THE MOVE FROM THE LAND

A Sociological Study of Woolgrowers in the Western Division of New South Wales

I certify that this thesis is my own composition, and that all sources have been acknowledged.

by

GEOFFREY BRADFIELD FOX

This thesis is submitted in partial fulfilment of requirements for the degree of Master of Arts at the Australian National University.

March, 1973
I certify that this thesis is my own composition, and that all sources have been acknowledged.

G. B. Fox
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NOTE ON TERMINOLOGY

The terms "woolgrower", "grower", "wool producer", "producer", "grazer", "farmer", "landholder", "operator" are synonymous, and refer to an agriculturalist in the sheep industry. The terms "farm", "landholding" and "property" are also synonymous in the context of this thesis.

The term "breaks away", refers to temporary absences from the property, e.g., trips to Sydney, Dubbo, etc., for holidays, or for medical reasons.
This thesis is primarily concerned with social patterns of adaptation to the recent rural depression in the Cobar area of western New South Wales. At the time of the survey the woolgrowers had not received significant increases in farm incomes in response to the recent steep rise in wool prices. Much of the anticipated increase in incomes has been offset by the current drought, which has severely reduced wool production and has led to substantial stock losses and reduction in lambing percentages.

Since the survey region is sparsely populated and people are well-known to each other, it has not been possible on the grounds of confidentiality to provide detailed social information about the grazing families in the survey sample. Whilst it is recognised that such information would benefit the thesis, the undertaking given to the New South Wales Department of Agriculture which provided the economic data, and to the grazing families themselves, must be respected.

This project was undertaken during my appointment as an Australian Wool Board Research Fellow to the Department of Sociology, Faculty of Arts, Australian National University.
CHAPTER I

The Nature of the Problem

Introduction:

The emergence of Australia as an industrialised nation has meant that like every other western country with a similar economic base, it has a "farm problem". This arises from the disparity between the average income per head of working population in the economy as a whole, and the lower average income of operators in agriculture (Heady and Ackerman, 1958; Higgs, 1966; Hannan, 1970). The main cause of this imbalance is the slow growth of markets for farm products as real incomes in the economy rise (Shannon, 1955; Samuelson, Hancock and Wallace, 1970; James, 1971).

This shift in the economic situation of agriculture relative to other sectors in the economy has necessitated considerable adjustment in the industry. There have been changes in production processes, scales of operation, the product mix of enterprises, and in the social pattern of farm families. These patterns of adjustment have been described in a variety of countries, for example: North America (Heady, Diesslin, Jensen and Johnson, 1955); Italy (Lopreato, 1967); the European Economic Community (Commission of Economic Communities, 1968), and Ireland (Hannan, 1970).

In Australia the pressure for adjustment in the largest of its rural industries - the wool industry - over the last few years has been substantial. Low wool prices,
untimely droughts, and continuing longer term problems have combined to severely reduce farm incomes and engender widespread discontent among woolgrowers. The worst affected areas have been the arid and semi-arid regions of New South Wales, Queensland, South Australia and Western Australia (Bureau of Agricultural Economics, 1971).

This study aims to examine some of the sociological patterns of adaptation to the rural recession in a semi-arid region of New South Wales.

Rural depression in the Western Division:

The pastoral industry in the Western Division of New South Wales is in a state of severe depression. The low rainfall and the frequent recurrence of drought, together with a long history of overgrazing of the natural vegetation, has meant a decline in productivity due to reduced grazing capacity and a diet insufficient for normal good yields or satisfactory breeding.¹ This trend has been aggravated by the recent drop in wool prices, and has limited the extent to which farm output can be raised to offset reduced farm income.

The general decline in the profitability of production has, in turn, led to depreciation in the value of pastoral property and sheep flocks, and deterioration in the

1. The physical and economic deterioration of landholdings was the subject of a New South Wales Royal Commission in 1900. Much of what was written then, applies equally today. A pertinent extract is provided in Appendix 1.
equity of landholders. Their need to meet commitments on loans, fixed charges and living expenses, and their difficulty in obtaining additional finance has necessitated reduction in farm costs, with the eventual result that there is a further depression in productivity.

Those who hope to escape this vicious cycle and sell their land have found that buyers are unwilling to purchase unprofitable units. A few have abandoned their holdings, whilst many others have been forced to supplement their income with off-farm work.

In the eastern section of the Western Division of New South Wales is the Cobar Shire, centred on the town of Cobar, 450 miles northwest of Sydney. This area receives an average annual rainfall of 14.4 inches, with a variability of 35 percent. Due to the effects of recurrent droughts, pests and over-grazing, there has been extreme deterioration in vegetation suitable for grazing, and severe erosion of the topsoil, so that up to 80 percent of rainfall is shed by the hard-baked soils. Areas which were assessed at one sheep to 10-15 acres in the early 1950s can now carry only one sheep to 15-20 acres, and in some cases even less.

Concern over the reduced profitability of the pastoral industry in the Western Division during the period of low wool prices led the New South Wales Department of Agriculture to survey the financial situation of landholders
in the Cobar area. The enquiry in 1970/71 used as its population 177 property owners whose holdings were larger than 10,000 acres and serviced by the township of Cobar. Results from the sampled properties for the years 1967/68 - 1970/71 indicate that there was a -0.63 percent return to capital and management where land values were taken at the unimproved capital value, and -0.88 percent when land was considered to have nil value. The average cash balance was +$2,708, the net farm income +$2,347, and the equity level 62.3 percent when unimproved capital value of land is assumed, or 47.7 percent when land values are nil. 52 percent of properties had a four year average debt in excess of $40,000 per property. In 1970/71 liabilities ranged from nil to $95,000 with almost 35 percent of properties with liabilities in the range of $60,000-$100,000. In that year also, the debt per average sheep equivalent was $8.82, and over 50 percent of landholders had equity levels below $40,000, 25 percent having negative equity.

This situation has not been alleviated to any significant degree by the upturn in wool prices during the past eighteen months, for the area is in the grip of a serious drought which has led to considerable stock losses and reduction in the wool clip. Even had the seasons been kind, the deterioration in the productive capacity of the land, and the restrictions on diversification and intensification of production due to physical, financial and

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2. For a summary of the findings of the Department survey see Appendix 2.
technological barriers would have severely limited the opportunity for recovery.

Some 55 percent of graziers are therefore in an almost hopeless situation, where their current rate of farm earnings is too low to service debts and provide a minimum standard of living. The future of the remaining graziers must also be considered to be in question, for they have been unable to generate sufficient income to meet needs for essential expansion to offset rising costs. More than half the landholders in the area have taken off-farm jobs, and many wives have gone to work. The limitations of age, off-farm employment skills and employment opportunities in Cobar, however, suggest that income from these sources will be insufficient to turn the tide.

Social effects of the rural recession:

The depression which characterises the Cobar area is in marked contrast to the cities, where people are enjoying comparative affluence. It may be expected therefore that there are a number of social repercussions in the grazing community. Of particular interest is the view expressed by many graziers that few farmers will leave the land for alternate forms of employment. This seems strange in light of their economic situation, the generally gloomy outlook for the wool industry, and their anticipated decline in standards of living. The same view, however, has been commented on by Hawkins (1972) and Nalson (1972). Both indicate that a large majority of farmers are in favour of remaining on the land.
It is interesting to note that during the depths of the wool depression in 1971, Nalson could find only five properties in a population of 402 from two areas of the Western Division near Bourke and Brewarrina where owners had migrated. In each of the five cases the property was still in the name of the grazier and was in the care of relatives or friends during the owner's absence. Milton Coughenour (1972), in his study of woolgrowers in the Warroo Shire in Queensland found that the major factors separating graziers from their properties were old age and retirement. In themselves neither anticipated probate costs nor indebtedness were of much importance in causing graziers to leave their properties.

The adjustment to inadequate income from woolgrowing by taking another job and operating the property part-time could be considered a halfway step to withdrawal from the land. Some 22 percent of graziers in both Western New South Wales and Western Queensland, according to Nalson (1972), have in fact done this, but his research indicates that most of these people have every intention of resuming full-time farming once the situation improves. The employment of wives off the properties, which in Nalson's survey amounted to 16 percent, seems also to be a temporary measure to help the farm get back on its feet.

The determination of woolgrowers to remain on the land runs counter to the objectives of the Commonwealth Government's scheme for intervention in the wool market and the States Grants (Rural Reconstruction) Act 1971. The
The purpose of these schemes was to prevent a general collapse in the wool industry so that woolgrowers could make necessary adjustments either by shifting into alternate enterprises and/or enlarging their scale of operations, or by leaving their properties for more remunerative ways of making a living.

The Survey:

With this situation as background, a survey of woolgrowers in the Cobar area of the Western Division of New South Wales was undertaken in November-December 1972 with the following objectives -

1. To identify the patterns of adaptive behaviour of grazing families to the depressed state of woolgrowing in the Cobar area.

2. To determine the characteristics of graziers and their families that are related to particular social and psychological adaptive patterns, and

3. To assess the implications of these results for Government rural assistance programmes to help farmers leave the land.
CHAPTER II

The Conceptual Perspective of the Survey

Adaptation designates both a process and a state. In the context of the grazier and his family it is perhaps more meaningful if the term refers to a process of adjustment to changes in the external situation in which they live and work. More specifically it will refer to the process of modification of both the "means" with which graziers achieve their goals, and the goals when these are found unsuitable or unattainable as a result of the rural depression in the Cobar area.  

There are several patterns of adaptation available to the grazier. First, he can expand, reduce, or maintain the level of his existing operations. Second, he can diversify into alternate farming enterprises;  

third, he can adjust to inadequate income by taking another job and operating the property part-time, and finally, he can leave

3. The dual process of change in "means" and "goals" in adaptation is described by Piaget (1950) in his concept of accommodation and assimilation. In the process of accommodation the organism modifies its goals to cope with the external environment; in assimilation it adopts new methods to achieve its goals. This perspective contrasts with the strictly biological interpretation, as for example, proposed by Sommerhoff (1950), in which adaptation is "end serving behaviour" where the goals remain fixed, and only the means change. The concept of equilibrium in adaptation used by Piaget in his studies is not implied in this study.

4. In the Cobar area, the opportunities for diversification are severely limited by low, irregular rainfall, extensive scrub and timber growth, and poor soils.
the property with or without discharging his debt. This study is particularly concerned with the last two alternatives. In this context the major dependent variables under consideration are the nature and the magnitude of the present stage of adaptation of the grazing family.

In analysing the forces at work in the process of adaptation it is usually most difficult to disentangle the interplay between economic, social and psychological factors. This has been recognised by Petersen (1958) in his conceptual framework for the analysis of migration. His typology based on five main classes of migration stresses the need for an examination of social and cultural factors in addition to the economic factors which have received most attention in the past. Variables such as sex, age, occupation, race and religion, he suggests, are of great importance in migratory selection along the continuum from total migration to total non-migration.

His view contrasts with the analytical framework used by Ravenstein in the derivation of his "laws of migration". Instead of examining the total social context of migrating people, Ravenstein confined his analysis to currents of migration which "arise from the desire inherent in most men to 'better' themselves in material respects" (Ravenstein, 1889: p.286). The surplus population of one part of the country, he argued, drifts to another part where the development of industry and commerce, or the possibility of procuring productive land in an undeveloped state, call for more hands to labour.
Reeder and Le Ray (1970) have examined a variety of factors concerned in the process of adaptation and mobility under the heading of "able" factors, (opportunities, abilities, supports), "pull" factors, (beliefs, goals, value standards and habits), and "push" factors, (expectations, self-commitments and force!).

In the present study the major "push" factor encouraging graziers to leave the land is regarded as debt arising from the fall in the wool price from 1968 to 1972 and the present drought, which has cancelled the benefits to be gained from the upturn in wool prices in late 1972. Other "push" factors are thought to be: old age, poor health, occupational alienation, and the absence of sons interested in taking over the property. "Pull" factors include the value system pertaining to the grazing families' way of life (traditions, independence, fear of losing identity), and the optimism of the grazier for the future of woolgrowing compared with alternate enterprises. The "able" factors include the conceptual skill and technological competence of

5. The "push-pull" typology is by no means as recent as its application by Reeder and Le Ray. It was successfully used by Rossi (1955) in the early 1950s and forms the basis for the International Labour Office study of Why Labour Leaves the Land (1960).

6. Since most graziers in outback rural areas are accustomed to travelling large distances from their properties to towns and cities, it is unlikely that distance per se is as great a barrier to migration as reported by Bogue, Donald J., and Thomson, Warren S., "Migration and Distance", American Sociological Review, 14, 1949, pp. 236-244.

the grazier, the opportunity to intensify or diversify production, and the family and institutional support for these changes in enterprise structure.

A similar scheme has been proposed by Yates (1972), who has isolated these factors within the framework of a two-dimensional model - Dimension One forces acting as hold-in forces which keep a woolgrower occupationally immobile, and Dimension Two forces acting to cause the woolgrower to leave the land for alternate employment. He identifies within each Dimension, two types of forces, these are represented diagrammatically in Table 1:

TABLE 1: Direction of Force

<table>
<thead>
<tr>
<th>Forces</th>
<th>In</th>
<th>Out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Push -</td>
<td>Profitability</td>
<td>Death - old age</td>
</tr>
<tr>
<td></td>
<td>Good health</td>
<td>Bad health</td>
</tr>
<tr>
<td></td>
<td>Unsaleable property</td>
<td>Debt</td>
</tr>
<tr>
<td>Pull -</td>
<td>Value system</td>
<td>Incentive</td>
</tr>
<tr>
<td></td>
<td>Status</td>
<td>Economic opportunity</td>
</tr>
<tr>
<td></td>
<td>Commitment</td>
<td>Land market</td>
</tr>
</tbody>
</table>

He found that in most grazing families there were a combination of forces at work on the grazier which produced conflict and considerable stress for both the grazier and his family. Another feature of his results was that each force could act in opposing directions. He has shown, for example, that age is a push-in factor when a grazier is too old for another occupation but still capable of at least sustaining himself on the property, and that it can also act as a push-out factor when the grazier is physically unable to carry on with the property and has no alternate labour source.
This study will employ the concept of push and pull forces and will attempt to indicate their relative strengths in influencing the choice of graziers to remain on the land and make do with the depressed conditions, or leave.  

8. Viewed in terms of a choice-decision paradigm (Gordon, 1968), the position of most of the Cobar graziers is very difficult. They are uncertain about the present situation on the land and they have little knowledge about what the future would hold for them if they were to move to a town or city. This lack of certainty leads to procrastination in decision making, and social impotence. It needs mentioning, however, that since considerable numbers of graziers are unaware of their real economic position, and are ignorant of the opportunities outside farming, the stress of their decision making process is usually quite tolerable.
CHAPTER III

The Survey

III-1: The Research Design:

The study was based on depth interviews of twelve grazing families in the Cobar area.9

The procedure for selection relied on the economic, management and social data (age, number of dependants) collected by the New South Wales Department of Agriculture in its survey of the financial situation of landholders in the Cobar area. From this mass of information two variables were chosen to maximise the sociological difference between grazing families. The first, an economic indication of the viability of the property, combined the Department results for equity in the property and cash balance for the years 1967/69 to 1970/71. This information, gathered from the twentythree properties in its sample, was trichotomised and ranked as high, medium and low. Those properties, twelve in all, which had similar rankings for both economic variables, were considered as being of either high, medium, or low economic status. The boundaries for each ranking for both variables are shown in Table 2.

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Equity Range</th>
<th>Cash balance range</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>100% - 80%</td>
<td>$11,000 - $2,000</td>
</tr>
<tr>
<td>Medium</td>
<td>80% - 30%</td>
<td>$2,000 - nil</td>
</tr>
<tr>
<td>Low</td>
<td>30% - (-)94.9%</td>
<td>Nil - (-)$2,800</td>
</tr>
</tbody>
</table>

9. For physical, economic and social details of the Cobar area, see Appendix 3.
The second selection variable was the number of people in the family dependent on the property for their livelihood. By good fortune, ordering of the twelve properties according to the survey mean of three dependants, divided the group equally. This is seen in Table 3.

### TABLE 3

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Number</th>
<th>Number of Dependants</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>4</td>
</tr>
</tbody>
</table>

The research design was therefore as described in Table 4.

### TABLE 4

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>No. of dependants</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>2 properties:</td>
</tr>
<tr>
<td></td>
<td>Code Nos. 1,2</td>
</tr>
<tr>
<td>Medium</td>
<td>2 properties:</td>
</tr>
<tr>
<td></td>
<td>Code Nos. 5,6</td>
</tr>
<tr>
<td>Low</td>
<td>2 properties:</td>
</tr>
<tr>
<td></td>
<td>Code Nos. 9,10</td>
</tr>
</tbody>
</table>

To protect the identity of landholders a new system of numbering has been adopted, which bears no relationship to that used in the Department's survey. The numbers for the present survey are presented in Table 4 above.

The choice of the two variables in the selection of...
grazing properties was made on the grounds that they best represented the levels of stress which could be expected in a grazing family during the current depression. Cash balance, that is, cash farm returns minus farm costs, is an important variable for graziers, for it describes the money the grazier has available for diversification, principal and interest repayments, living allowance, children's education, etc. It needs to be recognised, however, that the figure quoted is often conservative, as there is invariably some charging of private expenses to farm costs. Equity or net worth is complementary to a cash balance statement in analysing the viability of the property, for it provides information about the assets, liabilities and the "equity" position of the farm business. The calculation of total assets was on the basis of land at nil value plus improvement value.

Some consideration was given to using net farm income as the economic variable. This measures the return to the labour and management of the landholder and his family and the total capital investment required to earn it. However, since it includes non-cash items such as depreciation and equipment, buildings, and other improvements such as water and fences, and fails to take account of cash costs such as rent and interest payments, it was felt that cash balance combined with an equity statement would provide a more meaningful indication of property performance.

The number of dependants reliant on the property for their livelihood was chosen as the second variable, since the degree of financial and social commitment of a grazier
to his family is believed to be a major influence in the
decision to stay on or leave the land. A person on his own
can weather the economic depression by diminishing
personal expenditure, but a grazier with a family to
educate, clothe and feed, cannot. Furthermore, the
availability of finance and the freedom of a wife to take
a part-time job is usually reduced where there is a large
family.

Several other factors were considered for use as
the second variable. They were: the size of the property,
the length of time the landholder had owned the property,
the education of the owner, and the age of the owner.
Property size was discarded, since the Department's report
indicated that there was no direct relationship between
property size and cash income or net farm income. The size
of the sheep flock could not be used in place of property
size since the figures given the Department varied markedly
according to seasons and the cleanliness of the muster. None
of the other factors provided sufficient spread between
properties to facilitate the selection of adequate numbers
for each category of economic status. Only nine properties
had been owned less than twentyfive years, most of the
owners had left school at or before the intermediate
certificate level, and some 60 percent of the landholders
were over fifty years of age.

It is clear from the foregoing that analytic
considerations took precedence over representativeness in
the selection procedure.
III-2: The Interview Schedule:

The interviews were conducted during November and December 1972, and lasted an average four hours. Willingness to participate in the survey was established where possible by telephone or by personal call, and an appointment was made to ensure that there was sufficient time for an uninterrupted interview. Where the landholder was married, both husband and wife were present at the interview in all but one case. None of the twelve landholders in the selection refused to be interviewed.

The interview schedule comprised a series of open-ended questions which concerned the personal background of the landholder, his wife and children, the attitudes of husband and wife to the rural depression, the manner in which they had adapted to these difficulties, and their outlook for the future (Appendix 4). All twelve interviews were carried out by the author. Conversation was usually free-ranging within the bounds of the question, and responses were either ticked off on a checklist of anticipated answers, or notes were made during the course of the interview.

The coding of answers to each open question was effected by the author, and each rating was subjected to a full check for reliability by a research assistant in sociology. Agreement on ratings was found to run between 80-90 percent, and all differences were resolved.

The analytic technique for assessing ratings is limited by the size of the sample, the restricted area in
which it was obtained, and the non-random basis of selection. 10

In several cases where the variables were continuous (e.g., age), parametric tests were used to establish associations in cross tabulations with nominal or ordinal variables. The Students' 't' test served this purpose.

Interpretation of the significance of association between variables was made in the light of the smallness of the sample, the magnitude of category differences, and the need to integrate results into patterns of adaptation which are as meaningful for the individual case as they are for the survey population. 11 To this extent sociological considerations took precedence over scientific elegance and precision in analytical technique.

III-3: Limitations of the Study:

The applicability of the results is limited by the following aspects of the research design -

1. The Cobar grazier, receiving from woolgrowing an average 75 percent of his total income, and separated from his nearest neighbours and Cobar by

10. This does not mean, however, that studies employing these techniques are of little value in furthering knowledge. A fine illustration of this view is Komarovsky, M., The Unemployed Man and his Family, New York: Dryden Press, 1940. The point is further illustrated by the discussion in Kendall, Patricia L. and Wolff, Katherine M., "The Analysis of Deviant Cases in Communications Research" in Lazarsfeld, P.F. and Stanton. F.L., (eds.), Communications Research, 1948-1949, New York: Harper and Brothers, 1949.

considerable distances, can be expected to differ from graziers in other regions where there is scope for diversification and intensification of production, and a different pattern of social relations.

2. The recurrence of drought and the consequent hardship in the Cobar area has fostered a spirit of resilience among graziers which is often considered by observers to be much stronger than that shown in better grazing lands.

3. A larger and more representative sample would be necessary to draw firm conclusions about the distribution of adaptation patterns and characteristics of grazing families, even in the locale where the study was made.

4. Acceptance of ratings for answers to questions and classifications for adaptation patterns must depend on the internal consistency of the data. An expanded sample would provide an opportunity for statistical refinement of these gradings.
CHAPTER IV

Results

The results of the survey are presented in three main sections. First, an account of the characteristics of the twelve grazing families. Second, the attitudes of the grazier and his wife to the rural depression and their future on the land and third, the patterns of social and psychological adaptation to the rural depression. A summary of results is contained in Appendix 5.

IV-1: The Characteristics of Graziers and their Families:

(i) Distance of the property from Cobar (Appendix 6).

Cross tabulations between economic status of the property and distance from Cobar, using the Students' 't' test, indicate that the differences in distances between levels were not significant ($p < 0.05$). Means for the distances of properties in the low number of dependants group, and the high dependants group were also not significantly different. The mean distance of properties from Cobar for the total population was 49.25 (standard error: 4.02).

(ii) Size of property (Appendix 7).

The means of property size for each level of economic status were not significantly different. There was also no significant difference between the means for the dichotomy based on the number of people dependent on the property for their livelihood. The mean size of properties in the survey population was 46,019 acres (standard error: 5657).
(iii) Sheep equivalents per ten acres (Appendix 8).

Stocking rates vary throughout the region, from one sheep to eight acres to one sheep to twentyfive acres, according to the land classification and degree of vegetative regeneration. The mean for the survey population was one sheep to 1.06 acres, and there were no significant differences between means for the levels of economic status or the number of dependants.

(iv) The grazier's age, education, employment since leaving school, and length of time on the present property (Appendix 9)

The means of the ages of graziers in the low and high number of dependants groups were not significantly different (Appendix 10). However, on average, the graziers in the high economic status group were significantly older than those in the middle (p < 0.01) and the low (p < 0.05) economic status groups. The mean age of graziers in the middle economic level was significantly higher than that of the low economic status bracket (p < 0.05: one tail). The mean for the survey population was 54.08 ± 11.88.

The majority of graziers left school at the age of 14 and 15, two had never been to school, and one finished his education with the matriculation certificate. Since most of the respondents were educated in the bush by poorly qualified teachers, and often spent a considerable part of their schooldays working with their parents on the land, it is reasonable to suggest that by the standards of the day they obtained only a
moderate education. Most of the graziers when they left school worked in agriculture before they obtained their own property. Four of the respondents had a period away from the land whilst they fought in one or both World Wars, and one grazier owned a commercial business in Cobar prior to settling on the land.

(v) Number of years on the land:
An analysis of the number of years the respondent had owned the present property revealed that the mean period of ownership for the survey population was twentysix years. The length of ownership was positively related ($p < 0.01$) to the level of economic status. There was no significant association for the dichotomy on the number of dependants (Appendix 11).

(vi) Number of generations on the land:
All the graziers were second generation on the land, and in ten cases they were third generation. Most of their forbears lived in the Western District of New South Wales or Queensland, and were sheepfarmers. All the wives except one were third generation on the land.

(vii) Number of school-age children:
In the low number of dependants group there was only one person - a male aged sixteen - who was at school. In the high dependants group there were five males varying in age from 8-17 years, and seven girls between 5-18 years attending school.
IV-2: The graziers' health, leisure activities, participation in community affairs, and breaks away from the property. (Appendix 12):

The results of the analysis of cross-tabulations of this information with economic status and the number of dependants are summarised in Table 5:

<table>
<thead>
<tr>
<th>Levels of Economic Status</th>
<th>No. of Dependents on Property</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>p &lt; 0.10</td>
<td>NS</td>
</tr>
<tr>
<td>Leisure</td>
<td>NS*</td>
<td>NS*</td>
</tr>
<tr>
<td>Participation</td>
<td>p &lt; 0.05</td>
<td>NS*</td>
</tr>
<tr>
<td>Breaks away</td>
<td>p &lt; 0.05</td>
<td>NS*</td>
</tr>
</tbody>
</table>

* Not significant

On average, the health of graziers was associated with their level of economic status; those in the lower economic groups tending to have poorer health. Of the four graziers in the low economic stratum, three reported they had experienced a serious illness in the last ten years. One reported a heart attack and near nervous breakdown; another, pneumonia and kidney disease, and the third, stomach ulcers. The fourth grazier was in good health.

The level of participation in community affairs also reflected the economic status of the grazier. All four respondents in the low economic group indicated they had very little to do with community affairs. On the other hand, two-thirds of the graziers in the high and medium economic status brackets were fairly heavily committed to such activities as the local Ambulance Association, Masonic Lodge, Shire Council, Pastures Protection Board, Race Club, etc.
Graziers in the low economic status group spent considerably more of their time away from their properties visiting centres such as Dubbo, Sydney and Melbourne, than did those in higher economic levels. Most of these visits were for social reasons; for example, to visit the Sydney Royal Easter Show, or take the children for a holiday, but in one instance such trips were combined with the need to see medical specialists. There was one respondent in the high economic stratum who was rated as having a large number of trips away from his property, but this was more for medical and family reasons than for pleasure.

There was a significant association between the health of a grazier and the amount of leisure he obtained. Those who had good health also had a moderate to high amount of leisure. The most common leisure activities were watching television, reading, visiting the local Returned Solders' Club and Bowling Club, drinking in hotels, and visiting friends. Five of the seven respondents who were in medium or poor health had a low leisure rating.

There are a number of additional cross-tabulations based on the data presented so far which are of relevance to this study. These are summarised in Table 6:
TABLE 6

Cross tabulations

<table>
<thead>
<tr>
<th>Health -vs- age</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in community affairs -vs-</td>
<td></td>
</tr>
<tr>
<td>Distance of property from Cobar</td>
<td></td>
</tr>
<tr>
<td>Participation in community affairs -vs-</td>
<td></td>
</tr>
<tr>
<td>Leisure</td>
<td></td>
</tr>
<tr>
<td>Leisure -vs- Distance from Cobar</td>
<td></td>
</tr>
<tr>
<td>Leisure -vs- Participation in community</td>
<td></td>
</tr>
<tr>
<td>Breaks away -vs- Distance from Cobar</td>
<td></td>
</tr>
<tr>
<td>Breaks away -vs- Participation</td>
<td></td>
</tr>
<tr>
<td>Breaks away -vs- Leisure</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>* Not significant</td>
<td></td>
</tr>
</tbody>
</table>

IV-3: The attitudes of the grazier and his wife to the rural depression and their future on the land:

In this survey two elements of attitudes and values were studied. The first deals with life goals. The second deals more with implementing daily decisions which must be made even though the life goal decisions remain unquestioned.

(i) Attitudes towards life goals:

Two items in the interview schedule are useful in giving insights into the life goals of the respondents. These are: "Think of the things which are most important to you. Which three things on this card are the most important to you in the long run?"
"Making money and buying things".
"Doing things for other people".
"Keeping fit and healthy".
"Politics or community affairs".
"Religious activities".
"Being liked and respected by others".
"Being highly skilled in what I do".
"Being a just and honest person".
"Family ties and relationships".
"Being independent and one's own boss".

"If you had your choice, what would you most like to be? - Independent, Successful, or Well-liked?"  

The summary of responses is found in Appendix 13.

Both questions can be discussed conjointly, since to be "independent" is included in both; "being liked and respected" is synonymous with "well-liked", and "successful" really means, to most people, the making of money. It is clear from Appendix 13 that being well-liked is the greatest concern of the survey population. The second most frequently mentioned choice in both questions was independence, and the third, being a just and honest person. Only one respondent considered that success was important, and no one believed that making money and buying things was of significance in their life goals.

The responses for both questions were collapsed to

12. These two questions, in addition to those relating to the 14-item Middle Class Orientation Inventory and the Protestant Ethic Scale, which follow, were taken from the questionnaire used in Hobart, C.W., The General Report: Community Opportunity Assessments, Human Resources Research and Development, Executive Council, Government of Alberta, Edmonton, Alberta, March 1967.
two categories based on the psychological ratios of autonomy, and its autonym, homonomy. The results, cross tabulated with economic status and the number of dependants, are presented in Table 7:

**TABLE 7**

<table>
<thead>
<tr>
<th>Economic Status:</th>
<th>Autonomy</th>
<th>Homonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Medium</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Dependants:</th>
<th>Autonomy</th>
<th>Homonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Low</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Analysis of these results using Federighi's Tables indicates that there is no significant association between life goals as expressed in the above Table, and economic status or the number of dependants on the property. It is interesting, however, to note that five of the six respondents in the low number of dependants group had homonomous attitudes toward life goals. This may reflect their relative loneliness and the need for friends, compared with the respondents having large families. An unexpected result was that, three of the four graziers in the high economic status bracket had homonomous life goals. Usually success and independence are highly rated by members of high economic status groups.
(ii) Implementing decisions: The Middle Class -v- Working Class Orientations:

Two inventories, the Protestant Ethic Scale\(^{13}\) and the 14-item Middle Class Orientation Scale\(^{14}\) were included in the interview schedule to give some insight into the ways the respondents go about implementing their life purposes. There is ample evidence (Davis, 1943; Kohn, 1959) to show that there are significant differences in the ways that working people make the majority of their everyday decisions. These differences exist in their time orientation - whether they look to the future, or are content with the present - their dedication to success and advancement; their interest in education; their concern with respectability; their homonomous or autonomous attitudes toward life goals, and their dedication to work.

The Protestant Ethic Scale, consisting of six items, was designed to measure the extent of dedication to the value of work. The complete set of items and the procedure for rating the responses are set out in Appendix 4.

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13. The Protestant Ethic Scale is based on the Weberian concept that "labour must be performed as if it were an absolute end in itself, a calling". See Weber, M., The Protestant Ethic and the Spirit of Capitalism, trans. by Talcott Parsons, London: George Allen & Unwin Ltd., 1930, p.62. The Scale distinguishes between people who view work as a means to an end, and those who see work as an end in itself. In this study the higher the Scale score the more oriented the respondent is to work as an end in itself.

14. The 14-item Middle Class Orientation Scale is an inventory based on four subscales: time orientation, ascription -vs- achievement, interpersonal relationships, and education. For further details see Appendix 4.
The results for the Protestant Ethic Scale are shown in Appendix 14 together with the proportion of high, low and medium scores cross-classified by economic status and the number of dependants. The outcome of the analysis for these cross tabulations and those for age, health, participation in community affairs, leisure, and breaks away from the property are summarised in Table 8:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Protestant Ethic Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of dependants</td>
<td>NS</td>
</tr>
<tr>
<td>Age</td>
<td>NS</td>
</tr>
<tr>
<td>Health</td>
<td>NS</td>
</tr>
<tr>
<td>Participation in community</td>
<td>NS</td>
</tr>
<tr>
<td>Leisure</td>
<td>NS</td>
</tr>
<tr>
<td>Breaks away from property</td>
<td>NS</td>
</tr>
</tbody>
</table>

NS: Not significant

Examination of the data in Appendix 14 reveals that all four graziers in the high economic status group had low Protestant Ethic scores, i.e., a low value orientation to work. Three of the respondents in the middle economic bracket showed the greatest dedication to work; the fourth, a bachelor intent on marriage and socio-political activities, had a low Protestant Ethic score. Those in the low economic stratum indicated a low or moderate dedication to the value of work.

Low dedication to work is characteristic of wage earners, whereas high dedication is more generally characteristic of self-employed farmers. All of the low economic stratum had taken part-time work during the
recession, but so also had the graziers with high Protestant Ethic scores in the medium economic bracket. To complicate matters further, some of the graziers in the high economic group had been wage earners in spite of their low value orientation to work. It appears therefore that the wealthier members of the sample did not subscribe to the "middle class line".

The second inventory to give some insight into the way graziers implement their life purposes was the Middle Class Orientation Inventory consisting of 14 items. This is set out, together with the rating system, in Appendix 4. The results are shown in Appendix 15, and a summary of the significance of associations with cross tabulations, in Table 9 below:

<table>
<thead>
<tr>
<th>Protestant Ethic</th>
<th>NS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic status</td>
<td>NS</td>
</tr>
<tr>
<td>Number of dependants</td>
<td>NS</td>
</tr>
<tr>
<td>Participation in community affairs</td>
<td>NS</td>
</tr>
<tr>
<td>Leisure</td>
<td>NS</td>
</tr>
<tr>
<td>Breaks away from property</td>
<td>NS</td>
</tr>
<tr>
<td>Age of owner</td>
<td>p &lt; 0.05</td>
</tr>
</tbody>
</table>

NS: Not significant

Once again there does not appear to be any association between the level of economic status and middle and lower class orientations. This may reflect a lowering in status of the grazing community relative to town and city folk, since the latter have enjoyed a greater level of affluence over the last few years.
It is interesting to note that the older graziers ascribed to middle class attitudes and values. This may refer to the affluence of the good seasons when the grazier was in his formative years.


(a) The Grazier:

One of the central interests of this study was in the satisfaction of graziers with their current situation. To the question: "How satisfied are you with your life here on this property?", eleven replied that they were quite satisfied. The twelfth, a middle-aged spinster, complained of loneliness, the lack of suitable labour to assist her to run the property, and the harshness of her country. The respondents were further asked: "Would you take up farming again if you had the choice?" Eleven respondents said they would be graziers again, but some indicated they would move from sheep into cattle. One grazier in the middle economic stratum was quite adamant that he would never take up the land if he had his chance again.

When asked what they most liked about life on the land, all twelve mentioned "the way of life". The fact that it provided a degree of independence where one was one's own boss, a variety of work, peace and quiet, the exhilaration of not knowing what was going to happen the following day, and the satisfaction of dealing with nature and growing things, was pleasing to the graziers. Although considerable time was allowed for this question, no further reasons were offered.

When questioned on their dislikes about life on the
land, all the respondents mentioned the present drought and the regular recurrence of drought. Next in order of importance was the uncertainty of wool prices and the lack of financial return on their management and capital. Two-thirds of the graziers were concerned about these problems. Other factors raised were the inadequacy of educational facilities, the isolation, and their inability to get city folk to understand their current difficulties.

In response to the questions: "Have you any particular problems or handicaps or troubles that have held you back from getting ahead as you otherwise would have?", and "Are there things in your life you are particularly worried about at present?", seven of the subjects were definite in their view that shortage of money had seriously affected their progress. The distribution of these responses follows in Table 10.

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Number of dependants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>High</td>
<td>1. No</td>
</tr>
<tr>
<td></td>
<td>2. Yes</td>
</tr>
<tr>
<td>Medium</td>
<td>5. Yes</td>
</tr>
<tr>
<td></td>
<td>6. Yes</td>
</tr>
<tr>
<td>Low</td>
<td>9. Yes</td>
</tr>
<tr>
<td></td>
<td>10. No</td>
</tr>
</tbody>
</table>

The fact that only one of the four graziers in the low economic stratum considered he was handicapped by lack of money seems surprising. This may reflect a poor level of aspiration on the part of these graziers to maintain or improve their current level of production.
Other problems reported were: age, in the case of a 78-year-old in the high economic stratum; health, with two respondents in the low economic bracket; lack of sufficient technical knowledge to economically develop the land; and in two cases, the death or illness of a close relative.

Plans and prospects for the future: Graziers were asked what they would do if wool prices returned to the levels in the depths of the wool depression. With one exception they replied that they would tighten their belts and ride out the depression. The exception - a middle-aged spinster in the high economic bracket - said she would leave the land for a non-agricultural job, but she was uncertain if she could get a job other than as a domestic help.

To the question: "If you could get financial assistance to help set you up in work off the property so that you would earn a better living, would you want to move away somewhere else, or would you prefer to invest this money in the property?", one grazier in the high economic status group, two in the medium status, and no one in the low status group said they would use the money to move off the land. Only one person had a firm idea of what he would do: this was to become a warden of a rural tourist venture.

Although there was no significant association between economic status and the decision to either invest in the land or move off it, it is nevertheless surprising to find that all four graziers in the low economic stratum voted to remain on the land. This result will be examined later in the Discussion. In summary it may be said that the low economic
group is strongly committed to life on the land, and they view a change to a non-rural occupation as a drop in their existing level of social status.

There was no significant association between these responses and the number of dependants on the property.

When asked what problems they felt they would face if they had to move to the city, most graziers replied that they feared the pollution, the noise, the hustle and bustle, the lack of friends in the city, and the lack of freedom to do as one wanted, in that order of importance. Of the five respondents who feared the anonymity of city life, four were in the low number of dependants group, and all were rated previously in Table 9 as having an homonomous attitude to life goals.

(b) The Wife:

Questions were asked of wives to determine the extent of their satisfaction with life on the land. Of the nine wives in the survey, eight said they would be content to tighten their belts and ride out the depression if wool prices were to fall back to the levels of the recent recession. Three in the low economic stratum indicated that they would be most unhappy if they had to do so again. The ninth wife, who was also in the low economic stratum, said that she would do all in her power to get her husband to retire from grazing and move into town.

An assessment of the wife's supportive role for her husband based on her help with work on the property, i.e., drenching, mustering, drafting, her willingness and ability
to take part-time employment to supplement the farm income, and her attitude to present and future life on their property is presented in Appendix 16. It will be seen that all the wives in the low economic status group had low ratings, whilst the five wives in the upper economic strata showed strong support for their husbands in their present difficulties. Typical comments from the wives in the low economic bracket were: "I hate the bush, the dust, the flies and the heartbreak"; "I hate the loneliness. We're broke all the time - we never get away or do things any more". Three of the husbands of the wives in this group expressed serious concern about their wife's unhappiness on the land.

(c) The grazing community:

A series of questions was asked of graziers to gain an impression of their concept of attitudes prevailing in the grazing community. To the question: "Do you think that many graziers will be prepared to accept a very low or negative income in the hope that things will improve?", eleven respondents replied with an unqualified "yes", and one with a qualified "yes".

When questioned about the likelihood of graziers who are in severe financial difficulties accepting assistance to re-train for other forms of employment and leave the land, all the graziers considered that their friends or acquaintances would not agree to re-training. The majority, however, felt that some of the young graziers would re-train for jobs as insurance salesmen, tradesmen, or learn a profession such as accounting. Only two respondents knew of
a young person who had done this.

All subjects were further asked: "Do you think many farmers will eventually move to the city?" Ten replied "no", and two in the low economic stratum replied "yes". Applying Federighi's table, this result is significant ($p < 0.01$). The two "affirmative" respondents have themselves taken part-time jobs off the land, and one intends to make it full-time as soon as he can obtain the approval of his bank. Most of the ten graziers who replied "no" felt that the underlying reason for people not moving away from the land was the belief that "wool will come good; it's just a matter of time". This attitude has been strengthened by the spectacular return of wool prices to levels beyond that experienced during the wool boom in the 1950s.

(d) The graziers' improvement aspirations:

In order to explore the improvement aspirations of the sample, graziers were asked: "What are you planning now to improve your property?" Eleven graziers replied that they had no plans for improving the property at present. One respondent in the high economic status group felt that he would probably sink a few more dams to provide additional water for stock. The order in which reasons were given for not wanting to make improvements was: "Insufficient money"; "the property is already fully developed"; "it's just not worth it because of the droughts, the regeneration of the scrub, and the huge debt already accumulated".

To further explore the hopes and dreams of graziers they were asked: "What would you like to be able to do to
improve your farm?" The responses were varied. De-silting and repairing ground tanks was first in order of importance; then came: scrub clearing and timber treatment; contouring and water spreading; and finally, fence repairs. The emphasis appeared to lie on repairs and maintenance rather than new structural improvements, for while most graziers considered investment for maintenance an economical proposition, none considered that new improvements were economic, since there was a price ceiling to the value of their property. Only two respondents had talked over their plans with the Department of Agriculture, or their bank.

Cross tabulation of the replies relating to desirable economic improvements to the property, with economic status, shows that all the graziers in the high and low economic strata had no plans for economic improvements in the future. On the other hand, all the graziers in the medium economic status group had practical plans which they were keen to implement. This association is statistically significant \( (p < 0.05) \), and in turn reflects the younger age of the graziers in the middle group.\(^{15}\) There was no trend using the number of dependants dichotomy.

Graziers were also asked whether they would borrow money if it were available for increasing the size of their holding. Six replied "no", five replied "yes" (two had already borrowed), and one was uncertain. Cross tabulation

\(^{15}\) The cross tabulation of economic status with desirable economic improvements to the property is not significant when the age of the operator is held constant. This suggests that the association between economic status and desirable improvements is a function of the age of the operator.
of these results with economic status and the number of dependants failed to indicate any significant trend in the responses. However, when the answers were cross tabulated with the number of eligible males to take up farming once they left school, there was a significant association \( p < 0.01 \) between the graziers who would like to expand their acreage, or who had already done so, and those with eligible sons. In four of the five cases, graziers indicated that they would like to see their son(s) inherit the property and continue to graze it, although they recognised that the future for their sons on the land might not be good. The four mothers of these boys felt their sons would be better to educate themselves sufficiently to get off-farm jobs.

It is interesting to relate the attitudes to plans and prospects for the future of each grazier, to the information they gave concerning applications for rural reconstruction or rural amalgamation finance provided by the State and Commonwealth Governments. No one applied for finance from these sources in the high economic stratum. Three graziers in the middle economic group had applied, and only one received a loan. All four respondents in the lower economic bracket applied, and in two cases they were successful. The other two re-applied, but were again turned down.

Each of the three who received a loan were in the high number of dependants group, but tests for association failed to indicate a significant trend. Two of the three did not have dependant sons who could take over the property at
later stage, but one respondent had a 26-year-old son who was a farmer in Victoria. This same respondent was in poor health relative to the other two.

When each of the three were asked what particular problems were holding them back from getting ahead, neither of the two in the low economic stratum mentioned that finance was still a problem, but the respondent in the middle economic group still considered finance was holding him back.

Only one of the three had plans now for improving his property (probably because he had only recently been granted a loan), but all three said they would like to either make repairs to their property or effect structural improvements which they believed to be economic. One farmer from each of the low and medium economic status brackets had used their loans to expand their acreage. One of these had sons eligible to take over the property.

IV-5: The patterns of adaptation to the rural recession:

The rural recession can be expected to have social and economic consequences in the lives of the grazier's family. Questions were asked to determine whether the grazier and/or his family went to work to supplement their property income; whether they worked harder and longer, and if they cut farm and personal costs as a result of the recession. The responses are presented in Appendix 17. A summary of analyses for cross tabulations with these answers and several other important variables is listed in Table 11.
### TABLE 11

(i) Attempts to generate cash  
Work harder and longer  
Cut farm costs  
Reduce personal expenditure  
Part-time work for wife and/or children  
14-item Scale  

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Number of Dependents</th>
</tr>
</thead>
<tbody>
<tr>
<td>$p &lt; 0.05$</td>
<td>NS</td>
</tr>
<tr>
<td>NS</td>
<td>$p &lt; 0.05$</td>
</tr>
<tr>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>$p &lt; 0.05^*$</td>
<td>NS</td>
</tr>
</tbody>
</table>

* one tail for High scale vs Medium economic status.

(ii) Attempts to generate cash  
Work harder and longer  
Reduce personal expenditure  

<table>
<thead>
<tr>
<th>Breaks away from property</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS</td>
</tr>
<tr>
<td>NS</td>
</tr>
<tr>
<td>NS</td>
</tr>
</tbody>
</table>

(iii) Attempts to generate cash  
Work harder and longer  
Reduce personal expenditure  

<table>
<thead>
<tr>
<th>Protestant Ethic Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>$p &lt; 0.05^*$</td>
</tr>
<tr>
<td>NS</td>
</tr>
<tr>
<td>NS</td>
</tr>
</tbody>
</table>

* Maitland test.

(iv) Attempts to generate cash  
Work harder and longer  
Reduce personal expenditure  

<table>
<thead>
<tr>
<th>Health</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>NS</td>
<td></td>
</tr>
<tr>
<td>$p &lt; 0.05$</td>
<td></td>
</tr>
<tr>
<td>NS</td>
<td></td>
</tr>
</tbody>
</table>

NS: Not significant
Table 11 contd.

(v) Attempts to generate cash
Work harder and longer
Reduce personal expenditure
Age of Owner
NS
NS
NS

(vi) Attempts to generate cash
Work harder and longer
Reduce personal expenditure
14-item Middle Class Orientation Score
NS
NS
NS

(vii) Participation in community affairs
Leisure
Work harder and longer
p < 0.05
NS
NS: Not significant

The data indicates that the recession affected all the respondents and led to changes in their social and economic patterns of behaviour. All but two graziers reduced their level of personal expenditure, the two exceptions coming from the high economic stratum. Eleven of the twelve graziers cut their farm costs to such an extent that most considered the sheep were caring for themselves, and their property was deteriorating through lack of investment in repairs and maintenance. The operator who did not cut farm expenses was in the high economic bracket and said that costs had already been pared to a minimum long before the recession.

An examination of the responses to the question of whether they had supplemented their farm income with...
off-farm work and additional farm enterprises revealed that no one in the high economic stratum had made any attempt to earn additional income. Seven of the eight graziers in the middle and low economic groups had taken off-farm work in the last three years, and had hunted kangaroos and/or goats for sale to meatworks in Cobar. The eighth grazier, a young bachelor, felt neither the need nor the inclination to supplement his income. This attitude is supported by his Protestant Ethic rating (one of the lowest in the survey) and in his expressed wish to get married and pursue his interest in politics.

Seven respondents said that they had worked harder and longer as a result of the recession. A significant number of these were in the high number of dependants group ($p < 0.05$). The main reason given by these men for having to work harder and longer was that as they could no longer afford farm labour or contractors to do shearing and crutching, they had to do the work themselves. Obviously those graziers with a large number of dependants will find it less easy to afford farm labour once their farm income falls.

It is interesting to note that those graziers who supplemented their income with off-farm work and hunting were also those who worked harder and longer during the recession. These represent two discrete patterns of adaptation to reduced farm income.

Six of the nine wives did not take off-farm work during the recession. Tests for association with economic status and the number of dependants were not significant.
One son and one daughter of two separate families left school earlier than anticipated because of the recession, but in both cases the parents believed that this provided an excuse for them to return home. The majority of wives felt that they had not worked out-of-doors with their husbands more often as a result of the recession.

There was a significant association (p < 0.05) between the level of economic status and those graziers who sought to supplement their farm income. The graziers who generated extra income came predominantly from the low economic strata. There was no significant association with family size, but cross tabulation with the Protestant Ethic Scale revealed a significant relationship between graziers with high scores and those who earned additional income.

The final result worthy of mention is the cross tabulation of the health of the operator with the response to the recession by working harder and longer. There was a significant association between the graziers in the low economic strata who had poor health, and their disinclination to work harder and longer. Conversely, graziers in good health tended also to be those who adjusted to reduced farm income by working harder and longer.
Discussion of Results

Since this study was exploratory and the sample was small, the integration of results into an intelligible system will be tentative. Furthermore, the tests of significance used in the survey cannot be used to order variables in a causal system. To achieve this requires large populations and multivariate statistical analysis.

So that a hypothetical causal system may be developed from the results of this survey, each of the various discrete bivariate relationships will be ordered using results from other research material and the intuition acquired through close contact with the twelve grazing families. The conclusions reached in this manner may be quite useful to policy makers, and provide the basis for the formation of new hypotheses within a larger theoretical perspective.

To facilitate discussion of the results, a diagrammatic representation of the main conclusions is presented in Diagram I.

---

16. A useful discussion on building an intelligible system from a series of bivariate relationships, particularly the delineation of direct and indirect effects of variables, is provided in Duncan, O.D., "Path analysis: Sociological examples", The American Journal of Sociology, Vol. 72 (No. 1), July 1966, pp. 1-16.

17. Studies with large survey populations do not necessarily require multivariate analysis to order observations into a coherent system. This is well illustrated in Rossi, P.H., Why families move, Glencoe, Ill., The Free Press, 1955, Ch. I.
Diagrammatic representation of the main conclusions of the Discussion:

Indicators of Pulls to Land

- Age of Operator (+)
- No. ofDependents (+)
- Health (+)
- Work Harder and Longer

Independent Variables

- Protestant Ethic (+)
- No. of years Property owned (+)
- Outside Income (-)
- Breaks Away (+)
- Wife's Supportive Role (+)
- Reduced Local Participation (+)

Indicators of Push off Land

NB: An arrow delineates the direction of the causal link. (+) or (-) over the arrow indicates the nature of the association -

+ positive relationship
- negative relationship
On examining Diagram I it will be seen that the attitudes of graziers and their wives to staying on the land have been omitted. The reason for this is that almost all the attitudes concerning grazing now and in the future were identical. No matter what happens, the grazier and his wife seem resolved to live out their lives on the land. The critical observation in this study, however, is that there are a number of indications to suggest that some grazing families are changing, behaviourally, towards leaving the land. A review of such factors as the wife's support of her husband in his role as grazier, the level of social involvement in the grazing community, the time spent away from the property, and the amount of income derived from work off the property, indicates that the grazing families in the lower economic strata are undergoing behavioural adaptations which reduce their feeling of commitment to the land. The fact that their attitudinal responses were at variance with their behavioural patterns is of little concern, for as Emery and Katz (1951) found in their study of Australian Jews, attitudes are maintained up to the last minute before an individual changes his reference group.

Of the significant associations that have emerged from this study, the economic status of the grazing family is a major force in the process of adaptation to depressed rural conditions. This in turn has been shown to be positively associated with the age of the grazier and the number of years he has owned the property. The subsystem may be represented diagrammatically as follows:
The relationship between the economic status of the grazier, his age, and the number of years he has owned the property:

\[ r = +0.794 \]
\[ p < 0.05 \]

No inference can be made as to the likely strengths of these relationships. Also, since it is not possible statistically to infer the direction of the causality, this must be based on theoretical considerations. It seems fairly clear, however, from the general context of the results, that the effect of age on economic status occurs through the number of years the property has been owned.

The level of economic status and the number of people dependent on the property for their livelihood may

---

18. By convention each Diagram requires a series of regression equations. (Duncan, 1966). Since measures in this study are nominal or ordinal, this is not possible. Instead, a statement of the zero and first order associations implied in the diagram is presented in Appendix 18. For the sake of simplicity the variables are numbered and the associations described in numerical order.

be conceived as being the centres of two major, interlocking, causal subsystems. In summary, economic status when interacting with a Protestant Work Ethic leads to subtle changes in the institutionalised economic and social activities of the grazier. When economic status interacts with family size and the health of the operator, the Ethic reinforces these traditional activities and in the long term further reduces the level of economic status.

Taking the last interaction first, it was found in the survey that those graziers who worked harder and longer as a result of the recession had large families and were in good physical health. It appears therefore that the recession had "pushed" these graziers into doing extra work. However, it was also apparent from the survey that family size is not related to the health of the operator. This suggests that those graziers who have a high number of dependants but are in poor physical health, could not go out - or did not want to go out - and work harder and longer. These statements may be represented diagrammatically as follows:

**DIAGRAM III**

The relationship between the health of the respondent, his need to work harder and longer during the recession, and the number of people dependent on the property for a livelihood:

```
Work Harder and Longer

(+)

Health

(+)

No. of Dependents
```

(+): positive relationship
The conclusion to be reached from Diagram III is that poor health inhibits the relationship between the number of dependants and the need to work harder and longer during a recession.

The positive association between economic status and health may also be added to the subsystem with an interesting result. If the recession requires harder and longer work and health limits work capacity, the operator with poor health and a large family may be expected to feel the effects of the recession most, and yet be least able to do anything about it. This becomes clearer when the reasons for operators working harder and longer are examined. The principal reason given by graziers was that they had to do the work of the farmhands they were forced to lay off because of their financial difficulties. This may mean that operators with poor health have either to continue hiring labour, or let the property run down. Both these actions may be expected to lower the economic status of an operator still further.

Another addition needs to be made to the subsystem. Since the survey sample was selected on the basis of economic status and the number of dependants, any relationship between these variables would have been removed by the sampling procedure. However, it is clear from most demographic data that people in rural areas typically have large families.\(^{20}\) If this relationship holds true for the social

structure of Cobar, the subsystem as represented so far would be strengthened. In this situation there would be a greater proportion of landholders in the Cobar area with large families, and consequently greater need to work harder and longer. This argument may be represented diagrammatically as follows:

**DIAGRAM IV**
The relationship between the health, economic status, number of dependants on the property, and the need for the respondent to work harder and longer during the recession:

- **Working harder and longer**
- **Health**
  - (+)
- **Economic Status**
  - (+)
- **No. of Dependents**
  - (+)

* Hypothesised to occur over time

(+) = positive relationship

It is quite apparent that the causal path, as presented in this Diagram, is circular. Furthermore, in cases where the health of the operator is poor - which appears to be the case with graziers in the lower economic strata - the remedy of working harder and longer to ameliorate the effects of the recession is no longer available. Viewed in the conceptual framework of push and pull forces, bad health can push the operator further into his social niche. Naturally, however, should the operator's health deteriorate markedly and he becomes hospitalised - as several of the respondents were over the past few years - the "push-in" force becomes a "push-out" force, once the operator realises he can no longer manage the property.
Another subsystem may be built around the income relationship which existed between economic status and attempts to generate additional income. The survey found that those graziers in the low economic stratum took part-time - and in one case, full-time - employment to supplement their income. It may also be recalled that the Protestant Ethic Score was significantly related to the attempts to generate additional income.

Since economic status and the Protestant Work Ethic were not related in this survey, it is most unlikely that one of these variables is the sole factor determining the attempt to generate income. It seems as if both low economic status and a high Protestant Ethic interact to produce this response. There are two pieces of evidence which support this view. First, the attempt to generate extra income by working off the farm or by hunting was not found to be significantly related to the adaptation of working harder and longer. The two responses to the recession are qualitatively different. Second, the results for the Protestant Work Ethic were not related to the response of "working harder and longer" during the recession. The attempt to generate extra income by working off the farm and/or hunting is therefore a product of both financial hardship and a Protestant Work Ethic. This relationship may be represented diagrammatically:
The relationship between attempts by respondents to earn additional income to offset the effects of the recession, the Protestant Ethic and the economic status of the respondent:

![Diagram](attachment:image)

(+): positive relationship
(-): negative relationship

The significant feature of this Diagram is that it has implications at a social level. Those operators who attempted to generate extra income usually took a job outside their traditional avenue of employment, e.g., as workmen for the Cobar Shire. Although the commitment of the grazier to the land - as determined in this survey - has not changed, the use of means to achieve this end has. This dynamic forms the basis of Yates' observations on horizontal mobility in the rural industry (1972). However, the implications go further than Yates suggested. The change in the "means", i.e., horizontal mobility, may well lead to a re-evaluation of the "end", and in consequence, vertical mobility.

This process is reflected to some extent in Merton's (1968) analysis of structural strain in American society. In his conceptual framework Merton attempted to show that a particular form of structural strain develops when individuals are socialised into achieving certain "ends"
without being allowed to use legitimate "means". In this case, however, farmers are not prohibited by particular norms from using certain "means" to achieve their objective of remaining on the land; rather the severity of the depression in the rural sector prevents the successful application of short-term "means". There is little opportunity for well-paid employment, diversification and/or intensification of production, and cutting of farm and personal expenditure.

There are three other associations with economic status which support the view that graziers are becoming disenchanted with their present situation. The number of temporary movements away from the property was found to be inversely related to economic status. Examination of the cross tabulation shows that the graziers in the low economic stratum spent the least amount of time on the land. This same group also had the least involvement in community affairs. This suggests that the members of the low economic stratum have potentially more non-rural contacts, and less social support on the land than graziers in the higher economic groups. 21

The final piece of evidence concerns the supportive role of the wife to her husband during the recession. The results indicate that the wives in the low economic stratum

had low levels of support for the husband in his capacity as grazier. Three of the four were quite open in the expression of their desire to leave the land no matter what uncertainties lay in the future.

Given the low social involvement on the land, the greater period spent off the property, the difficult financial situation, and the low level of support from the wife, one would predict that the graziers in the low economic stratum are most likely to migrate from the land. Their recognition of the futility of pursuing a future for their children on their properties seems an indication of this fact. However, it is unlikely that these graziers will leave their properties in the near future. They have expressed attitudes favourable to remaining on the land and are maintaining value orientations similar to the graziers in the higher economic strata. Studies such as the one by Donohue (1959) support this view.

In theoretical perspective the poorer graziers continue to orient their attitudes and behaviour to those held by those in higher economic groups, i.e., they identify with a reference group \(^{22}\) comprising "successful" farmers. It is likely that this situation will persist even if the poorer graziers leave the land and take up employment elsewhere. The reason for this is that farmers view other occupations available to them as being "inferior", and the attendant

\(^{22}\) The term "reference group" is adopted from Merton, R.K. and Lazarsfeld, P.F., Continuities in Social Research, Glencoe, Ill. The Free Press, 1950, p.84. A "reference group" is any social group which becomes a significant source of values, norms and behaviour for a particular individual.
reference groups as being lower in social status. As Emery and Katz (1951) have found, reference groups are chosen by people in order to achieve the highest status position available to them.

There is one further implication. Since graziers feel bound to a reference group and adopt its pattern of social behaviour, they are often unable to engage in anticipatory socialisation\(^\text{23}\) for any other occupation. This may therefore preclude the possibility of vertical mobility. In the same light, however, one would expect an increase in horizontal mobility. This discussion can be summarised in diagrammatic form as follows:

![Diagram VI](image)

A summary of the relationship between the economic status of the respondent and survey ratings for Protestant Ethic, wife's supportive role, participation in community affairs, and the number of times the grazier leaves his property:

\[\text{Economic Status} \rightarrow \text{Participation} \rightarrow \text{Wife's Supportive role}\]

\[\text{Attempts to generate income} \rightarrow \text{Protestant Ethic} \rightarrow \text{Breaks Away}\]

\((+)\): positive relationship
\((-)\): negative relationship

The latent function of value orientations can also be

\(^{23}\)"Anticipatory socialisation" refers to the process in which persons anticipate roles or careers in such a way that they learn them quickly before or after they have moved into a new role or occupation. This is discussed in Turner, R.H., The Social Context of Ambition: A study of High School Seniors. Chandler Publishing Co., San Francisco, 1964, pp. 107-108.
used to interpret Diagram IV. It was noted earlier that if health deteriorated or was already poor, this would inhibit the ability of operators with large families to cope with the recession, since they were disinclined to work harder and longer. It was suggested that the effect of this was to "push" farmers further into their rural niche by further reducing their economic status and the condition of their health. To increase grazier resilience to the effects of the recession, it may be possible to adopt a rural policy which blocks out the inhibitory effect of poor health, rather than provide substantial sums of money for direct loans or subsidies.

Should this be possible, one further implication needs to be examined, for even if health were eliminated as a problem to graziers, they would no longer be "pushed" further into agriculture, but instead would be "pulled in". Evidence for this is provided in the results. Since the formula of working harder and longer is part of a long-established hierarchy of traditional remedies to use against "hard times", when applied, it will increase the grazier's commitment to the land as an "end", and also his "means" of remaining there. One result which supports this view is the positive relationship between participation in community affairs and the adjustment pattern of working harder and longer. It is to be expected that those involved in a rural community will be most inclined to support the traditional patterns of adjustment. In addition, since the Protestant Work Ethic is not related to working harder and longer, the normative pressure underlying the response does not come from a dedication to work per se,
but rather from a traditional, widely-supported value system. Whilst the Protestant Work Ethic and the level of economic status of the grazier direct his activities in non-traditional directions, e.g., part-time employment, the absence of an Ethic may be expected to encourage the pursuit of traditional activities such as the adjustment pattern of working harder and longer. This can be expressed diagrammatically in the following way:

**DIAGRAM VII**

The relationship between the respondent's economic status and number of dependants, his health, participation in community affairs, and the need to work harder and longer during the recession:

<table>
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<tr>
<th>No. of Dependants</th>
<th>Working harder and longer</th>
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<tr>
<td></td>
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<tr>
<td></td>
<td>Economic Status</td>
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<tr>
<td></td>
<td>Participation</td>
</tr>
</tbody>
</table>

* If health good, remain on land
  If health poor, kept on land

** Hypothesised over time

(+) Positive relationship
(-) Negative relationship

There is one further dynamic which can be added to the push-pull model. This is the relationship between economic status and the operator's plans for economical improvement of his property. When this relationship is examined in terms of the age of the operator it is found that the relationship is a direct function of age. This is shown in Diagram VIII:
The relationship between the economic status of the respondent, his age, and his plans for the economic improvement of the property:

Economic Status                        Plans for improvements which will be economic
                                        (+)                        (+)
                                        Age

* This is 'partialled out' in the analysis

(+) : positive relationship
(-) : negative relationship

It will be recalled from the results that the medium economic stratum was the youngest age group and had the most plans for economic development of their properties. This may be explained in the following manner. Younger operators are more likely to have a value orientation to the future and a higher level of aspiration in their working environment. However, since they were in the middle rather than the low economic stratum, the "push" to generate more cash income by working off the farm does not operate, with the result that their orientation to the property becomes more acute than that of the low economic group, and they make plans to improve the property.

The discussion so far has been summarised in diagrammatic form in Diagram I. However, although the relevant variables have been ordered into a tentative system, little has been said about the way in which this system may be expected to evolve in the future. Clearly it is unrealistic to assume that a system of this complexity would remain static when forces in the economy, rural politics, the grazing family, and the physical environment, are continually changing.
This projection may be approached in two ways. First, the results from empirical studies in other areas may be applied when they refer to similar circumstances and are sufficiently advanced with regard to Australian trends. The rural migration studies in countries such as Ireland (Hannan, 1971) and Canada (Porter, 1965), are particularly useful in this regard. Second, since sociological conditions in Australia are not always comparable to those in other countries, existing sociological theory may be applied to the present situation to abstract those features which are suitable for comparison between regions. The application of the concept of socialisation in this study is one case in point. Both these approaches will be used in the subsequent Discussion.

Earlier in this section it was stated that farmers were unwilling to engage in anticipatory socialisation, and so were not forming motives and aspirations amenable to leaving the land. It was also shown, however, that the graziers were frustrated through lack of adequate "means" to achieve their ambition of running a successful farm and remaining on the land. The most prevalent adaptation to this situation was a lowering of goals, and diversification and intensification of their labour.

The difficulties which face these graziers lead to two questions on the likely outcome of the present trends. First, what will the young graziers and male children of those on the land do concerning their future on the land? Second, what patterns of adaptation could be expected to result from attempts to assist graziers from the land?
Judging from the move away from the traditional means of earning a living on the land, - the reduced support of wives to their husbands in their role as graziers, reduced participation in community affairs, and a lowering of life goals and standards of living, - it may be anticipated that children eligible to return to the property, and those young graziers who have been in the industry for only a few years, will be amenable to leaving the land. Several studies support this view. Gasson (1969) in her work on rural migration in England, found that boys from large successful farms were more likely to take up farming than those from impoverished farms. Similarly, Kaldar, Eldridge, Burchinol and Arthur (1962), in their study of occupational plans of Iowa farm boys, found that boys were most inclined to go into farming when the family could help set them up on a farm, the average income of the farm family was above the average in the district, and the property was owner-operated. The poor financial position of most of the graziers in this study suggests that the "pull-in" force concerning the commitment of these young people to a future in the grazing industry, is very low.

There is one further factor which needs to be mentioned in this discussion. This concerns the observation that the graziers were strongly committed to giving their children a good education. This was evident from the large number of children at boarding school and the considerable sacrifices that the grazier and his wife made to get their children to and from the school bus (which in some instances stopped 25 miles from their front gate). This concern for
education may be expected to result in maximum exposure of
the children to off-farm values and attitudes, and the
development of roles and expectations more suited to non-rural
occupations. It is interesting to note that Dodderidge and
Holland (1970) in their studies on population drift in New
South Wales, found that 57 percent of migrating rural school
leavers moved to the city to continue their education at a
university, and presumably enter a profession off the farm.

In summary, then, it seems that the children and
young graziers most likely to remain on the land are those
from wealthy farms who have obtained an average standard of
education in a school close to the property, or those
children from low economic status farms with parents who
cannot continue to run the property without their assistance.
The latter group will aggravate the already precarious
situation where the grazing family is trapped in a spiral
of declining viability. The children from the high economic
status families, on the other hand, will follow their
forbears in a manner similar to that described in this study.

The final question concerns the patterns of
adaptation which can be expected in the future from the
graziers, and the implications of these for State and
Commonwealth Government rural relief programmes. It appears
from the context of this study that some of the assistance
given graziers is of little benefit to the industry in the
long term. An illustration of this is the provision of
government funds to provide off-farm employment for the
graziers until conditions within the industry improve. Most
of the graziers in this survey were firm in their opinion that off-farm employment resulted in less attention being given to essential repairs and maintenance of the property, and a deterioration in the quality of their stock management. At a time when there is ample evidence to indicate a general deterioration in the physical environment at Cobar, this accelerated decline could have quite serious implications. Furthermore, since it is clear from the survey by Hodgkinson and Munro (1971) that some 60 percent of properties in the area are not viable even with subsidised wool prices, the encouragement to remain on the land through the provision of part-time, off-farm employment opportunities is not realistic in terms other than political expediency.

There are three additional sociological considerations concerning the rural depression which could be of benefit to policy makers. The first concerns the deterioration in the health of graziers in the low economic stratum at a time when they need to work harder and longer, particularly if they have large families, to overcome the effects of the depression. The introduction of a suitable health benefits programme to relieve this problem may be of considerable value in alleviating the present distress.

The second, and perhaps more important consideration concerns the relationship between the education of farm children and the need for some graziers to leave the land. Hannan (1970), and Illsley, Finlayson and Thompson (1962), have shown that very few people leave the land for the city unless they have friends or social contacts there. If, as Dodderidge and Holland (1970) have found, young people in
New South Wales are moving to the city, they may provide an effective force which will attract their parents there also. The provision of adequate educational facilities and opportunities for farm children, to encourage their vertical mobility, may prove a better investment than the present rural rehabilitation scheme.

A final area for reconsideration of policy concerns the opportunity which off-farm employment affords in getting the grazier to leave the land entirely. From discussions with the survey population it appears that if some form of promotion or differential incentive were available to graziers in their off-farm work they may be sufficiently motivated to remain in their job once conditions in the rural sector improved. An acceleration and expansion of present decentralisation programmes, and the provision of adult education facilities to assist graziers in their change of reference groups, would achieve this prospect.

In summary, then, policies which increase the educational opportunities of farm children, promote the health of those working on the property, and provide incentives for graziers to extend their part-time work to full-time employment, will accelerate migration from the land.
A P P E N D I C E S

Key to notation:

Sig: Significant
NS: Not significant
't': Students' 't' test
(+): Positive relationship
(-): Negative relationship

Breaks away: Temporary absences from the property, e.g., trips to Sydney, Dubbo, etc. for holidays, or for medical reasons.

...
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APPENDIX I

The extract in this Appendix is taken from The Report and Summary of Evidence of the Royal Commission to enquire into the Condition of the Crown Tenants (appointed August 11, 1900), New South Wales Legislative Council, 1901. Its interest lies in the graphic description of the deterioration in the physical quality of land holdings in the Western Districts at the turn of the century. Much of what was written then applies equally today. The situation which is reported in this thesis therefore had its beginnings with the settlement of the area by white men some 120 years ago.

"1. The Causes of the Present Depression in the Western Division.

The depression in the Western Division, and the general unprofitableness of the pastoral industry as carried on in that portion of the State, is the result of a combination of causes.

(a) The low rainfall and the frequent subjection of the country to periods of drought may fairly be regarded as the primary and most constant cause of the difficulties which beset the western grazier. Although the recent drought in the opinion of many witnesses is the severest which the western country has known, it has been preceded by many others which, under conditions otherwise equal, would probably have been accompanied by results just as disastrous. Captain Sturt, seventy-three years ago, described the interior of Australia as 'a heartless desert,' the experiences which led him to bestow so harsh a description upon the country being chiefly those which he had undergone in what is now known as the Western Division of New South Wales. During 1837-9, what is said to have been one of the worst droughts ever experienced in New South Wales took place. In 1844 Sturt established a depot at Mount Poole. 'For fourteen months,' he wrote, 'I kept my position in a country that never changed but for the worse, and from which it was with difficulty I ultimately escaped.' In 1849-51, according to Mr. Dickinson, who held country in the Brewarrina district, 'there was another terrible drought on the Darling, when the grass and salt-bush disappeared.' In 1865, Mr. D.F. Mackay, who travelled down the Darling with cattle, described the country as 'a perfect desert'; and from that year until 1870, Mr. W.H. Suttor says 'the seasons gradually got worse, resulting in the last-named year in the most disastrous drought known since the Colony became settled.' The ruinous effects of drought from 1875 to 1878, the dry seasons which ushered in the eighties, the severity of the seasons which followed from 1883 to 1886,
the 1888 and 1892-3 droughts, and the calamitous results of more recent years, speak eloquently as to the experience of the western country throughout the period during which records have been kept.

In a few words, the meteorological history of our Western Division shows it to be essentially a country of almost invariably low rainfall and inevitably recurring drought. The essential difference between it and the eastern part of the State is that its mean rainfall is so low that a moderate shortage of rain, either stated in inches or as a percentage, which would hardly be felt in districts with a high mean rainfall, represents in the western country a period of destructive drought. The significance of this characteristic is indicated by a diagram, which appears elsewhere accompanied by some observations by Mr. Russell, the Government Astronomer. That the story of our western country makes such a gloomy page in the history of the pastoral industry of the State is probably mainly due to the general failure in the past of those interested - under the seductive influence of a short run of good seasons - to recognise that drought is the predominant characteristic of the west and not merely an enemy to be occasionally encountered. Fewer mistakes will be made in the future, and there will be less of shattered hope, if everyone concerned with the pastoral industry in our Western Division bears constantly in mind that the weather history of the next twenty or thirty years will in all human probability be very much like unto the history of the last twenty or thirty years.

(b) The overrunning of a large portion of the Western Division by the rabbit may be said to have done much to convert distress into disaster. So much statistical information has been published in connection with the rabbit pest during the last fifteen years that no good purpose would be served by going at length into that phase of the trouble. Suffice it to say that over the greater portion of the Western Division the pastoralist was for many years under the unavoidable necessity of expending annually, in his attempt to cope with the pest, sums of money which, unexpended, would in many instances have represented a substantial profit on a year's operations. The loss involved in the industry, as well as to the State, in what is called 'the eating out of the country', must be much greater than that represented by the direct expenditure, but is necessarily incalculable. During periods when pasture was comparatively plentiful, rabbit and sheep shared the sustenance which was formerly available for sheep alone. As the available grass diminished, and the struggle for life became keener, the rabbits devoted themselves to ringbarking edible shrubs and eating them out by the roots. It was the absence of these edible shrubs during the recent drought, which, in the opinion of many witnesses was responsible for its exceptionally disastrous results in so many parts of the Division, and the gloominess of the present outlook. In former times of drought edible shrubs were available as a stand-by. Of recent years the operations of the rabbit have gone far in many localities to secure their eradication.
Amongst the most serious questions today engaging the thoughts of the western pastoralist are what, if anything, will take the place of the eaten-out shrubs, and to what extent will the at present pastureless country recover, and what period of time will the process of recovery occupy? These questions can be answered only by the crucial test which comes from lapse of time; but upon the answer, according to a large quantity of evidence submitted to us, appears to a very important extent to hinge the future of the greater part of the Western Division. It was pointed out in evidence that before the advent of the rabbits a good season gave the pastoralist an opportunity of recovering from the effects of a drought; but of later years the rapid increase of the pest robbed him of the advantages previously resulting from a good season. The presence of the rabbits had the direct result of completely nullifying the effects of some rains, the grass being nipped off almost below the ground as soon as it made its appearance. As the result of the prolongation of the drought, rabbits have died as well as sheep. If, with the return of better seasons, the rabbit difficulty is revived in anything like its old proportions, the change, so far as the settler in the rabbit country is concerned will not mean a release from strife, but merely the substitution of one form of warfare for another.

(c) Closely associated with, and to a certain extent inseparable from the rabbit question is the question of 'over-stocking.' The opinion is very general that in the early days of settlement in the Western Division much too favourable a view was taken of the carrying capacity of the country. Although this view might not have been urged so strenuously to-day if the rabbit had never entered into competition with the sheep for the possession of the western pastures, the opinion has, nevertheless, a good basis. It is only during late years, apparently, that pastoralists seemed to have opened their eyes to the grave risks they ran in allowing the edible shrubs to be eaten by stock in the belief that they would reappear in abundance after every rain. To what extent this wholesale destruction of edible shrubs would have been carried on had the rabbit not made its appearance, can to-day, of course, be only a matter of speculation. The result of the united effort of sheep and rabbit has, it is now only too plain, been terribly disastrous; and, as we have already suggested, the future of the west, in consequence of the disappearance of the edible plants during the last few years, is enveloped in very grave uncertainty. It is not unusual to hear the view expressed that 'over-stocking' is the main cause of the trouble in the west and that, as it might have been avoided, the western pastoralist has chiefly himself to thank for the sea of trouble in which he now finds himself. It seems only fair to point out that the position in which, from various causes, he found himself from time to time, was one that may be regarded as a fair excuse for his taking the view that his case belonged to that class which proverbially requires desperate remedies. That a considerable number of investors in the western country are victims of an exaggerated idea of the value of pastoral properties
situated therein must be admitted. People paid excessive good-will values in the belief that the prevailing prices would always be maintained; that 'good seasons' were the rule instead of the exception; and without the slightest notion, of course, that the rabbit would in a very few years take partial possession of the country. Those who 'took up' country also, and who had no goodwill to pay for, saw no reason to doubt that the favourable conditions then prevailing would ever pass away, and spent money with a freedom that, in the light of after events, proved not to be consistent with the highest wisdom. The cost of the properties stood in the books at a certain sum. Interest upon it had to be earned. The 1884 Land Act became law. In many cases, half the runs passed out of the hands of the original lessee; in nearly every case, very large areas. Rents went up with a bound, and the interest had still to be earned. There was an irresistible temptation to try and carry the same number of stock on the reduced area which remained. Then the rabbits came. Large sums of money had to be expended in destroying them and in trying to stop their advance. The pastures were being plundered; but the attempt had still to be made to carry enough stock to pay interest and, at the same time, provide the extra expenses involved in fighting the pest. A study of the available stock returns for the western division raises a strong presumption that it was at this period of the country's history that the disastrous process of overstocking commenced in earnest. For the six years from 1879 to 1884, inclusive, the average number of sheep carried per annum in the western division was about 9-1/2 millions. For the thirteen years from 1885 to 1897, inclusive, the average number carried annually was 13-1/2 millions. In other words, the country was, after 1884, asked to carry 42 percent more stock than was carried before that year, notwithstanding that before 1884 the stock had the country to themselves, whilst after 1884 they shared it with the rabbits. Coincident with the rabbit era came a decline in prices, which made the position still more desperate, and further impelled many to embark on hazardous courses in the endeavour to avert the ruin that seemed to be impending. It is, perhaps, only just to point out that in districts far removed from railway communication, as is most of the Western Division, the evils of 'overstocking' are in many instances brought about by circumstances for which, unless he be omniscient, the pastoralist can hardly be held responsible. On a given date he is carrying on his run a certain number of stock. The weather becomes dry; but according to precedent, based on limited experience, rain may be expected to fall soon. The rain holds off. To send his stock away means loss of profit - perhaps an increased overdraft. He decides to wait a little longer. The expected rain fails to come. The run is then overstocked; and, owing to the condition of the stock routes rendering it impossible to get the sheep away, it remains 'overstocked' until the sheep die or the weather breaks. Having regard to circumstances such as these, it would appear that the wrong-doing of the western pastoralist in this matter is mitigated by extenuating circumstances.
The fact remains, however, that the operations of sheep and rabbits combined over many parts of the west, have had the effect of depreciating the carrying capacity of the country to an extent which, in the view of numerous witnesses is alarming; but to what extent, as we have said, it is at present quite impossible to determine. This much, however, appears to be certain. The seasons for the next twenty or thirty years, we venture to repeat, are not likely to differ much in character, by and large, from those of the last twenty or thirty. The pastoralist entered upon the period just ended with the country in its virgin condition. He enters upon the coming period with the country immensely depreciated.

The effect of the operations of the rabbits and 'overstocking' during recent years has been the destruction of almost all the vegetation on the face of large areas of the drought-stricken country. The prevailing westerly winds, under these conditions, have produced sand-storms, the effects of which it is no exaggeration to describe as calamitous. It is probable that the same phenomena have been previously witnessed in the Western Division, but it appears certain that experiences from this cause have never before been so severe during the history of settlement. The evils wrought by the western sand-storms are various. The manager of Teryawnyia Station, in the Wilcannia district, states that, out of the leasehold area of 460,000 acres, an area of 100,000 acres 'is as bare as a floor, in spite of a great rain which they have had.' Mr. J.H. Boothby, station inspector for Messrs. Dalgety & Co., Limited, Melbourne, described certain properties as being 'wind-swept karren wastes,' and 'nothing but sand and stone,' adding, 'nothing has grown after the rain on large areas of them.' Mr. E. Quin, of Tarella Station, Wilcannia district, says that, in some instances, soil has been carried away to a depth of from 4 and 5 inches to a foot. Another witness, Mr. A.L.P. Cameron - as an instance of the results of these storms in the Mossgiel district - mentioned that 'almost the whole of one man's homestead lease had gone - it is just one bare patch; the soil is all blown away except the clay.' Witnesses also stated that large quantities of feed had been destroyed by being buried under the sand deposits. As to the ultimate effects of these sand-storms upon the western country, so far as its pasture-growing capacity is concerned, few persons profess to speak with positiveness; but there can be no doubt that if they are to recur frequently, they will add a new terror to the life of the western pastoralist by increasing enormously the cost of maintaining his improvements. The damage wrought in this direction during the last few years has apparently been immense. In many instances rabbit-proof fences have been completely buried. In some cases 'a second storey' has been added to the buried fence, and one witness mentioned an instance of the second fence being almost covered. Mr. Hogarth, inspector for Messrs. Goldsbrough, Mort, & Co., Limited, after stating that he knew of many cases in which the rabbit fencing lay feet
deep under sand, mentioned other instances where, instead of sand being banked up, it had been carried away from a fence, with the result that there was a space of 6 feet from the bottom of the netting to the present surface of the ground. Sheep yards have fared the same as fences, being in numerous instances completely buried in sand. A 7-feet high stockyard on Albemarle station had within eighteen months of erection been so completely submerged that a witness drove over it in his buggy. The most serious form of the evil at present, perhaps, is the filling up of tanks and drains. A 4,000-yard tank on a plain, one witness stated, might fill up in three months. Twelve feet of sand had been deposited in one of his tanks in that period. Another witness stated that upon his holding in the Mossgiel district he left one morning some weak sheep watering at a 400 or 500-yard tank. A dust-storm occurred during the day, and by night time all traces of the tank, except the embankment, had disappeared, a number of sheep having been buried alive. Elsewhere will be found two photographs illustrating by two extremes the effects of western windstorms and drifting sands. The destruction wrought by the sand-storms in addition to rendering useless valuable improvements, and involving the expenditure of large sums of money, has gone a long way towards taking the heart out of the western pastoralists by raising the question as to whether the experiences of the last few years are going to be of frequent occurrence.

(e) A great deal of evidence from lessees in the eastern portion of the Division was furnished, which goes to show that in that part of the Western Division the carrying capacity of large areas has been greatly reduced by the spread of non-edible shrubs.

(f) Decline in the prices of pastoral products has, of course, cut down the profits of the industry far below what they formerly were, and has correspondingly limited the power of tenants to cope with the natural difficulties of the country. The following return (compiled from the reports of Messrs. Windeler & Co., London, and Messrs. Helmuth, Schwartz, & Co., London), dealing with the prices of wool for the past thirty years, has been kindly furnished to us by the Manager of the Australian Mortgage, Land, and Finance Co., Limited:
Average price realised in London for Sydney greasy wool
during years 1871 to 1900 inclusive.

<table>
<thead>
<tr>
<th>Year</th>
<th>Average price per lb.</th>
<th>Year</th>
<th>Average price per lb.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>d.</td>
<td></td>
<td>d.</td>
</tr>
<tr>
<td>1871</td>
<td>10-3/4</td>
<td>1886</td>
<td>8-1/3</td>
</tr>
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<td>1872</td>
<td>13-3/4</td>
<td>1887</td>
<td>8-1/3</td>
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<tr>
<td>1873</td>
<td>12-1/2</td>
<td>1888</td>
<td>8-1/4</td>
</tr>
<tr>
<td>1874</td>
<td>12-1/3</td>
<td>1889</td>
<td>10-1/4</td>
</tr>
<tr>
<td>1875</td>
<td>11-3/16</td>
<td>1890</td>
<td>10</td>
</tr>
<tr>
<td>1876</td>
<td>9-1/4</td>
<td>1891</td>
<td>9</td>
</tr>
<tr>
<td>1877</td>
<td>10</td>
<td>1892</td>
<td>8</td>
</tr>
<tr>
<td>1878</td>
<td>9-3/4</td>
<td>1893</td>
<td>7-7/8</td>
</tr>
<tr>
<td>1879</td>
<td>9-3/4</td>
<td>1894</td>
<td>7</td>
</tr>
<tr>
<td>1880</td>
<td>12-1/2</td>
<td>1895</td>
<td>7-3/4</td>
</tr>
<tr>
<td>1881</td>
<td>11-1/3</td>
<td>1896</td>
<td>8-1/2</td>
</tr>
<tr>
<td>1882</td>
<td>10-7/10</td>
<td>1897</td>
<td>8</td>
</tr>
<tr>
<td>1883</td>
<td>9-4/5</td>
<td>1898</td>
<td>8-3/4</td>
</tr>
<tr>
<td>1884</td>
<td>9-3/4</td>
<td>1899</td>
<td>11-3/8</td>
</tr>
<tr>
<td>1885</td>
<td>8-1/4</td>
<td>1900</td>
<td>10-1/4</td>
</tr>
</tbody>
</table>

An analysis of the above return shows that, dividing the whole period of thirty years into three periods of ten years each, the average prices for the several periods are as follows: - 1st period, 1871-80, 11.1d.; 2nd, 1881-90, 9.4d.; 3rd, 1891-00, 8.6d.

(g) Whilst sharing in common with the larger holder the difficulties appertaining to the western country, the homestead lessee has laboured under an additional disability, namely, being limited by law to an area insufficient over the greater portion of the Division to afford anything like an adequate means of subsistence.

(h) The distance from market, and consequent high cost of carriage, is a factor which increases the cost of working holdings throughout the greater part of the Western Division; whilst the presence in certain districts of wild dogs, and the occurrence of floods at somewhat rare intervals have both to be held accountable for diminution of profits, and, in isolated cases, very heavy losses.

It may not be inappropriate to say a few words in connection with this phase of the question upon the extent and scope of the losses that have accrued to various sections of the community by reason of the adverse conditions prevailing. The number of stock depastured in the Western Division in 1891 was, according to official returns, 15,406,000. In 1900 the number was 5,704,000, showing a decrease of almost 10,000,000, or nearly two-thirds of the total. Our data does not permit us to state what proportion of the decrease was represented by deaths, or
what natural increase there was during the period in question, but details given in individual cases show the
mortality throughout the drought to have been enormous.
Half-a-dozen instances, taken from the evidence, will
suffice to show the severity of losses sustained during
the 1895-1900 drought:- Tinapagee, 97,000; Winbar, 93,000;
Toorale, 224,000; Dunlop, 186,000; Kallara, 150,000;
Belalie, 79,000.

There is a very complete concurrence of opinion
that the depreciation in the value of pastoral property in
the Western Division, during the past fifteen years, ranges
up to from 50 to 80 percent, and the specific evidence
furnished to us upon the point inclines us towards the
view that these figures are by no means an over-statement.
Perhaps the most convincing piece of evidence given under
this head was contained in a statement made to the
Commission by Mr. David Elder, general manager of the New
Zealand Loan and Mercantile Agency Co., Limited. Mr.
Elder's company sold by auction six holdings in the Western
Division. Upon these holdings the sum of 103,017 pounds
had been spent in improvements, whilst included within
their boundaries were freehold lands for which the Crown
had been paid 6,971 pounds, making the total outlay in
respect of these two items 110,888 pounds. The amount
realised at auction was only 10,527 pounds. In one
instance, where the amount expended on improvements had
been 40,000 pounds, and the cost of freehold land 4,531
pounds, the sum realised at auction was 3,000 pounds, or
1,531 pounds less than the amount paid to the Crown for
the freehold land. Throughout the evidence there will be
found references to a number of cases in which the
depreciation estimated or realised has been on a similar
scale.

Mr. A.G. Downer, solicitor, Adelaide, and South
Australian station owner, who was a member of the South
Australian Pastoral Commission, and who appears to be
regarded in the neighbouring State as one of the highest
authorities on matters appertaining to the pastoral
industry, holds the opinion that every million of sheep
account in South Australia for the employment of about
500 men, not including shearers. If this basis is anything
like a just one, we see at once the effect upon the labour
market of the disappearance of 10,000,000 sheep. Dealing
with the cost of shearing alone, the amount short-paid to
those who actually shore the sheep in the Western Division
last year was 100,000 pounds as compared with the year 1891,
to say nothing of the wages paid to those included in Mr.
Downer's calculation. Some specific evidence was
forthcoming from several witnesses on this point. Mr. P.
Waite, the general manager of the Momba Pastoral Company
stated that, whereas the shearing bill in 1891 was 4,457
pounds, in 1900 it was only 1,261 pounds; whilst the
general wages bill in the former year was 16,000 pounds, as
compared with 9,402 pounds in 1899, and a very much lower
sum in 1900. Mr. J.M. Niall, general manager of
Goldsbrough, Mort, & Co., Limited, stated that the sum paid
during 1892 in wages and other expenses in connection with
certain properties held by the company was 63,000 pounds, whilst in 1900 the sum was only 23,000 pounds. Whether Mr. Downer's estimate be accepted, or a calculation made upon the basis of the definite instances presented in the evidence, it becomes manifest what a depression in the pastoral industry means directly to the wage-earning classes.

One of the indirect effects of a period of drought is shown by the evidence of the representatives of two firms of Bourke merchants. The manager of Messrs. E. Rich & Co., Limited, stated that the turnover of his firm was at least 40,000 pounds less in 1900 than it was in 1893, and that the difference would have been greater had it not been for the large quantities of produce sold in the last-named year to feed starving stock. The weekly wage payments of the firm had, during the same period, shrunk from 180 pounds to 94 pounds. Mr. K.C. McKenzie's evidence showed that his turnover dropped from 63,822 pounds in 1890, to 26,277 pounds in 1899, with a still greater drop in 1900."
APPENDIX II

Financial situation of Landholders in the Cobar area 1967/68 to 1970/71. (Summary of the excerpts from the New South Wales Department of Agriculture Report, Orange, New South Wales, October 1971).

1. A large variation in cash income was evident for all properties between the years studied, and between properties.

2. Wool contributed an average 75 percent of total income over the four years.

3. Wool income for 1970/71 was estimated to have declined in value to less than that obtained in 1967/68. This occurred even though sheep numbers had about doubled over the period. This effect could therefore be attributed to the price decline in wool.

4. Income from sheep sales declined in both dollar value and proportion of total cash income in 1970/71, whereas the income from cattle showed a continuing rise over the four year period.

5. Cash balances were on average positive over the four years. The 1967/68 cash balance was negative (a deficit) because of restocking and lower wool income, whilst for 1970/71 it was estimated to be less than $500.

6. The fact that cash balances are negative or very small surpluses would indicate a reliance on external finance.

7. It is difficult to obtain a realistic value of individual property total assets, since the real value of land cannot be determined in the Western Division under today's (1971) market conditions.

8. Basing land values on the unimproved capital value, land constitutes, on average, 28 percent
of the total assets. The value of improvements represents 42 percent of total assets. Therefore a high proportion of landholders' assets are only realisable in the long term.

9. The high proportion of total assets made up by sheep has declined from a high of 20 percent in 1968/69 to a low of 9 percent in 1970/71.

10. Cattle have trebled, on average, in proportion of total assets over the four year period examined. In the smallest sized properties in 1970/71, cattle exceed sheep in their proportional contribution to total assets.

11. Liabilities averaged over the four years for all properties, $38,759.

12. 52 percent of properties had a four year average debt in excess of $40,000 per property.

13. Liabilities ranged from nil to $95,000, with about 35 percent of property liabilities in 1970/71 in the range $60,000 - $100,000.

14. Equity levels depend critically on what land value is assumed. Even with land at UCV, equities on average over the four years 1967/68 to 1970/71 have been 62 percent (declining to 56 percent in 1970/71). When land values are dropped, equities on average fall below 50 percent (with a slow decline over the years since 1968/69).

15. Dropping the value of land in 1970/71 results in an average equity of only 38 percent.

16. Over 50 percent of landholders were found to have equity levels below $40,000 in 1970/71, -25 percent of landholders having a negative equity.

17. Average sample net farm income was positive in all years except 1970/71. All properties had a negative net farm income in 1970/71.

18. The largest properties showed the highest levels of net farm income, followed in order by properties of diminishing size.
19. The dollar returns to capital and management were, on average, for the farms examined, variable, with a high in excess of $8,000 in 1968/69 to a low of -$10,000 in 1970/71. The average over the period was -$653.

20. Dollar returns to capital and management varied according to property size, with the two larger groups of properties having higher returns than the two groups of smaller properties.

21. Percentage return to capital and management varied according to the valuation of total capital investment. Where land value was at the highest figure, average returns to capital and management for the sample varied from +8.06 percent in 1968/69 to -10.90 percent in 1970/71.

22. Apart from 1968/69, where a positive return to equity and management was seen, all other years for the sample were negative.

23. All strata showed a negative four year average return to equity and management.

24. All avenues of cutting costs in sheep management have been adopted by the majority of landholders. Costs have been cut by virtual nil care of sheep, and a movement away from contract shearing and crutching.

25. 60 percent of landholders were found to be in the 50-year-old and greater age bracket. In general, previous experience before entering the landholder's present property was limited to farm-type work, and to War service.

26. The number of persons supported on average per property is lowest for the smallest sized properties.

27. More than half the landholders were found to have taken off-farm jobs, most starting this work in 1970/71.

Two tables, using four year averages, summarise the basic results of the Departmental Report.
### TABLE A

Features of the Four Strata on Property size*using 4-year averages (Land value at UCV):

<table>
<thead>
<tr>
<th>Strata 1</th>
<th>Strata 2</th>
<th>Strata 3</th>
<th>Strata 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property size (average)</td>
<td>10,000-24,999</td>
<td>25,000-34,999</td>
<td>35,000-44,999</td>
</tr>
<tr>
<td>Total Assets</td>
<td>$79,380</td>
<td>$39,108</td>
<td>$92,165</td>
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<tr>
<td>Total Liabilities</td>
<td>$18,554</td>
<td>$43,439</td>
<td>$49,501</td>
</tr>
<tr>
<td>Equity - $</td>
<td>$60,826</td>
<td>$45,669</td>
<td>$42,664</td>
</tr>
<tr>
<td>Equity - %</td>
<td>76.6</td>
<td>51.3</td>
<td>46.3</td>
</tr>
<tr>
<td>Total Cash Income</td>
<td>$9,273</td>
<td>$11,247</td>
<td>$13,194</td>
</tr>
<tr>
<td>Total Cash Expenditure</td>
<td>$7,922</td>
<td>$12,340</td>
<td>$11,231</td>
</tr>
<tr>
<td>Cash Balance</td>
<td>+$1,500</td>
<td>-$901</td>
<td>+$2,623</td>
</tr>
<tr>
<td>Net Farm Income</td>
<td>+$753</td>
<td>+$368</td>
<td>+$3,041</td>
</tr>
<tr>
<td>Return to Capital and Management - $</td>
<td>-$1,647</td>
<td>-$1,882</td>
<td>+$41</td>
</tr>
<tr>
<td>Return to Capital and Management</td>
<td>-2.07</td>
<td>-2.11</td>
<td>+0.04</td>
</tr>
</tbody>
</table>

### TABLE B

(Land value nil)

<table>
<thead>
<tr>
<th>Strata 1</th>
<th>Strata 2</th>
<th>Strata 3</th>
<th>Strata 4</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property size (average)</td>
<td>10,000-24,999</td>
<td>25,000-34,999</td>
<td>35,000-44,999</td>
<td>45,000</td>
</tr>
<tr>
<td>Total Assets</td>
<td>$60,538</td>
<td>$64,721</td>
<td>$65,546</td>
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<tr>
<td>Equity - $</td>
<td>$41,984</td>
<td>$21,282</td>
<td>$16,045</td>
<td>$52,841</td>
</tr>
<tr>
<td>Equity - %</td>
<td>69.4</td>
<td>32.9</td>
<td>24.5</td>
<td>56.3</td>
</tr>
<tr>
<td>Return to Capital and Management - %</td>
<td>-2.72</td>
<td>-2.91</td>
<td>+0.06</td>
<td>+0.06</td>
</tr>
</tbody>
</table>

* Strata by property size (acres).
APPENDIX III

Information on the Cobar Survey Area: Most of the information contained in this Appendix has been obtained from surveys of the Cobar area made by the New South Wales Department of Soil Conservation, the New South Wales Department of Agriculture, and the Australian Wool Board, Sheep and Wool Refresher Course, 1971.

Location:

The region under review is 7.2 million acres in area, and comprises three-quarters of the Cobar Shire, which is situated in the eastern section of the Western Division of New South Wales. The principal town is Cobar, approximately 450 miles by road and rail, northwest of Sydney.

Climate:

The climate is dry, with an average annual rainfall of 14 inches. This rainfall has high variability (+5 inches) and can fall at any time during the year. Evaporation is 90 inches per annum; drought is common. Dust storms have been a feature of the area over the past 80 years.

Topography and Soils:

Most of the region lies on a peneplain approximately 800 feet above sea level. The topography is gently undulating and the soils consist of brown and clay loams, mostly with gravelly ridges. Severe erosion in the past has exposed the soil B horizon. The depleted pasture is severely over-grazed.

Vegetation:

The vegetation is variable. A belt of Bimble Box and Pine lies above the eastern boundary of the region. The most common shrubs are Budda and Wilga, while Corkscrew and Wiregrass are the principal grasses. There are a number of edible trees and shrubs in the region, including Mulga, Budda, Wilga, Ironweed and Kurrajong, which form a valuable source of fodder for drought mitigation. When required for fodder the trees are usually felled with a chain-saw. Over the last 80 years there has been a marked increase in the growth of unpalatable shrubs and grasses.

Land tenure:

The majority of land is still held under Crown Lease, which is administered by the Western Lands Commission, a New South Wales Statutory body.
Landholdings:

There are approximately 250 properties in the area, with an average property size of 42,000 acres. The range is from less than 10,000 acres to 135,000 acres. The percentage distribution of acreage to property over 10,000 acres is as follows:

<table>
<thead>
<tr>
<th>Size (acres)</th>
<th>% Landholders</th>
<th>% Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000-24,999</td>
<td>21.5</td>
<td>10.8</td>
</tr>
<tr>
<td>25,000-34,999</td>
<td>22.0</td>
<td>15.8</td>
</tr>
<tr>
<td>35,000-44,999</td>
<td>23.8</td>
<td>22.5</td>
</tr>
<tr>
<td>45,000- &amp; more</td>
<td>32.8</td>
<td>51.0</td>
</tr>
</tbody>
</table>

Livestock:

The majority of graziers earn 75 percent of their total income from wool. There were 650,000 sheep in the region in 1971, producing 7 million pounds weight of wool of 60-64s top makers quality. About half the sheep are breeders. Details of the average sheep numbers per property size have been provided by the New South Wales Department of Agriculture in their Report on the Cobar region. These are summarised in Table C:

**TABLE C**

Average stock numbers for properties in the Cobar area:*

<table>
<thead>
<tr>
<th>Property size</th>
<th>Sheep</th>
<th>Cattle</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000-24,999</td>
<td>2,539</td>
<td>20</td>
</tr>
<tr>
<td>25,000-34,999</td>
<td>3,209</td>
<td>24</td>
</tr>
<tr>
<td>35,000-44,999</td>
<td>3,507</td>
<td>29</td>
</tr>
<tr>
<td>45,000- &amp; more</td>
<td>4,872</td>
<td>42</td>
</tr>
<tr>
<td>Average:</td>
<td>3,660</td>
<td>33</td>
</tr>
</tbody>
</table>


There are about 11,000 cattle in the Shire at present. These are used mainly for store breeding. Over the last few years cattle numbers have trebled in proportion to total assets.
Water:

Surface tanks supply most stock water. Domestic supplies of water for Cobar are piped from Nyngan, 70 miles away. There is no nearby permanent river, and no substantial supply of underground water.

Cobar:

The town of Cobar has a population of about 4,200 and provides services for a Shire population of approximately 6,500. The copper mines provide work for towndwellers and have injected much-needed confidence into the town over the last four to five years. Unions will not allow holders of Western Lands Leases to work in the mine, however. The only other local industry of consequence is the sawmill, which processes White Pine from the district's timber resources.
APPENDIX IV

This Appendix is divided into two parts:-

Part A: The Interview Schedule
Part B: Information on rating the responses

Part A: The Interview Schedule.

Date:
Property No.
People present:
Ownership: Operator; Family Partnership; Other Partnership; Private Company; Estate

1. Family History:
   (a) Owner's mother: Born; schooling; number of children; where lived after leaving school.
       Comments
   (b) Wife's mother: -as above-
   (c) Owner's father: -as above-
   (d) Wife's father: -as above-
   (e) Wife's grandparents: -as above-

2. Background of Owner-Operator:
   (a) Date of birth:
   (b) Place of birth: Place, on rural property or in town or city?
   (c) Schooling: Where? At what level did you leave school?
   (d) Career after leaving school, and before taking up present property?
   (e) Length of time on present property: Did your parents/grandparents own property before you?
   (f) Since taking up your property, have you worked in a part-time or full-time job off your property? (If 'yes', where - and doing what?) In the last five years approximately how much would you have earned in off-farm employment?
APPENDIX IV: Part A - contd:

(g) **Life pattern:**

Health: (excellent; good, fair; poor; very poor)

Comments on health: (any relationship to rural recession?)

Time devoted to reading: (hours per day)

Time devoted to radio: (hours per day)

Time spent chatting with friends on phone: (hours per day)

Time devoted to TV: (hours per day)

Time spent writing friends: (hours per month)

Leisure activities: (dances; hotels; clubs; work around house; community service; films; concerts/plays; tennis; other sports).

Comments:

Participation in community affairs: (Are you a member of any organisation? if so, what? Do you work for charities? How much time would you spend in community affairs?)

Comments:

Do you go to church? (If 'yes', how often? Religion?)

Frequency of visits to: (Cobar; Dubbo; Sydney; Elsewhere)

What purpose do these visits serve: (Relaxation; medical; family reasons; schooling; business)

Comments:

(h) Working habits of owner: (Brief description of working day)

(i) Are there things in your life you are particularly worried about at present?
3. Background of Operator's wife: The schedule in Section 2 (Owner-Operator) was repeated for the wife. In addition, she was asked:

(i) How much outdoor work do you do to help in the running of the property? (Time, nature of work, importance)

(ii) Do you keep the records and accounts for the property?

(iii) How long have you been married?

4. Children:

(a) Number; Sex; Age; School; Working; At Home.

   Comments on each child where necessary.

(b) Health of each child

(c) How much do the children assist on the property? (Individual breakdown by sex and workload).

(d) Do any children intend to return to the property to work after they leave school?

(e) Have you ever given your children advice on what career they should follow in the future? If so, what? Comments:

(f) Do you have problems with educating your children? (Facilities in town; bus services; boardingschool costs; children waiting to return home, etc.)

(g) What are your grown-up children doing now? Are you happy with their choice of activity?

(h) If any children living on the property, what do they do to help on the property? Amount of time assisting father.

5. Attitude towards life on the land:

(a) What do you like about the land? (Mr. and Mrs. both reply)

   Check-list: Way of life
   Quiet
   No pollution
   Own boss
   Freedom
   Friends
   Other comments
(b) What do you dislike about the land? (Mr. and Mrs. both reply) -

Check-list: Flies; dust; loneliness; always broke; bad wool seasons; drought; other comments.

(c) Are you satisfied with life led on this property? (Mr. and Mrs. both reply). Comments.

(d) Would you take up farming again if you were given the choice? (Mr. and Mrs. both reply - the latter in the context of marrying someone on the land)

(e) What are your plans for the future? -

(i) concerning the property
(ii) concerning yourselves
(iii) concerning your children

Additional comments:

(f) Have you any particular problems or handicaps or troubles that have held you back from getting ahead as you otherwise would have done? (Mr. and Mrs. both reply - under general headings) -

(i) family problems
(ii) financial problems
(iii) problems with illness
(iv) other

(g) What do you think the future prospects of the wool industry are?

(Comments - and probe why graziers believed that wool would come good).

(h) If you found that you had to move to a city, do you think you would face any problems? If so - what?

(i) Have your attitudes to grazing and the wool industry changed since the drop in wool prices some years ago? If so, - in what way?

6. Improvement Aspirations:

(a) What are your plans now to improve your property?

(b) What would you like to be able to do to improve your property?

(c) How confident are you that these plans are economical and would really pay off?

(d) If money were available to you for increasing the size of your property, would you take it? Why?
APPENDIX IV: Part A – contd:

7. New-start Aspirations:

(a) If you could get financial assistance to help set you up in work off the property so that you would earn a better living, would you want to move away somewhere else, or would you prefer to invest this money in the property?

Answer: Summary of discussion

(b) If you could do anything you wanted, what kind of work would you like to do?

(c) If wool prices returned to the levels in the depths of the wool depression and your income dropped sharply again, what would you do?

8. Attitudes and Values of the Owner and his Wife: (The questions were asked of both husband and wife, and separate answers recorded).

Life goals:

(a) If you had your choice, would you most like to be -

(i) successful
(ii) independent
(iii) well-liked

(b) Think of the things which are most important to you. Which things on this card are the most important to you in the long run?

(i) making money and buying things
(ii) doing things for other people
(iii) keeping healthy and fit
(iv) politics or community affairs
(v) religious activities
(vi) being liked and respected by others
(vii) being highly skilled in what I do
(viii) being a just and honest person
(ix) family ties and relationships
(x) being independent and one's own boss

(c) Implementing decisions - the Middle Class -vs- the Working Class orientations:

Protestant Ethic Scale:

1. If you had a great deal of money, would you work as hard as you do now? YES/NO

Are you pretty sure about that?
Very sure?
Fairly sure?
Not too sure?
APPENDIX IV: Part A - contd:

(c) contd. - Protestant Ethic Scale:

2. Would you say that the worst thing about being sick is that your work does not get done? YES/NO

Do you feel pretty strongly about that?
Very strongly?
Fairly strongly?
Not too strongly?

3. Would you say that you work like a slave at everything you do until you are satisfied with the results? YES/NO

Are you pretty sure of that?
Very sure?
Fairly sure?
Not too sure?

4. Would you say that it is alright for a man to take time off from work now and then if there is something else that he would rather do? YES/NO

Do you feel pretty strongly about that?
Very strongly?
Fairly strongly?
Not too strongly?

5. Would you say that most people spend too much time working and not enough time enjoying life? How strongly do you feel about this? YES/NO

Very strongly?
Fairly strongly?
Not too strongly?

6. If you had a choice of taking a paid vacation or working during that time and being paid extra, would you take the vacation? YES/NO

Do you feel pretty strongly about that?
Very strongly?
Fairly strongly?
Not too strongly?

The 14-item Middle Class Inventory:

Here are some things I would like to ask you about. There are no correct answers, so feel completely free to put down your opinion, because this is what I am after -
The 14-item Middle Class Inventory (contd): (The numbers indicate the scores awarded for the response):

1. Nowadays a person has to live pretty much for today and let tomorrow take care of itself  
   D. 4  
   QD. 3  
   QA. 2  
   A. 1

2. What counts in life is being able to feel that you are a success  
   D. 1  
   QD. 2  
   QA. 3  
   A. 4

3. In order to get along in the world you have to look after your family and friends and let them look after you  
   D. 4  
   QD. 3  
   QA. 2  
   A. 1

4. If a fellow can get a good job when he finishes school, he is foolish to go to university  
   D. 4  
   QD. 3  
   QA. 2  
   A. 1

5. The more you try to plan ahead the more you will be disappointed  
   D. 4  
   QD. 3  
   QA. 2  
   A. 1

6. Getting ahead in the world is one of the most important things in life  
   D. 1  
   QD. 2  
   QA. 3  
   A. 4

7. It is better to blow up now and then at someone and tell them off than to bottle your feelings up  
   D. 4  
   QD. 3  
   QA. 2  
   A. 1

8. To get ahead in the world a man should be willing to give up old friends and make new ones  
   D. 1  
   QD. 2  
   QA. 3  
   A. 4

9. Too many people are too busy planning for tomorrow that they can't really live today  
   D. 4  
   QD. 3  
   QA. 2  
   A. 1

10. Schooling only makes sense if it helps you to get a good job  
    D. 4  
    QD. 3  
    QA. 2  
    A. 1

11. If people really go after what they want they can usually get it  
    D. 1  
    QD. 2  
    QA. 3  
    A. 4

12. Money is made to spend, not to save or invest  
    D. 4  
    QD. 3  
    QA. 2  
    A. 1

13. Education may be important, but lots of people get too carried away with it  
    D. 4  
    QD. 3  
    QA. 2  
    A. 1

14. Too many people are so concerned with getting ahead that they can't really enjoy life  
    D. 4  
    QD. 3  
    QA. 2  
    A. 1

NB: D. Disagree; QD. Qualified Disagree; QA. Qualified Agree; A. Agree
APPENDIX IV: Part A - contd:

9. Effect of the rural recession:

(a) Did any of your children change schools or leave school earlier or later than originally planned because of the economic hardships over the past four years?

(b) Did you and your family visit Cobar less often during the wool price recession?

(c) Did you spend less time in community activities during the recession?

(d) Did you attempt to obtain extra income by taking off-farm work or hunting wild life on your property? Any other enterprises - start up any cottage industries? more poultry, citrus trees, etc?

(e) Did you attempt to lift production by working harder and longer hours during the recession?

(f) Was there an attempt to cut farm costs during the recession? What avenues of saving?

(g) Did you reduce your level of personal and family expenditure during the recession? How, and by what amount?

(h) Did your wife or children take off-farm employment to supplement the family income? If 'yes', what work? How much did she/they earn?

(i) Did your wife or children work harder and longer with you on the property during the recession? Comments:

(j) Have you changed your plans for the future in any way as the result of the recent recession? Comments:

(k) Have you applied for Rural Reconstruction Relief? If so, how successfully?

(l) Could you continue in grazing on this property without additional financial assistance beyond that you are already receiving?

10. Grazier's perspective of the grazing community:

(a) Do you think that many graziers will be prepared to accept a very low or negative income in the hope that things will improve? Comment.

(b) Do you feel that those graziers who are in severe financial difficulties will be willing to accept financial assistance to help re-train them for new forms of employment, and leave the land? Comment.
APPENDIX IV: Part A - contd:

(c) Do you think that many graziers will eventually move to the city if things continue the way they are at present: Comment.

...
Part B: Scoring the Protestant Ethic Scale - Question 8C

The Protestant Ethic Scale comprised the questions, which could be answered by either a 'yes' or 'no'. In addition, respondents were asked how certain they felt about their answer. The coding of the Scale relied on the latter response to 'multiply' the effect of the 'yes/no' dichotomy.

A score of two was awarded for the 'yes/no' response, a positive value being recorded for an orientation to the view that work is an end in itself. When the respondent indicated that he was 'very sure' of his reply, the score of +2 was doubled to +4. If the respondent was 'fairly sure' the score remained the same, and if the reply was 'not too sure', the score was halved to +1. In summary, the scoring method resulted in a range of scores, -4, -2, -1, +1, -2, or +4, depending on whether the respondent had a strong view of work as being a means to an end (in which case the score was +4), or strong dedication to work as an end in itself (score +4). Statistical examination of the total score of the graziers indicated a bimodal distribution, which suggests effective discrimination power of the scale.

Whilst the response from the graziers to this question was quite satisfactory, it is felt that the Scale scores for the wives were less reliable. Considerable ambivalence to the essence at the Ethic Scale was experienced, and it was felt necessary to discard these results.

Scoring the 14-item Middle Class Orientation Inventory - Question 8.2

The inventory comprised four sub-scales based on the ideal type value orientation of the middle class and lower class to time orientation, ascription -vs- achievement, interpersonal relationships and education. The distribution of questions was as follows -

<table>
<thead>
<tr>
<th>Sub-scale</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time orientation</td>
<td>1,10,17,20,22</td>
</tr>
<tr>
<td>Ascription -vs- achievement</td>
<td>2,11,19</td>
</tr>
<tr>
<td>Interpersonal relationships</td>
<td>6,14,12</td>
</tr>
<tr>
<td>Education</td>
<td>9,18,21</td>
</tr>
</tbody>
</table>

The ideal types considered to be representative of the values held in the middle class and lower class are summarised below -

1,2. The questions comprising the Protestant Ethic Scale and the 14-item Middle Class Orientation Inventory are taken from Hobart, C.W., op.cit., p.240.
### Middle Class

<table>
<thead>
<tr>
<th>Time orientation</th>
<th>Oriented to the future. Deferred gratification.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascription -vs- achievement</td>
<td>Achieved status Success Status advancement</td>
</tr>
<tr>
<td>Interpersonal relationships</td>
<td>Autonomous relationships</td>
</tr>
<tr>
<td>Education</td>
<td>Value education</td>
</tr>
</tbody>
</table>

### Lower Class

<table>
<thead>
<tr>
<th>Oriented to the present. Immediate gratification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascribed status &quot;Getting by&quot;, subsistence maintenance.</td>
</tr>
<tr>
<td>Homonomous relationships</td>
</tr>
<tr>
<td>Do not value education</td>
</tr>
</tbody>
</table>

The procedure for assessing responses was reasonably simple. Scores of 4, 3, 2, 1 were awarded in sequence to the following response categories: "strongly disagree", "disagree", "agree", "strongly agree", when the question was phrased in such a manner as to reflect a Middle Class value orientation. The scoring order was reversed when the question was oriented to lower class values. The aggregate scores for the owner-operators were cross tabulated with a series of variables, and statistically analysed.

...
APPENDIX V

Statistical Summary of Results

Since there were some 2,500 possible bivariate associations that could be tested, only those relationships which were of theoretical relevance to the study were examined. The results of these analyses are presented in this Appendix - Parts A - F.
### APPENDIX V - Statistical Summary of Results

<table>
<thead>
<tr>
<th>Variable I</th>
<th>Variable II</th>
<th>Significance</th>
<th>Type of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of dependants</td>
<td>Health</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td></td>
<td>Length of time on property</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td></td>
<td>Participation</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Leisure</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Breaks away</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Homonomy/Autonomy (life goals)</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Protestant Ethic</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Mention of finance with problems holding them back</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>&quot;If you had money to invest, would you invest in the property, or away from the property?&quot;</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>&quot;What would you be if you could have your time over again?&quot;</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>&quot;Will farmers be prepared to accept a poverty-line existence?&quot;</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>&quot;Will farmers in financial difficulties be willing to re-train?&quot;</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>&quot;Do you think farmers will be prepared to move to the city?&quot;</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>&quot;Plans for improving property now?&quot;</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>&quot;Would you borrow money to expand acreage?&quot;</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Farmers wanting to improve property in economic way</td>
<td>NS</td>
<td>F.</td>
</tr>
</tbody>
</table>

**NS:** Not significant  
**t.:** t-test  
**F.:** Federighi test
### APPENDIX V - Statistical Summary of Results - Contd.

<table>
<thead>
<tr>
<th>Variable I</th>
<th>Effects of Recession:</th>
<th>Significance</th>
<th>Type of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of dependants</td>
<td>Attempts to generate additional cash income</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Work harder and longer</td>
<td>$P &lt; 0.05$</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Cut farm costs</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Reduce personal expenses</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Wife out of work</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Non-rural occupational mobility before taking up farming</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Educational training before taking up farming</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>Distance from Cobar</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td></td>
<td>&quot;Have you received Rural Reconstruction government assistance&quot;?</td>
<td>NS</td>
<td>F.</td>
</tr>
</tbody>
</table>

**NS:** Not significant  
**t.:** t-test  
**F.:** Federighi test
### Variable I

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Variable II</th>
<th>Significance</th>
<th>Type of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>NS</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>S. p&lt; 0.05</td>
<td>t. (for each EcS. group)</td>
<td></td>
</tr>
<tr>
<td>Length of time on property</td>
<td>S. p&lt; 0.05</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>Participation</td>
<td>S. p&lt; 0.05</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>Leisure</td>
<td>NS</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>Breaks away</td>
<td>S. p&lt; 0.05</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>Homonomy/autonomy (attitude towards life goals, health, etc.)</td>
<td>NS</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>Protestant Ethic</td>
<td>NS</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>Mention of finance as a problem restricting development</td>
<td>NS</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>&quot;Would you invest money in the property if you were given the choice in a loan?&quot;</td>
<td>NS</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>&quot;What would you be if you could have your choice of occupation over again?&quot;</td>
<td>NS</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>&quot;Will farmers be prepared to accept poverty-line existence?&quot;</td>
<td>NS</td>
<td>F.</td>
<td></td>
</tr>
<tr>
<td>&quot;Will farmers in financial difficulties be willing to re-train?&quot;</td>
<td>NS</td>
<td>F.</td>
<td></td>
</tr>
</tbody>
</table>

**NS**: Not significant  
**t.**: t-test  
**F.**: Federighi test
### Variable I

**Economic Status**

- "Do you think farmers will be prepared to move to the city?"
- "Would you borrow money to expand acreage?"
- "Plans for improving property now?"
- Farmers wanting to improve property in manner they consider economical

### Variable II

<table>
<thead>
<tr>
<th>Question</th>
<th>Significance</th>
<th>Type of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Do you think farmers will be prepared to move to the city?&quot;</td>
<td>S. p &lt; 0.01</td>
<td>F.</td>
</tr>
<tr>
<td>&quot;Would you borrow money to expand acreage?&quot;</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td>&quot;Plans for improving property now?&quot;</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td>Farmers wanting to improve property in manner they consider economical</td>
<td>S. p &lt; 0.05</td>
<td>F.</td>
</tr>
</tbody>
</table>

### Effects of Recession:

- Attempts to generate additional cash income
- Work harder/longer
- Cut farm costs
- Reduce personal expenses
- Wife out of work
- Non-rural occupational mobility before taking up farming
- Educational training before farming
- Distance from Cobar
- Have you received any assistance from Government Rural Reconstruction Board?

<table>
<thead>
<tr>
<th>Question</th>
<th>Significance</th>
<th>Type of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attempts to generate additional cash income</td>
<td>S. p &lt; 0.05</td>
<td>F.</td>
</tr>
<tr>
<td>Work harder/longer</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td>Cut farm costs</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td>Reduce personal expenses</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td>Wife out of work</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td>Non-rural occupational mobility before taking up farming</td>
<td>S. p &lt; 0.05</td>
<td>F.</td>
</tr>
<tr>
<td>Educational training before farming</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td>Distance from Cobar</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td>Have you received any assistance from Government Rural Reconstruction Board?</td>
<td>NS</td>
<td>F.</td>
</tr>
</tbody>
</table>

**NS:** Not significant  
**t.:** t-test  
**F.:** Federighi test
<table>
<thead>
<tr>
<th>C.</th>
<th>Variable I</th>
<th>Variable II</th>
<th>Significance</th>
<th>Type of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Health</td>
<td>Economic Status</td>
<td>S. p &lt; 0.10</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Participation</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leisure</td>
<td>S. p &lt; 0.05</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Protestant Ethic</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distance from Cobar</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Effect of Recession:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Work harder/longer</td>
<td>S. p &lt; 0.05</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduce personal expenses</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attempts to generate cash</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduce farm costs</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td>D.</td>
<td>Protestant Ethic</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Participation</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Age</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leisure</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Effect of Recession:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Work harder/longer</td>
<td>S. p &lt; 0.05</td>
<td>Maitland</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduce personal expenses</td>
<td>NS</td>
<td>F.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Attempts to generate cash</td>
<td>S. p &lt; 0.05</td>
<td>F.</td>
</tr>
</tbody>
</table>

NS: Not significant

t.: t-test

F.: Federighi test
### APPENDIX V - Statistical Summary of Results—Contd.

<table>
<thead>
<tr>
<th>Variable I</th>
<th>Variable II</th>
<th>Significance</th>
<th>Type of Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-item Scale</td>
<td>Protestant Ethic</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td></td>
<td>Participation</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td></td>
<td>Leisure</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td></td>
<td>Breaks away</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td></td>
<td><strong>Effect of Recession:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Attempts to generate additional cash income</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td></td>
<td>Work harder/longer</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td></td>
<td>Reduce personal expenses</td>
<td>NS</td>
<td>t.</td>
</tr>
<tr>
<td></td>
<td><strong>NS</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| F.                          | Economic Status                      | S. p < 0.05  | F.           |
|                            | Number of Dependents                 | NS           | F.           |
|                            | Health                               | NS           | F.           |
|                            | Participation                        | NS           | F.           |
|                            | Leisure                              | NS           | F.           |
|                            | Protestant Ethic                     | NS           | F.           |
|                            | Distance from Cobar                  | NS           | F.           |
|                            | **Effect of Recession:**             |              |              |
|                            | Work harder/longer                   | NS           | F.           |
|                            | Reduce personal expenses             | NS           | F.           |
|                            | Attempts to generate cash            | NS           | F.           |
|                            | **NS**                               |              |              |

**NS**: Not significant

t.: t-test

F.: Federighi test
APPENDIX VI

Distance of Property by road from Cobar, according to Respondent's level of Economic Status and Number of Dependents:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>≤ 3 Dependents</th>
<th>&gt; 3 Dependents</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>42</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>50</td>
<td>4</td>
<td>51</td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td>41</td>
<td>7</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>62</td>
<td>8</td>
<td>53</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>29</td>
<td>11</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>68</td>
<td>12</td>
<td>75</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>48.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td></td>
<td>13.19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significance Tests using Student's 't' test:

Level of Economic Status (EcS) x Distance of Property from Cobar:
- High EcS x Medium EcS: = -0.999 - NS
- High EcS x Low EcS: = -0.972 - NS
- Medium EcS x Low EcS: = -0.388 -- NS

Number of Dependents (Dep) x Distance of Property from Cobar:
- High Dep. x Low Dep.: = -0.137 - NS

NS: Not significant
APPENDIX VII

Property size in Acres, according to Respondent's Economic Status and Number of Dependents:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Code No.</th>
<th>≤ 3 Dependents</th>
<th>Acres</th>
<th>Property Code No.</th>
<th>&gt; 3 Dependents</th>
<th>Acres</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>38,586</td>
<td>3</td>
<td>3</td>
<td>35,626</td>
<td>3</td>
<td>52,467</td>
<td>20,878</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>55,000</td>
<td>4</td>
<td>4</td>
<td>81,206</td>
<td>1</td>
<td>22,306</td>
<td>14,755</td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td>48,290</td>
<td>7</td>
<td>7</td>
<td>57,000</td>
<td>2</td>
<td>42,899</td>
<td>42,887</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>22,306</td>
<td>8</td>
<td>8</td>
<td>44,000</td>
<td>9</td>
<td>40,000</td>
<td>25.886</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>33,619</td>
<td>11</td>
<td>11</td>
<td>25,573</td>
<td>10</td>
<td>37,955</td>
<td>54,100</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>30,353</td>
<td>12</td>
<td>12</td>
<td>81,200</td>
<td></td>
<td></td>
<td>23,386</td>
</tr>
<tr>
<td>Mean:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>37,955</td>
<td>37,955</td>
</tr>
<tr>
<td>Standard Deviation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11,875</td>
<td>11,875</td>
</tr>
</tbody>
</table>

Significance Tests using Student's 't' Test:

Level of Economic Status (Ecs) by Property Size:

High Ecs x Low Ecs: = 0.014 - NS
High Ecs x Medium Ecs: = 0.748 - NS
Medium Ecs x Low Ecs: = 0.590 - NS

Number of Dependents (Dep) by Property size:

High Dep. x Low Dep.: = 1.507 - NS

NS: Not significant
APPENDIX VIII

Statistical Analysis of Sheep equivalents for each ten Acres, according to Respondent's Economic Status and Number of Dependents:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>≤ 3 Dependants</th>
<th>&gt; 3 Dependants</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>0.74</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>0.76</td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td>1.23</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>1.58</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>1.29</td>
</tr>
<tr>
<td>Mean:</td>
<td></td>
<td>1.10</td>
</tr>
<tr>
<td>Standard Deviation:</td>
<td></td>
<td>0.32</td>
</tr>
</tbody>
</table>

Significance Tests using Student's 't' Test:

Level of Economic Status (Ecs) by Sheep equivalents per 10 Acres:
- High Ecs x Low Ecs: = 0.083 - NS
- High Ecs x Medium Ecs: = -0.930 - NS
- Medium Ecs x Low Ecs: = -0.746 - NS

Number of Dependants (Dep) x Sheep equivalents per 10 Acres:
- High Dep. x Low Dep: = 0.330 - NS

NS: Not significant
APPENDIX IX

Respondent's Age, Schooling, Occupation since leaving school, and Length of Time Property owned, according to Economic Status and Number of Dependents:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Code No.</th>
<th>≤ 3 Dependents</th>
<th>&gt; 3 Dependents</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Age:</td>
<td>Age:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Schooling:</td>
<td>Schooling:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation:</td>
<td>Occupation:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prop. owned:</td>
<td>Prop. owned:</td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>78 yrs</td>
<td>61 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>none</td>
<td>left at 14;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shearing; War</td>
<td>Primary level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service</td>
<td>Tank sinker</td>
</tr>
<tr>
<td></td>
<td></td>
<td>53 yrs</td>
<td>29 yrs</td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td>54 yrs</td>
<td>67 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Left at 16;</td>
<td>Left at 14;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interm. level</td>
<td>Primary level</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On the land</td>
<td>On the land</td>
</tr>
<tr>
<td></td>
<td></td>
<td>37 yrs</td>
<td>43 yrs</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>16 yrs</td>
<td>51 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Left at 15;</td>
<td>Left in 4th yr.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interm. level</td>
<td>Jackaroo; 4 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On the land</td>
<td>War Service;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 yrs</td>
<td>Manager</td>
</tr>
<tr>
<td>Mean age:</td>
<td>54.1 yrs</td>
<td>Mean prop. owned:</td>
<td>25.9</td>
</tr>
<tr>
<td>Std. deviation:</td>
<td>11.88</td>
<td>Std. deviation:</td>
<td>12.37</td>
</tr>
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</table>
## APPENDIX IX: contd:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Code No.</th>
<th>&lt; 3 Dependants</th>
<th>&gt; 3 Dependants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>9</td>
<td>Age: 59 yrs</td>
<td>Age: 46 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Schooling: None</td>
<td>Schooling: Left at 17 (4 yrs education)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation: Horse teams; Shearing; Stock transfr.</td>
<td>Occupation: Shearing; Sheep dealing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prop. owned: 23 yrs</td>
<td>Prop. owned:</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Age: 55 yrs</td>
<td>Age: 55 yrs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Schooling: Left at 15; Interm. level</td>
<td>Schooling: Matric. Diploma</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Occupation: Jackeroo; 6 yrs War Service</td>
<td>Occupation: Wool Classing; Station Manager</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prop. owned: 13 yrs</td>
<td>Prop. owned: 22 yrs</td>
</tr>
</tbody>
</table>

- Mean Age: 54.1 yrs
- Std. Deviation: 11.88
- Mean Prop. owned: 25.9
- Std. Deviation: 12.37
APPENDIX X

Age of Farm Operator related to Economic Status and Number of Dependants:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Code No.</th>
<th>Age</th>
<th>&gt; 3 Dependants</th>
<th>Property Code No.</th>
<th>Age</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>78</td>
<td></td>
<td>3</td>
<td>61</td>
<td>65</td>
<td>8.8</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>54</td>
<td></td>
<td>4</td>
<td>67</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>54</td>
<td></td>
<td>7</td>
<td>51</td>
<td>44</td>
<td>9.6</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>30</td>
<td></td>
<td>8</td>
<td>39</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>59</td>
<td></td>
<td>11</td>
<td>46</td>
<td>54</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>55</td>
<td></td>
<td>12</td>
<td>55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean:</td>
<td></td>
<td>55</td>
<td></td>
<td></td>
<td>53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation:</td>
<td></td>
<td>14.0</td>
<td></td>
<td></td>
<td>9.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significance Test using Student's 't' test:

- Level of Economic Status (EcS) by Age of Operator:
  - High EcS x Low EcS: $= 1.96$ - Sig. $p < .01$
  - High EcS x Medium EcS: $= 2.89$ - " $p < .01$
  - Medium EcS x Low EcS: $= -1.66$ - " $p < .05$ (one tail)

- Number of Dependants (Dep) by Age of Operator:
  - High Dep x Low Dep: $= 0.245$ - NS

Sig: Significant
NS: Not significant
## APPENDIX XI

Number of years Property Owned, related to Respondent’s Economic Status and Number of Dependants:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>≤ 3 Dependants</th>
<th>&gt; 3 Dependants</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Property Code No.</td>
<td>Property Owned (yrs)</td>
<td>Property Code No.</td>
<td>Property Owned (yrs)</td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>53</td>
<td>3</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>37</td>
<td>4</td>
<td>43</td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td>16</td>
<td>7</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>15</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>23</td>
<td>11</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>13</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>Mean:</td>
<td></td>
<td>26.17</td>
<td></td>
<td>25.67</td>
</tr>
<tr>
<td>Standard Deviation:</td>
<td></td>
<td>15.80</td>
<td></td>
<td>9.33</td>
</tr>
</tbody>
</table>

### Significance Tests using Student's 't' Test:

Level of Economic Status (EcS) by No. of Years Property owned:

- High EcS x Low EcS: \( = 3.740 \) - Sig. \( p < .01 \)
- High EcS x Medium EcS: \( = 4.346 \) - " \( p < .05 \)
- Medium EcS x Low EcS: \( = 0.814 \) - NS

Number of Dependents (Dep) x Number of years Property owned:

- High Dep x Low Dep: \( = 0.067 \) - NS

Sig: Significant
NS: Not significant
**APPENDIX XII**

Respondent's Health, Participation in Community Affairs, Leisure Activities, and Breaks Away from the Property, according to Economic Status and Number of Dependents:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Code No.</th>
<th>≤ 3 Dependents</th>
<th>Property Code No.</th>
<th>&gt; 3 Dependents</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>Health: Medium</td>
<td>3</td>
<td>Health: High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Participation: Low</td>
<td></td>
<td>Participation: Medium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leisure: Low</td>
<td></td>
<td>Leisure: High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Breaks away: Low</td>
<td></td>
<td>Breaks away: Medium</td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td>Health: Medium</td>
<td>7</td>
<td>Health: Medium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Participation: Low</td>
<td></td>
<td>Participation: High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leisure: Low</td>
<td></td>
<td>Leisure: Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Breaks away: Low</td>
<td></td>
<td>Breaks away: Low</td>
</tr>
<tr>
<td>High</td>
<td>6</td>
<td>Health: High</td>
<td>8</td>
<td>Health: High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Participation: High</td>
<td></td>
<td>Participation: Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leisure: High</td>
<td></td>
<td>Leisure: Medium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Breaks away: High</td>
<td></td>
<td>Breaks away: Low</td>
</tr>
</tbody>
</table>

*Breaks away: temporary absences from property, e.g., trips to Sydney, Dubbo, etc. for holidays, or for medical reasons.*
APPENDIX XII - contd:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Code No.</th>
<th>Health</th>
<th>Participation</th>
<th>Leisure</th>
<th>Breaks away</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>9</td>
<td>Medium</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property Code No.</th>
<th>Health</th>
<th>Participation</th>
<th>Leisure</th>
<th>Breaks away</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>High</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>12</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
</tr>
</tbody>
</table>

* Breaks away: Temporary absences from property, e.g., trips to Sydney, Dubbo, etc. for holidays, or for medical reasons.
### APPENDIX XIII

Summary of responses to questions concerning Attitudes to Life Goals, "A", and "The Most Important Things in Life", "B", according to Economic Status and Number of Dependents:

<table>
<thead>
<tr>
<th>≤ 3 Dependents</th>
<th>&gt; 3 Dependents</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1 A. Being well liked. B. Keeping fit and healthy; being liked; family ties.</td>
</tr>
<tr>
<td></td>
<td>2 A. Being well liked. B. Doing things for others; being skilled; being just and honest;</td>
</tr>
<tr>
<td>Medium</td>
<td>5 A. Being well liked. B. Keeping fit and healthy; being liked and respected; being just and honest.</td>
</tr>
<tr>
<td></td>
<td>6 A. Being well liked. B. Being liked and respected; being independent.</td>
</tr>
</tbody>
</table>

A. Life goals  
B. Things most important
### APPENDIX XIII - contd:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Code No.</th>
<th>Type of Dependents</th>
<th>Things Most Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>9</td>
<td>A. Being well liked.</td>
<td>Being just and honest.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Doing things for others; being just and honest.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>A. Being independent.</td>
<td>Being just and honest.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Keeping fit and healthy; being just and honest.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A. Life goals</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Things most important</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>A. Being well liked</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Being liked and respected; being just and honest.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>A. Being independent.</td>
<td>Being just and honest; family ties.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Keeping fit and healthy; being just and honest; family ties.</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX XIV

Protestant Ethic Scale scores for Respondent and Wife, according to their Economic Status and Number of Dependents:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Code No.</th>
<th>Score</th>
<th>Property Code No.</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>Operator: Low, -18</td>
<td>3</td>
<td>Operator: Low, -9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wife: NA</td>
<td></td>
<td>Wife: Medium, 0</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Operator: Low, -8</td>
<td>4</td>
<td>Operator: Low, -5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wife: NA</td>
<td></td>
<td>Wife: NA</td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td>Operator: High, +14</td>
<td>7</td>
<td>Operator: High, +14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wife: High, +6</td>
<td></td>
<td>Wife: Medium, -5</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Operator: Low, -11</td>
<td>8</td>
<td>Operator: High, +16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wife: NA</td>
<td></td>
<td>Wife: Medium, +3</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>Operator: Medium, +3</td>
<td>11</td>
<td>Operator: Low, -14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wife: High, +8</td>
<td></td>
<td>Wife: Low, 0</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Operator: Medium, +3</td>
<td>12</td>
<td>Operator: Medium, +2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wife: Medium, 0</td>
<td></td>
<td>Wife: Low, -8</td>
</tr>
</tbody>
</table>

Operator          Wife
Mean: 0           2.8
Standard Deviation: 11.4  5.3

Rating Scale:
- High: More than half a Standard Deviation above Mean
- Medium: Within half a Standard Deviation from the Mean
- Low: More than half a Standard Deviation below the Mean
- NA: Operator either bachelor or spinster.
Scores for Working Class -vs- Middle Class Inventory, according to Respondent's Economic Status and Number of Dependents:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Code No.</th>
<th>Score</th>
<th>Property Code No.</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>High, 36</td>
<td>3</td>
<td>Low, 35</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>High, 36</td>
<td>4</td>
<td>High, 38</td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td>Low, 29</td>
<td>7</td>
<td>High, 38</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Low, 33</td>
<td>8</td>
<td>Low, 30</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>High, 41</td>
<td>11</td>
<td>Low, 30</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>High, 38</td>
<td>12</td>
<td>Low, 32</td>
</tr>
</tbody>
</table>

Scores were dichotomised at the Median to give a high or low rating.

- Median: 35.5
- Mean: 34.
- Standard Deviation: 3.9
APPENDIX XVI

Measure of Wife's support for her Husband, related to Economic Status and Number of Dependents of the Farm Operator:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Code No.</th>
<th>Wife's support</th>
<th>Property Code No.</th>
<th>Wife's support</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>1</td>
<td>NA</td>
<td>3</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>NA</td>
<td>4</td>
<td>High</td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td>High</td>
<td>7</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>NA</td>
<td>8</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>Low</td>
<td>11</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>Low</td>
<td>12</td>
<td>Low</td>
</tr>
</tbody>
</table>

NA: either bachelor or spinster.
APPENDIX XVII

Measures adopted by the Respondent and his family to offset the effects of the Rural Recession: (a) Operator taking off-farm employment; (b), Working harder and longer on the property; (c), Reducing farm costs; (d), Reducing personal expenditure of family; (e), Wife or children taking off-farm employment:

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>≤ 3 Dependents Property Code No.</th>
<th>&gt; 3 Dependents Property Code No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>a. No</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>b. No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. NA</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>a. No</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>b. No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. NA</td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Yes</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>b. No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. No</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>a. No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. No</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. NA</td>
<td></td>
</tr>
</tbody>
</table>

Key: a. Operator taking off-farm employment  b. Working harder and longer on property  c. Reducing farm costs  d. Reducing personal expenditure of family  e. Wife or children taking off-farm employment  NA: either bachelor or spinster
**APPENDIX XVII - contd:**

<table>
<thead>
<tr>
<th>Economic Status</th>
<th>Property Code No.</th>
<th>≤ 3 Dependants</th>
<th>&gt; 3 Dependants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>a. Yes</td>
<td>a. Yes</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>b. No</td>
<td>b. Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Yes</td>
<td>c. Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d. Yes</td>
<td>d. Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e. Yes</td>
<td>e. Yes</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>a. Yes</td>
<td>a. Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. No</td>
<td>b. Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Yes</td>
<td>c. Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d. Yes</td>
<td>d. Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e. No</td>
<td>e. No</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Key:**
- a. Operator taking off-farm employment
- b. Working harder and longer on the property
- c. Reducing farm costs
- d. Reducing personal expenditure of family
- e. Wife or children taking off-farm employment

**NA:** either bachelor or spinster.
APPENDIX XVIII

This Appendix presents the causal linkages described in each of the diagrams in the Discussion. Each diagram is reproduced, and under it are listed the significant and non-significant cross-tabulations implied in the diagram.

Notation:

(a) An arrow delineates the direction of the causal link.

(b) (+) or (-) over the arrow indicates the nature of the relationship.

(c) The notation numbers are arbitrary, and facilitate description of the diagrams.

(d) The term "controlled for" refers to a process whereby a variable is held constant by eliminating interaction with the independent variable under examination.
APPENDIX XVIII

DIAGRAM A:

Age of Operator (a)

\[ r = 0.75 (+) \]

Number of years

Property owned: (b)

Economic Status (c)

Statement of implied associations:

(a) -vs- (b) = Sig. \( p < .05 \)
(a) -vs- (c) = Sig. \( p < .05 \)
(b) -vs- (c) = Sig. \( p < .05 \)
(a)*-vs- c = NS

1: indicates cross-tabulation
*: indicates "controlling for (b)"
NS: Not significant
(+): Positive relationship

DIAGRAM B:

Working harder/longer (a)

(+)  

Health (b)  

Number of Dependents (c)

Statement of implied associations:

(a) -vs- (b) = Sig. \( p < .05 \)
(a) -vs- (c) = Sig. \( p < .05 \)
(b) -vs- (c) = NS

Sig.: Significant
NS: Not significant
(+): Positive relationship
APPENDIX XVIII - contd:

DIAGRAM C:

Working harder/longer (b) \[\Rightarrow \] Health (a) \[\Rightarrow \] Number of Dependents (c)

Economic Status (d)

Statement of implied associations:

(a) -vs- (b) = Sig. p < .05
(a) -vs- (c) = NS
(a) -vs- (d) = Sig. p < .10
(b) -vs- (c) = Sig. p < .05
(b) -vs- (d) = NS
(c) -vs- (d) = NS (stratified away by sampling procedure).

* Hypothesised over time

(+): Positive relationship

DIAGRAM D:

Protestant Ethic (a) \[\Rightarrow \] Attempts to generate cash (c) \[\Rightarrow \] Economic Status (b)

Statement of implied associations:

(a) -vs- (b) = NS
(b) -vs- (c) = Sig. p < .05
(a) -vs- (c) = Sig. p < .05

(+): Positive relationship

(-): Negative relationship

Sig.: Significant
NS: Not significant
APPENDIX XVIII – contd:

DIAGRAM E:

- + - Breaks away (a)
       \( \Rightarrow \)
          \( (+) \) Economic Status (d)
          \( (+) \) Participation (b)
          \( (-) \) Attempts to generate cash (e)
          \( (+) \) Wife’s supportive role (c)
          \( (+) \) Protestant Ethic (f)

Statement of implied associations:

(a) \(-vs-\) (b) = NS
(a) \(-vs-\) (c) = NS
(a) \(-vs-\) (d) = Sig. \( p < .05 \)
(a) \(-vs-\) (e) = NS
(a) \(-vs-\) (f) = NS
(b) \(-vs-\) (c) = NS
(b) \(-vs-\) (d) = Sig. \( p < .05 \)
(b) \(-vs-\) (e) = Sig. \( p < .05 \)
(b) \(-vs-\) (f) = Sig. \( p < .05 \)

(+): Positive relationship
(-): Negative relationship
Sig: Significant
NS: Not significant

DIAGRAM F:

\( \Rightarrow \) Working harder and longer \( (a) \)
\( (+) \) Participation (d) \( (+) \)
\( (+) \) Health (c)
\( (+) \) Economic Status (e) \( (+) \)
\( (+) \) No. of Dependents (b)

Statement of implied associations:

(a) \(-vs-\) (b) = Sig. \( p < .05 \)
(a) \(-vs-\) (c) = Sig. \( p < .05 \)
(a) \(-vs-\) (d) = Sig. \( p < .05 \)
(a) \(-vs-\) (e) = NS
(b) \(-vs-\) (c) = NS
(b) \(-vs-\) (d) = NS
(c) \(-vs-\) (d) = Sig. \( p < .10 \)
(c) \(-vs-\) (e) = Sig. \( p < .05 \)
(d) \(-vs-\) (e) = Sig. \( p < .05 \)

(+): Positive relationship
*: Hypothesised over time
**: Stratified away
Sig: Significant
NS: Not significant

...
APPENDIX XVIII - contd:

DIAGRAM G:

Economic Status (a)

\[ (+) \]

Age (b)

\[ (+) \]

Plans for improvements which will be economical (c)

Statement of implied associations:

\begin{align*}
(a) -vs- (b) &= \text{Sig. } p < .05 \\
(a) -vs- (c) &= \text{Sig. } p < .05 \\
(b) -vs- (c) &= \text{Sig. } p < .05 \\
(a) ^* -vs- (c) &= \text{NS}
\end{align*}

Sig.: Significant
NS: Not significant
*: controlling for (b)
(+): positive relationship
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