	27	13	5	2
Long term loans	27 (63)	36	18	5	4
General information for survival	25 (62)	37	16	14	3
Training for new occupation	3	11	25 (57)	32	22

Some respondents expressed specific interest in financial and technical information. Of the 174 (45 percent) who made a statement, most wanted information on commodity prices (lamb, mutton, beef), financial rates (inflation, wage, interest), and on farm budgeting. It is noteworthy that 210 respondents (55 per cent) made no requests and 14 respondents (4 per cent) said no financial information was required. Fewer respondents (123 or 32 percent) requested technical information. Of those that did, most wanted information on marketing requirements, soil testing or fertilisers, and animal or crop health. On the subject of payment for information most respondents (52 per cent) would pay less than \$20 per hour.

There remain a number of questions which cover the general attitudes to changes in agriculture. One question focused on how respondents saw the future of New Zealand agriculture and horticulture over the next ten years. Table 14 tabulates the major observations volunteered by 139 (36 per cent) of respondents.

Table 14
Directions of Change in Next Ten Years

	No.	%
Increased financial sophistication, professional, commercial	21	15
More market related, market research, processing	47	34
Increased specialisation, intensity	14	10
Increased flexibility, diversification	13	9
Increased processing efficiency	8	6
Decrease family farm, changes in ownership, decrease population	24	17
Reversion of land	5	4
Increased farmer control	7	5
	139	100

The most popular view (34 per cent) is that the future would be market related and not product related with emphasis on marketing research and processing. There was also emphasis given to increasing financial sophistication (12 per cent) and increased specialisation (15 per cent). For those respondents who did contribute a response it is clear that they are responding to some of the current trends in farm business operation and see these as dominant over the next ten years. There is also a group of 17 per cent who chose to emphasise some of the possible consequences of current trends, namely the demise of family farms, or changes in ownership and rural population.

Views on marketing are also available for the issue of processing and marketing farmers' products. Table 15 shows respondents attitudes to the degree of change in organisation they think is required for meat, wool and crops. In general, there is approval that meat marketing and processing is in need of an overhaul, but there is satisfaction with wool and crops although nearly half would like minor changes. In addition, other results show that most respondents (77 per cent) believe that it is very important that farmers and processors produce specialised products rather than basic, raw commodities. Many respondents (30 per cent) believe that this is very important for wool and crops. The above data indicate that respondents have quite strong views about the role of marketing, although it is difficult to judge if this is a genuine indicator of marketing attitudes or a response to low product prices.

Table 15

Degree of Change Desired for Processing and Marketing

	Meat		Wool		Crops	
	No.	%	No.	%	No.	%
Present organisation satisfactory	20	6	151	41	51	20
Minor changes needed	49	13	174	48	115	45
Basic overhaul needed	296	81	40	11	89	35
No reply	365	100	365	100	255	100
	19		19		129	
	384		384		384	

The presentation of data on respondents' general attitudes show that there are a range of positions adopted on the issues explored. There are always some dissenters from the general view, and in some cases the attitudes to a given topic are quite broadly represented.

3.6 Approach to Farming

The data presented in all the above sections of this chapter give some idea of how farmers have responded to economic changes. The data are mostly descriptive and do not provide insight into the management strategies which underlie farmers' responses. In the following section, data on respondents' approach to farming is presented in order to improve our understanding of management strategy and motivation for farming.

In summary, the analyses show that there are four approaches to management strategy. The Financial Manager emphasises market prices and careful planning, the Productivity Increaser emphasises increasing production and size, the Individualistic Worker emphasises practical farm work, and the Lifestyle Farmer emphasises non-financial reward and the craft of farm work. There are three types of motivation for farming: Outdoors Way of Life, Status in Land, and Satisfying Independent Income.

The literature on intensification and extensification discussed in Chapter 1 was used to prepare thirteen statements about management strategies. Respondents stated their level of agreement with each statement and the set of statements was scored by 375 or 98 percent of respondents. Table 16 shows the percentage who selected each of five categories for each statement, with the five categories running from

strongly agree to strongly disagree. The table lists the key words from each statement, for which a full version of each statement can be found in Appendix 1.

Table 16
Level of Agreement With Management Statements

	SA	A	% N	D	SD
Farm work is a craft	23 (73)	50	11	12	4
Increase production/ labour unit	38 (87)	49	5	6	1
Increase size farm operation	7	6	32 (67)	35	10
Control over work	29 (78)	49	12	9	1
Farming is a business	48 (91)	43	5	3	1
Non-financial reward	28 (73)	45	7	13	7
Efficient farm work	24 (72)	48	15	12	1
Can pay to use contractors	31 (91)	60	6	2	1
Increasing production/area	25 (65)	40	20	12	3
Attention to market prices	37 (91)	54	7	1	0
Minimise dependence	16	51 (71)	20	13	1
Decreasing total costs of production	24 (74)	50	14	10	2
Planning and financial management	33 (78)	45	13	8	0

The table shows that respondents generally agreed with all statements except for increasing size of farm, and there was only slight agreement for minimising dependence. Three statements attract strong agreement and these are: 'farming is a business', 'can pay to use contractors', and 'attention to market prices'. It is only the first of these that most respondents strongly agree with, the other two having most respondents registering only agreement. All the remaining statements have high levels of either strongly agree or agree, but production per labour unit is favoured ahead of the others and production per area favoured slightly less than the others.

As in the earlier presentation of data with five point scales, it is quite likely that the overall results mask patterns of preference among specific groups of respondents. For example, it is possible that only some of those agreeing with 'farming is a business', would also agree with 'attention to market prices', that is, the particular way that business is pursued. There may be two quite distinct groups of respondents each agreeing with one of these statements and some others but not both. It would be relevant to learn if groups did exist and what combinations of statements they agreed with.

Factor analysis, using principal components and varimax rotation, yields four factors derived from the 13 management statements. These factors show which statements are related to each other and represent an underlying construct which particular groups have identified with. After the nature of the factors is understood it is possible to consider what groups of respondents are associated with the factors. Table 17 shows a matrix indicating the relationship between each factor and each management statement. The table is interpreted by locating the high factor scores (typically those above 0.4) and by locating negative scores.

Table 17
Factor Scores for Each Management Statement

	Factor 1	Factor 2	Factor 3	Factor 4
Craft	0.1	0.0	0.4 *	0.4 *
Production/labour	0.4 *	0.4 *	0.2	0.0
Size	0.0	0.4 *	0.1	-0.1
Work	0.0	0.1	0.6 *	0.0
Business	0.4 *	0.3	0.1	0.0
Reward	0.0	-0.1	-0.1	0.4 *
Efficient work	0.0	0.1	0.5 *	0.0
Contractors	0.4 *	0.1	-0.1	0.2
Production/area	0.1	0.7 *	0.1	0.0
Market	0.5 *	0.2	0.1	0.1
Dependence	0.1	0.0	0.4 *	-0.2
Costs	0.4 *	-0.2	0.1	0.0
Planning	0.4 *	0.1	0.1	-0.1

Factor 1 represents an emphasis on financial management and markets. The highest score is associated with market prices, and high scores associated with production per labour unit, business, using contractors, decreasing costs of production, and planning and financial management. (See Table 12 for a brief description of each management variable). There are no negative factor scores. Factor one emphasises many management variables, including efficiencies in the use of labour and an emphasis on decreasing costs of production by responding to changes in economic conditions. Responsiveness to market signals occurs in two of the management variables and there is little interest in increasing farm size or increasing production per unit area. The qualities of factor 1 suggest a label of "Financial Management".

Factor 2 has a particularly high score for increasing production on existing area, and high scores for production per labour unit, and increasing size. There is a modest score for farming as a business and a negative score for both decreasing costs in response to the market, and for non-financial reward. Factor 2 shares the interest in production and business that is evident in factor 1 but contrasts in some important ways. First, increasing farm size and increasing production per area are more important in factor 2 than in factor 1. Second, factor 2 registers disagreement with decreasing costs of production and responding to changes in economic conditions. On this latter point, factor 2 does not agree with the importance of market prices as does factor 1. The qualities of factor 2 suggest the label of "Productivity Increase".

Factor 3 has its high scores for control over farm work and for efficient and properly executed farm work. There are high scores for farm work as a craft and minimising dependence, with negative scores for non-financial reward and contracting. Factor 3 gives little attention to management, production, or markets and most attention to physical work. In addition, there is a concern to preserve independence and to avoid using contractors. These qualities suggest the label of "Individualistic Work".

Finally, factor 4 has a high score for farm work as a craft and for non-financial reward in doing farm work well. There are negative scores for minimising dependence, planning and financial management, and increasing size. For factor 4 there is little recognition of farming as a business, which all of the other three factors recorded, and little interest in production and management. The strong disagreement with minimising dependence suggests that factor 4 identifies with other businesses and is very likely a hobbyist or part-time farmer. The qualities of factor 4 suggest the label "Lifestyle Farming".

The above presentation describes four constructs which the factor analysis method found underlay the responses to the 13 management questions. Also of interest is the question of groupings of respondents who, in turn, underlie the four constructs. It is logically possible that all respondents gave a similar response to the 13 variables and gave similar scores to the specific variables which generated the factors. However, this is unlikely because each factor emphasises different aspects of management, and in some cases the factors have opposite scores for a given variable. Thus, the differing scores for some variables show that there must be subgroups among respondents. Some respondents scored variables in a similar way to form a group with similar attitudes to management, and these attitudes would be different from those in another group.

One way to examine subgroups is to select those respondents who scored high on one factor and look at their scores on each of the management variables. This method shows up the contrasts between each subgroup. Table 18 shows the spread of responses on the agreement scale for each management variable and for each management type. The table shows how each subgroup ranked the management variables and thus translates factor loadings into the actual agreement scores. It must be noted that there is a small number of respondents who load on more than one factor and their scores will be used in more than one type as shown in Table 18. This number is typically small and does not distort the main findings. Table 18 includes asterisks to show which variable received a high score for that particular factor and thus includes the essential points of Table 17.

The table shows that high factor loadings correspond with maximum numbers in the strongly agree option. For example, Factor 1 has the highest loading on market prices and for the group of 70 respondents who are identified by Factor 1 there are 62 who strongly agree and eight who agree. Almost all other high loadings have most respondents in the strongly agree column. The other point about Table 18 is that the numbers in either of the agree, neutral or disagree columns can indicate a level of disagreement. This occurs because the five point scale really indicates relative not absolute level of agreement. In some of the factors where there is a negative factor loading there are still quite a few respondents in the agree column. This situation reflects the fact that most respondents tended to agree with all variables. Thus, a position near neutral can indicate a significant distance away from agreement.

Table 18 also fleshes out some of the comparisons across factors and shows patterns of scores which are not highlighted by Table 17. For production per labour unit there is a modest level of agreement by factor 3 but there is not a significant factor loading. This variable is not effective at discriminating between factors. For 'increase size' most of the Factor 1 respondents disagree as do most of Factor 3 respondents. But this variable is good for distinguishing Factor 1 from Factor 2.

In addition to the study of types of management there is the topic of motivation for farming. The questionnaire included nine motivation questions asking for a rating of importance. Table 19 shows how these statements were ranked by all respondents.

Table 18

Level of Agreement for Each Factor and for Each Management Statement

	Financial Manager					Productivity Increaser					Individualistic Worker					Lifestyle Farmer				
	SD	D	N	A	SA	SD	D	N	A	SA	SD	D	N	A	SA	SD	D	N	A	SA
Craft	1	6	7	32	22	7	10	6	32	23	1	1	2	20	40 **	-	-	-	16	24***
Production	-	1	1	14	54 **	-	1	1	20	56 **	0	1	1	19	42	2	4	2	12	21
Size	10	22	27	3	7	1	7	24	25	21 **	4	16	22	11	10	10	12	11	3	4-ve
Work	1	8	7	27	26	2	5	6	35	30	-	-	-	5	59***	-	4	1	19	18
Business	-	-	1	9	60 **	-	2	1	17	57 *	1	2	1	16	43	2	-	1	11	26
Reward	7	10	1	28	23	12	7	2	26	30	7	12	15	14	26	-	1	-	11	30***
Work	2	13	5	22	27	1	10	10	26	30	-	-	1	10	53 **	1	4	3	11	20
Contractors	-	-	-	20	50 **	1	2	3	36	36	2	1	4	39	18-ve	-	-	-	12	30 *
Production	3	9	12	12	34	-	-	-	13	65***	1	7	11	23	32	4	4	11	8	14
Market	-	-	-	8	62***	-	2	1	27	48	-	-	2	27	35	-	-	2	17	22
Dependence	1	4	16	25	24	-	16	14	29	18	-	-	6	32	25 **	1	12	14	8	7-ve
Costs	-	-	2	19	49 **	3	15	10	22	25-ve	1	3	11	28	21	2	8	6	18	6
Planning	-	-	-	19	51 **	-	7	11	18	41	-	7	8	18	31	1	11	5	17	5-ve
	n = 70					n = 78					n = 64					n = 42				

Notes: *** highest factor loading
 ** factor loading 0.4 or over
 * factor loading of 0.2 or 0.3
 -ve negative factor loading

Table 19
Level of Importance of Motivation Statements

	SA	A	% N	D	SD
A source of income	58 (93)	35	4	3	0
A way of life	39 (89)	50	7	2	0
Outdoor/close to nature	25 (70)	45	17	8	4
Opportunity for leisure	11	33 (54)	21 (42)	21	14
Accumulating capital	12	41 (65)	24	16	7
Standing in community	2	9	24	34 (66)	32
Own boss	35 (83)	48	10	6	1
Family job opportunities	18	31 (55)	24 (44)	20	7
Fulfillment/satisfaction	55 (94)	39	4	2	8

In Table 19 there is a variety of responses to the motivation questions, and while most receive strong agreement there are some that receive disagreement. Most agreement is recorded for source of income, way of life, and fulfillment/satisfaction. There is agreement with own boss and outdoor/close to nature and disagreement with standing in community.

Factor analysis yields three factors and the factor matrix is shown in Table 20. Factor 1 shows that way of life, outdoors, leisure and fulfilment are related. There is disagreement with both income and accumulating capital. The key points for Factor 1 reflect satisfaction with the lifestyle associated with farming. These attributes suggest the label of "Outdoors Way of Life".

Factor 2 has a very high score for standing in the community and high scores for accumulating capital and job opportunities for family. There are no negative scores. The common element for factor 2 is status derived from owning land, and it is the land and its associated way of life that can provide job opportunities for one's family. An appropriate label for Factor 2 is "Status in Land". Factor 3 gives a high score to source of income, fulfilment, and own boss. Factor 2 gave some emphasis to income but for Factor 3 it is most important. Similarly, more emphasis is given by Factor 3 to the own boss motivation. An appropriate label for Factor 3 is "Satisfying Independent Income".

As shown earlier the factor analysis results can be displayed in terms of each subgroup's scoring on each motivation variable. Table 21 shows the relevant data.

Table 20
Factor Scores for Each Motivation Statement

	Factor 1	Factor 2	Factor 3
Income	-0.2	0.2	0.5 *
Way of life	0.6 *	0.0	0.2
Outdoors	0.7 *	0.0	0.0
Leisure	0.5 *	0.2	0.0
Capital	-0.1	0.5 *	0.2
Standing	0.2	0.8 *	0.0
Own boss	0.1	0.2	0.4 *
Job opportunities	0.1	0.4 *	0.2
Fulfilment	0.4 *	0.0	0.5 *

In summary, the analysis of farming strategy and motivation for farming yield some interesting results. The first finding is that apparently homogeneous populations can be analysed in terms of subgroups as identified by factor analysis. Members of each subgroup tend to have a similar approach to either management or motivation. Each subgroup has representatives who closely match the general characteristics of the factor, and there will be others who do not fit so closely. Some of these cases will also have attributes in common with the remaining factors. While factor analysis accounts for most of the cases in the sample there remain a residual number who do not fit on any factor. In addition to the evidence derived from factor analysis, there is a good indication that the interpretations are valid from the obvious face validity of the results.

The analysis shows that each factor analysis construct reflects attributes held by subgroups of the population. It is quite acceptable to label each subgroup with the identifying construct label. For example, the first group for the analysis of management strategy can be called the "Financial Manager". Finally, the analysis of each subgroup's scores on each variable shows how subgroups can be distinguished from one other.

Table 21

Level of Importance for Each Factor and for Each Motivation Statement

	Outdoors Way of Life					Status in Land					Satisfying Independent Income				
	VU	U	N	I	VI	VU	U	N	I	VI	VU	U	N	I	VI
Income	1	5	5	35	34-ve	-	-	-	23	50	-	-	-	2	52 **
Way of life	-	-	-	3	77 **	-	2	6	40	24	1	-	2	15	36
Outdoors	-	-	-	12	68***	1	6	10	35	21	4	10	7	18	15
Leisure	5	6	10	31	28 **	3	9	15	34	12	16	11	3	16	18
Capital	11	14	21	23	10-ve	1	2	5	42	23 **	-	4	10	27	13
Standing	17	27	22	8	6	-	-	33	22	8***	27	14	10	3	-
Own boss	1	5	6	30	37	-	-	4	31	37	-	-	1	13	40 *
Job opportunity	3	13	17	26	21	-	3	12	26	32 *	2	7	8	13	24
Fulfilment	-	-	-	14	66 *	-	-	4	27	42	-	-	-	-	54***
	n = 80					n = 73					n = 54				

Notes: *** highest factor loading
 ** factor loading of 0.5 or over
 * factor loading of 0.4
 -ve negative factor loading

CHAPTER 4

SUMMARY AND CONCLUSION

4.1 Introduction

The present chapter provides a summary of the main findings and undertakes a brief discussion. The main point made is that there is a variety of responses to economic change even when there is a general pattern of similar behaviour among all respondents. The overall responses found in the present survey of Hurunui and Clutha counties parallels those responses reported elsewhere. The results provide a preliminary evaluation of the impacts of restructuring in agriculture and suggest in what ways future research may be undertaken.

4.2 Summary of Main Findings

The sample was shown to be a reasonable representation of all farmers in Hurunui and Clutha counties. The typical respondent was male, 44 years old, and had direct control of financial management. Most respondents had full-time, sheep/beef farms. About one third were in a financial deficit situation of about \$15,000 on average, although there is a wide range in the distribution. Twenty percent say that they have to make a major adjustment to their financial situation and one third say that they need to change and adjust their management strategy. While only eight percent were seeking to diversify, there were 28 percent who have already undertaken new land uses.

The most common response to economic change was a low input policy, supplemented with decreasing labour and increasing unpaid family labour. However, despite these general trends, some respondents were increasing the scale of their farm operation. Expenditure was cut back by up to \$10,000 on average and future off-farm investment is to increase. There were four subgroups of respondents on the issue of causes of farming recession and while most respondents disapproved of government policy there were 20 percent who did approve. Generally, respondents wanted recognition, financial advice, and change in government policy. Most respondents appear not to want financial or technical advice from MAF, and most see the future of primary production as being dominated by market related issues. Meat marketing and processing was seen as in need of change.

Finally, the factor analysis of management strategy and farming motivation yielded four and three types respectively. There are significant differences between types of farmer for both strategy and motivation variables. The labels for the management strategy types are: Financial Manager, Productivity Increaser, Individualistic Worker, and Lifestyle Farmer. The labels for the motivation types are: Outdoors Way-of-Life, Status in Land, and Satisfying Independent Income.

4.3 General Implications of the Findings

The main implication from the results is that understanding responses to economic change in terms of single trends overlooks the diversity inherent in any group of people. While it is true that there is a general pattern of cut back in expenditure or disapproval with government policy for example, on both these issues there is a small group with the directly opposite response.

The second point is that the results provide general confirmation of the existing indications of farmers' responses to economic change. The results support those ideas expressed by the Meat and Wool Boards' Economic Service and the MAF. The data presented in this report provide precise indications of how farmers have responded to economic change.

The presence of different types of management strategy raises interesting questions. Do different types have different chances of surviving in future? Do the current more-market policies mean that the Financial Manager and the Lifestyle Farmer are best equipped to survive - the former by virtue of compatibility with the current business ethos and the latter by virtue of alternative sources of income? Should rural or agricultural policy pay attention to the indications in this report that there are different types of farmers?

Do the different types of farmer represent a historical succession of approaches to farm management? It is likely that the Individualistic Worker was dominant in the pioneering days of farm establishment. The Productivity Increaser would appear to fit in with the post World War II policy of increasing production, and the Financial Manager could be the latest version in this historical succession. The Lifestyle Farmer may have always had a role in New Zealand farming history, although it is possible that this type is a product of current the increase in the number of smallholders. The current analysis of management strategy is suggestive of a sequence of management styles.

4.4 Future Research

At present the existing data are incompletely analysed. The present report focuses on an overview and a description of farmers' responses and there needs to be further analysis of the data. The following topics are possible areas for future research:

1. Analysis of management type. One objective is to use all available data to test the validity of the factor interpretations and refine our understanding of the differences between types. This line of inquiry could show up any differences in how each management type has responded in terms of management strategies considered or adopted, or what, if any, are their differences in attitudes to government policy and information needs.

2. Analysis of management strategies considered or adopted in order to see if there are underlying patterns of response.

3. Looking for any differences in full-time farmers versus non-full time farmers. Further analysis of different groups in the sample as identified by the type of farm or extent of farming.

4. To extend the research to other farm types. It would be necessary to survey horticulture, dairy and crop farmers in order to see if the same approaches to management strategy exist.

5. To examine the usefulness and validity of the four farmer types by interviewing farmers in order to deepen understanding of management strategy.

Other needed research includes analysis of farm structure changes within the two counties. The sampling frame used in this research provides a detailed account of all farms within Hurunui and Clutha counties. These data can be updated in future and the data from each point in time compared in order to describe how the total number of each type of farm is changing. This analysis would provide very accurate data on farm structure change, and would be useful for any consideration of long-term strategies or policies concerning primary production.

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APPENDIX 1

THE QUESTIONNAIRE



AGRICULTURAL ECONOMICS RESEARCH UNIT
LINCOLN COLLEGE, CANTERBURY

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Dear Farmer,

I am aware that the farming industry is in a severe recession. This year is seeing major changes in primary production in New Zealand with farmers and the rural community seriously affected.

I need your help to document what is happening to all types of farmers and to learn how farmers are responding to economic changes. It is important that the people influenced by government policies have a chance to speak. Some of my colleagues say that farmers won't fill out a comprehensive questionnaire like this one. I think they will. Many farmers are hard pressed at present but I think they will want to let others know how they are doing, especially right now. Big problems require a comprehensive questionnaire.

This questionnaire is one way for policy makers to hear from farmers. The questions ask for information and opinion with only a few detailed business questions. I assure you that all answers will be confidential to me.

Please fill out the questionnaire at your earliest convenience, and post it to me (free of charge) as soon as possible. It is important to the success of this research that many people respond promptly. This way we can accurately learn about the impact of current economic changes.

Thank you for your assistance.

Yours sincerely

John Fairweather (Ph.D.)
Research Sociologist

FARMER QUESTIONNAIRE - HURUNUI AND CLUTHA COUNTIES

NB: This questionnaire is for all farmers regardless of size or activity.

FARM INFORMATION

1. The total area of farm land you own or operate (in your county) is:
(1 acre = approx. 0.4 hectares) hectares

2. What is the extent of your farming activity? Are you a:
(Please insert number in box)

Full-time farmer (1)
Part-time farmer (typically most income from your farm) (2)
Small farmer or hobbyist (with most income from off-farm) (3)
Retired or semi-retired farmer (4)
Employee of government department (5)
Employee of an organisation or business other than government department (6)
Other (7) Please Specify _____

3. Your main occupation is:

Farmer (1)
Businessman (2)
Professional (3)
Self-employed (4)
Wage-earner (5)
Other (6) Please Specify _____

4. Your farm is mainly:

Horticultural (1)
Dairying (2)
Fattening (fat lambs, beef, and stock breeding) (3)
Arable (cash cropping with some stock) (4)
Grazing (store sheep and cattle, with limited fattening only) :- High Country (5)
 Hill Country (6)
Specialist Livestock (poultry, horses, kennels etc) (7)
Other (8)
Please Specify _____

5. In the last five years you have:

Bought some farm land Area in hectares

Sold some farm land Area in hectares

Not bought or sold farm land, please tick

6. You operate your farm land as:

One farm (1) Two separate farms (2)
Three separate farms (3) More than 3 separate farms (4)

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7. For most of your farm land the tenure is:

Freehold (including mortgaged freehold) (1)

Crown lease (2)

Private lease (3)

Other lease (4)

Other (5) Please Specify _____

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8. For most of your farm land the ownership is:

Individual (1)

Partnership (2)

Special partnership (3)

Private Company (4)

Public Company (5)

Co-Operative (6)

Government or Local Body (7)

Trust (8)

Other (9) Please Specify _____

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9. Please state the number of people who do the physical work on your farm

No. of People

Owner operator

Private lessee

Sharefarmer

Paid farm worker

Paid farm manager

Unpaid family worker

Paid family worker

10. The financial management on your farm is controlled by

- Owner operator (1)
- Private lessee (2)
- Sharefarmer (3)
- Paid farm worker (4)
- Paid farm manager (5)
- Unpaid family worker (6)
- Paid family worker (7)
- Other (8) Please Specify _____

☐

YOUR APPROACH TO FARMING

1. Please state your level of agreement for each of the following statements about farming

- | | | |
|--------------------|-----------------------|-------------|
| 1 = Strongly agree | 2 = Agree | 3 = Neutral |
| 4 = Disagree | 5 = Strongly disagree | |

Farm work is essentially a craft

Farm income is best improved by improving production per labour unit and by skilful and knowledgeable management

It is important to me to increase the size of my farm operation

A farmer must try to maintain personal control over all work operations

Farming is essentially a business operation

There is a non-financial reward in doing farm work well

Efficient and properly executed farm work out on the farm is the most significant part of running a farm

There are times when it pays to get work done by expert contractors

Increasing production on my existing farm area is an important goal

It is important to pay close attention to market prices

As a farmer I try to minimise my dependence on other businesses

Farm income is best improved by decreasing total cost of production and responding to changed economic conditions

Planning and financial management are the most significant parts of running a farm

2. To what extent do you use each of the following business practices

Never used (1) Have considered using (2)
Occasionally use (3) Find essential to use (4)

Futures markets eg. wool futures, wheat futures

Professional financial management

Forecasting market trends

Gross margins

Budgets and cash flows

3. In the past, your farm development policy has been to

Maintain credit, adopt a cautious approach to borrowing
and keep total debt low (1)

Borrow for development and take on
debts (2)

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Other (3) Please specify _____

4. If you were asked "What is your aim in farming", how would you rate each of the following?

1 = Very Important 2 = Important 3 = Neutral
4 = Unimportant 5 = Very Unimportant

A source of income

A way of life

An outdoor life close to nature

Some opportunity for leisure

A means of accumulating capital

A standing in the community

A job as one's own boss

A means of providing job opportunities for ones' family

A job that offers fulfilment and/or satisfaction

5. How would you describe or define "farming". In your view farming is

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6. Is it possible for farming to be like other businesses?

Farming is definitely not like other businesses (1)
 Some similarities between farming and other businesses (2)
 Essentially, farming is like any other business (3)

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7. For your situation, how much influence do you have over your

1 = Much influence 2 = Some influence
 3 = Little influence 4 = No influence

Physical environment (e.g. land, climate)

Economic environment (e.g. prices)

Political environment (e.g. government policies)

Social environment (e.g. local community)

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☐
☐
☐

8. For your situation, what level of control do you have over your farm's performance

High level of control (1)
 Moderate level of control (2)
 Low level of control (3)
 Little control (4)
 No control (5)

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9. Your confidence in the farming industry is

	<u>At the Present</u>	<u>For the Future</u>
1 = Very High 2 = High		
3 = Neutral 4 = Low	<input type="checkbox"/>	<input type="checkbox"/>
5 = Very Low		

10. In your opinion, what will NZ agriculture/horticulture be like after ten years from now

Much the same as it has always been (1)
 Changed in some important ways (2)

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IF WE CHANGE, please state in what way

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.....

.....

GOVERNMENT POLICY

1. In general, what level of approval do you have for government's agricultural and rural policy

1 = Strongly Approve 2 = Approve 3 = Neutral
 4 = Disapprove 5 = Strongly Disapprove

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2. In your view how important to the government is each of the following economic goals

1 = Very Important 2 = Important 3 = Neutral
 4 = Unimportant 5 = Very Unimportant

Reduce inflation

Decrease the budget deficit

Improve economic performance via structural changes in the economy

Make agriculture economically sound

☐
☐
☐
☐

3. How important to you is each of these economic goals

1 = Very Important 2 = Important 3 = Neutral
 4 = Unimportant 5 = Very Unimportant

Reduce inflation

Decrease the budget deficit

Improve economic performance via structural changes in the economy

Make agriculture economically sound without needing government assistance

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4. Do you feel that government has been even-handed on all sectors in its restructuring of the economy?

Yes (1) No (2) Unsure (3)

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5. In your opinion, the outcome of government's economic policy is likely to

Lead to long-term (5 - 10 years) strength and stability in agriculture (1)

Ruin agriculture (2)

Force farmers to accept low income and struggle to survive (3)

Cause a gradual run-down of agriculture (4)

Other (5)

Please specify _____

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6. Please state briefly what alternative government agricultural and rural policy you would like to see introduced

.....
.....
.....

7. In your opinion, how important are each of the following people as the cause of farming recession

1 = Very Important

2 = Important

3 = Neutral

4 = Unimportant

5 = Very Unimportant

Farmer politicians

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Processors (e.g. meat and dairy companies):-

A. Management and administration

B. Marketing personnel

C. Unionised labour

Independent marketing people (eg. commodity traders)

Past government

Overseas farmers

New Zealand farmers

Overseas governments

Present Government

Other, (please specify) _____

8. Do you agree with the claim that government policy is to deliberately hurt farmers

1 = Strongly Agree 2 = Agree 3 = Neutral
4 = Disagree 5 = Strongly disagree

9. In your opinion, how important are each of the following factors as the cause of the farming recession

1 = Very Important 2 = Important 3 = Neutral
4 = Unimportant 5 = Very Unimportant

1. Low product prices
2. Past government policies
3. Present government policies
4. Oversupply of farm products
5. Overseas agricultural policies
6. Floating exchange rate
7. High value of the NZ dollar
8. High internal budget deficit
9. High interest rates
10. Removal of SMPs
11. High rate of inflation
12. Excessive government expenditure
13. Unfavourable terms of trade (external deficit)
14. Other, Please specify _____

YOUR CURRENT FINANCIAL SITUATION

1. For the last financial year, your financial situation, on a cash basis is

NB: cash basis = difference between all farm and personal income and all farm and personal expenditure

Worse than last year (1)
About the same as last year (2)
Better than last year (3)

2. Please state what your approximate financial situation is, on a cash basis, for the 1985/86 financial year

(Approximate figures only)

Farm income

Off-farm income

Gross income

Total cash expenditure

Deficit/Surplus

Do not have these figures (please tick box)

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FOR THOSE FARMERS WITH A CASH DEFICIT OR EXPECTING A CASH DEFICIT

From what main source will you try to finance this deficit

Rural Bank discount scheme (1)

Traditional financier only (e.g. bank, stock agent) (2)

Family money (3)

Other government source (e.g. Social Welfare Dept) (4)

Off-farm work - spouse (5)

Off-farm work - yourself (6)

Sale of off-farm investments (7)

Off-farm investment income (8)

Sale of land (9)

Unsure (10)

Other (11) Please Specify _____

☐

3. In the last two years what has been your largest area for borrowing

Have not borrowed (1)

Additional Land (2)

New Building (3)

Livestock (4)

New Plant and Machinery (5)

Refinancing existing debt (6)

Development (7)

Other (8), Please specify _____

☐

4. How important to you are each of the following

1 = Very Important

2 = Important

3 = Neutral

4 = Unimportant

5 = Very Unimportant

Low product prices

Loss of equity

High interest rates

5. Please state in round figures your gross farm income for each of the last two financial years

1984/85 \$

1985/86 \$

STRATEGIES TO COPE WITH ECONOMIC CHANGES

1. At the present time, which of the following strategies best describes your farm management situation

I have to change and diversify into new types of production (1)

I have to change and adjust my present farming system (2)

I have no choice but to stay with my present farming system (3)

My present farming system is quite adequate (4)

I have to look for ways out of farming (5)

2. Have you already developed some or all of your farm in some new type of land use or new management system

No (1)

Yes (2)

IF YES - how much of your farm have you developed: percentage

- what is the new land use or management system

- in about how many months will there be a return

 months

3. Has this development contributed to your financial downturn?

Yes (1) No (2) Unsure (3)

4. Any livestock other than sheep or cattle you have are:

Deer

Number of Deer

Goats

Number of Goats

Other, Please specify

Number of Other

5. Any new or non-tradition cash crops you have are:

Please specify

Area

Area

6. Are you currently intending to set aside part of your farm for the development of activities other than the type of farming you are presently involved in?

Yes (1) No (2)

☐

IF YES, please specify _____

7. As a response to recent economic changes, which of the following management strategies have you considered and which have you adopted (Please tick the appropriate box)

	Only Considered	Actually Adopted
A low input policy	<input type="checkbox"/>	<input type="checkbox"/>
Increase farm size	<input type="checkbox"/>	<input type="checkbox"/>
Decrease farm size	<input type="checkbox"/>	<input type="checkbox"/>
Increase area cropped	<input type="checkbox"/>	<input type="checkbox"/>
Decrease area cropped	<input type="checkbox"/>	<input type="checkbox"/>
Hired more labour	<input type="checkbox"/>	<input type="checkbox"/>
Hired less labour	<input type="checkbox"/>	<input type="checkbox"/>
Off-farm work	<input type="checkbox"/>	<input type="checkbox"/>
Used more unpaid family labour	<input type="checkbox"/>	<input type="checkbox"/>
Bought irrigation or other technology	<input type="checkbox"/>	<input type="checkbox"/>
Sold stock, plant, machinery, trees or other assets	<input type="checkbox"/>	<input type="checkbox"/>
Increase stock carried	<input type="checkbox"/>	<input type="checkbox"/>
Decreased stock carried	<input type="checkbox"/>	<input type="checkbox"/>

IF YOU HAVE CONSIDERED AND THEN REJECTED any of the above management strategies, please say what ones and why

8. Which statement best describes your present financial situation

Sound position, no need to make significant adjustments (1)

Delicate situation, can hold on with minor adjustments (2)

Difficult situation, have to make some major adjustments (3)

Crisis situation, may not survive (4)

☐

9. FOR THOSE FARMERS NEEDING TO MAKE FINANCIAL ADJUSTMENTS

As a response to recent Government rural policy announcements, which of the following refinancing options have you considered, and which might you actually adopt

	Have Considered	May Adopt
Adjustments to interest payments	<input type="checkbox"/>	<input type="checkbox"/>
Adjustment to principal repayments	<input type="checkbox"/>	<input type="checkbox"/>
Sale of land and then lease back	<input type="checkbox"/>	<input type="checkbox"/>
Sharefarming	<input type="checkbox"/>	<input type="checkbox"/>
Partnership formation	<input type="checkbox"/>	<input type="checkbox"/>
Farm rationalisation (eg. pool machinery, merge farms)	<input type="checkbox"/>	<input type="checkbox"/>
Rural Bank Guarantee of seasonal finance	<input type="checkbox"/>	<input type="checkbox"/>
Looking for ways out of farming	<input type="checkbox"/>	<input type="checkbox"/>

10. IF YOU HAVE CONSIDERED AND NOT BEEN ABLE TO ADOPT any of the above options, please state what ones and why

11. Some of the above refinancing options involve equity sharing by off-farm interests. What level of approval do you have for this?

Strong Approval (1)

Approval (2)

Neutral (3)

Disapprove (4)

Strongly disapprove (5)

☐

12. By about how much has your total capital expenditure on plant, machinery, fences etc. changed over this last financial year

Is more than last year (1)
Is equal to last year (2)
Decreased \$10,000 (3)
Decreased by \$10,000 to \$20,000 (4)
Decreased by \$20,000 to \$30,000 (5)
Decreased by \$30,000 to \$50,000 (6)
Decreased by over \$50,000 (7)

☐

IF YOU HAVE CUT BACK ON FARM EXPENDITURE IN THIS YEAR,
please put the three numbers in the box in the correct
order of importance (most cut back to least cut back)

Repairs and Maintenance (1)
Plant and Machinery (2)
Fertiliser (3)

Most		Least
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. Have you developed any new ideas or techniques which will help you to survive

No (1) Yes (2)

☐

If yes, please specify _____

14. Do you believe that you will have a cash surplus from your farm over the next five years

Yes (1) No (2) Unsure (3)

☐

IF YES how much will you invest on farm and how much will you invest off farm

On Farm (percentage)

☐

Off Farm (percentage)

☐

15. IF YES TO OFF-FARM INVESTMENT, this will

Increase in amount (1)
Stay the same (2)
Decrease in amount (3)

☐

16. Do you approve or disapprove of Federated Farmers response to the farming recession

Approve (1) Disapprove (2) Unsure (3)

☐

IF DISAPPROVAL, what should Federated Farmers do to improve their performance

17. Can farmers work together to achieve common goals (eg. in buying inputs or selling products)

Yes (1) No (2) Unsure (3)

☐

18. When it comes to processing and marketing farmers' products, which of the following statements best describes your view for meat, wool, and crops.

Meat

The present type of organisation is satisfactory (1)

☐

Wool

With some minor changes the situation would be satisfactory (2)

☐

Crops

A basic overhaul is needed (3)

☐

19. How important is it that NZ farmers along with processors produce specialised products rather than basic, raw commodities

Meat

1. Very Important

☐

2. Important

Wool

3. Neutral

☐

4. Unimportant

Crops

5. Very Unimportant

☐

20. Some people believe that there should be more urban people and more rural, non-farm businesses to give the rural economy more strength. In your opinion, how important are each of these developments for your area

1. Very Important
2. Important
3. Neutral
4. Unimportant
5. Very Unimportant

Non-farm businesses

Urban People

FARMER ASSISTANCE NEEDED

1. For you as a farmer, how important are each of the following types of assistance

- 1 = Very Important 2 = Important 3 = Neutral
4 = Unimportant 5 = Very Unimportant

Financial advice

General recognition of the problems facing farmers

Stress management and counselling

Short-term loans/finance

Change in government policy

Long-term loans/finance

General information for survival strategy

Training for a new occupation

Other

Please Specify _____

2. Please state what financial information you will need

In the next 6-12 months

.....

.....

In the next 12-36 months

.....

.....

3. Please state what technical information you will need

In the next 6-12 months

.....

.....

In the next 12-36 months

.....

.....

4. Please state what other information you will need in future

.....

.....

.....

5. To what level are you prepared to pay for both financial and technical information?

Less than \$20 per hour (1)

\$20 - \$40 per hour (2)

\$40 - \$80 per hour (3)

\$80 - \$100 per hour (4)

More than \$100 per hour (5)

Financial

☐

Technical

☐

FARMER INFORMATION

1. Your age is ... years ☐

2. Your sex is: male (1) female (2) ☐

3. You have operated your present farm for ... years ☐

4. You have been a farmer for ... years ☐

5. Your occupation prior to your present position was

- Sharefarmer (1)
- Farm Manager (2)
- Farm Labourer (3)
- Shearer or contractor (4)
- Always been a farmer (5)
- Other business (6)
- Professional (7)
- Self-Employed (8)
- Wage-earner (9)
- Other (10) Please specify _____



You have completed the questionnaire. Thank you for taking time out to tell me what you think. Please send the completed questionnaire back to me in the stamped return envelope.

John Fairweather

RESEARCH REPORT

158. **The Optimal Location of Egg Production in New Zealand**, A.C. Beck, J.P. Rathbun, C.D. Abbott, 1984.
159. **The Economics of Irrigation Development of the Amuri Plains Irrigation Scheme**, Glen Greer, 1984.
160. **An Economic Survey of New Zealand Wheatgrowers: Enterprise Analysis, Survey No. 8, 1983-84**, R.D. Lough, P.J. McCartin, 1984.
161. **An Economic Survey of New Zealand Wheatgrowers: Financial Analysis, 1982-83**, R.D. Lough, P.J. McCartin, 1984.
162. **Farmland Pricing in an Inflationary Economy with Implications for Public Policy**, K.L. Leathers, J.D. Gough, 1984.
163. **An Analysis of Production, Consumption and Borrowing Behaviour in the North Island Hill Country Pastoral Sector**, A.C. Beck, J.B. Dent, 1984.
164. **New Zealand's Inshore Fishery: a Perspective on the Current Debate**, R.A. Sandrey, D.K. O'Donnell, 1985.
165. **Land Policy and Land Settlement in New Zealand**, J.R. Fairweather, 1985.
166. **Farm Enlargement in New Zealand**, J.R. Fairweather, 1985.
168. **Market Prospects for Maize**, S.A. Hughes, R.L. Sheppard, 1985.
169. **Factor Cost Analysis of a New Zealand Meat Processing Company**, M.D. Clemes, L.D. Woods, 1985.
170. **An Economic Survey of New Zealand Wheatgrowers: Enterprise Analysis, Survey No. 9, 1984-85**, R.D. Lough, P.J. McCartin, 1985.
171. **An Economic Survey of New Zealand Wheatgrowers: Financial Analysis, 1983-84**, R.D. Lough, P.J. McCartin, 1985.
172. **Biological Control of Gorse: an ex-ante evaluation**, R.A. Sandrey, 1985.
173. **The Competitive Position of New Zealand Fresh Fruit Exports**, M.T. Laing, S.A. Hughes, R.L. Sheppard, 1985.
174. **Marketing Structures for the Horticultural Industry**, N.L. Taylor, R.G. Lattimore, 1985.
175. **An Economic Survey of New Zealand Town Milk Producers, 1983-84**, R.G. Moffitt, 1985.
176. **A Financial and Economic Survey of South Auckland Town Milk Producers and Factory Supply Dairy Farmers, 1983-84**, R.G. Moffitt, 1985.
177. **Optimal Pricing and Promotion for Agricultural Marketing Agencies**, S.K. Martin, L. Young, A.C. Zwart, 1986.
178. **A Contractual Framework for Evaluating Agricultural and Horticultural Marketing Channels**, S.K. Martin, A.C. Zwart, 1986.
179. **An Integrated Framework for Analysing Agricultural Marketing Issues**, S.K. Martin, A.N. Rae, A.C. Zwart, 1986.
180. **Labour Mobility Between New Zealand and Australia**, R.L. St Hill, 1986.
181. **Survey of New Zealand Farmer Intentions and Opinions, November 1985-January 1986**, J.G. Pryde, P.J. McCartin, 1986.
182. **A Financial and Economic Survey of South Auckland Town Milk Producers and Factory Supply Dairy Farmers, 1984-85**, R.G. Moffitt, 1986.
183. **An Economic Survey of New Zealand Town Milk Producers, 1984-85**, R.G. Moffitt, 1986.
184. **An Economic Survey of NZ Wheatgrowers: Financial Analysis, 1984-85**, R.D. Lough, P.J. McCartin, 1986.
185. **The Effect on Horticulture of Dust and Ash: Proposed Waikato Coal-Fired Power Station**, P.R. McCrea, October 1986.
186. **A Study of the Determinants of Fattening and Grazing Farm Land Prices in New Zealand, 1962 to 1983**, P.G. Seed, R.A. Sandrey, B.D. Ward., December 1986.
187. **Farmers' Responses to Economic Restructuring in Hurunui and Clutha Counties: Preliminary Analysis of Survey Data**, J.R. Fairweather, July 1987.
188. **Survey of NZ Farmer Intentions and Opinions, October-December 1986**, J.G. Pryde, P.J. McCartin, July 1987.
189. **Economic Adjustment in New Zealand: A Developed Country Case Study of Policies and Problems**, R.G. Lattimore, July 1987.

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96. **Supply Response Parameters in New Zealand Agriculture — a Literature Search**, M. Wood-Belton, R.G.J. Lattimore, 1985.
97. **Papers Presented at the Tenth Annual Conference of the New Zealand Branch, Australian Agricultural Economics Society, 1985**.
98. **An Examination of Alternative Marketing Structures — a literature search**, D.E. Fowler, R.L. Sheppard, S.A. Hughes, 1985.
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100. **Accounting Developments and Implications for Farm Business**, R.H. Juchau, 1986.
101. **Maori Fishing Rights in New Zealand: an Economic Perspective**, R.A. Sandrey, 1986.
102. **Government's Role in Adverse Events Assistance**, T.E. Dickinson, R.A. Sandrey, 1986.
103. **The Treatment of Taxation in Capital Investment Appraisal**, N.T. Williams, 1986.
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105. **Proceedings of the New Zealand Rural Economy and Society Study Group Seminar**, J.R. Fairweather (ed.), October 1986.
106. **Papers presented at the Eleventh Annual Conference of the New Zealand Branch of the Australian Agricultural Economics Society, Blenheim. Volume 1 and 2. December 1986**.
107. **Gorse and Goats: Considerations for Biological Control of Gorse**, R.A. Sandrey, January 1987.
108. **Red Deer: The Economic Valuation**, R.A. Sandrey, January 1987.
109. **Rural New Zealand; what next?** Ralph Lattimore and Tim Wallace (eds.), July 1987.
110. **Dairying in Japan and the Benefits of Adopting New Zealand Pasture Grazing Techniques**, R.G. Moffitt, April 1987.
111. **Selling New Zealand Products in Japan**, R.G. Moffitt, July 1987.

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