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THE IMPACT OF AGRICULTURAL INTENSIFICATION ON THE PASTORAL
ECONOMY OF THE WESTERN DISTRICT OF VICTORIA, 1890-1930.

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The last decade of the nineteenth century was a turning point in the evolution of modern agricultural practices in Australia. Prior to 1890 the system of land use had been largely extensive. Agricultural output was increased by using more land rather than using land more intensively.¹ From the 1890's a series of advances in two key industries paved the way for a transformation in the farm sector. The wheat industry led the way with the introduction of a more scientific approach to farming.² The application of crop rotation techniques, the use of small amounts of superphosphate and the introduction of improved wheat varieties allowed a marked increase in yield per acre.³ In the dairy industry, the development of off-farm technologies and the opening of new markets created the potential for the transformation of dairy farming from an ancillary pursuit to a major contributor to farm income.⁴

These innovations increased the potential for more intensive forms of land use. Colonial and later state governments, in a bid to encourage the primary sector, took a much more interventionist approach and actively promoted closer settlement. In Victoria they did this in two ways. Firstly, through public investment in infrastructure designed to aid the farm sector. The expansion of the railway system in the 1880's and the construction of the Murray irrigation system were two outcomes of this expenditure.⁵ Secondly Victorian governments embraced a platform of land reform designed to promote small farm enterprises.

Land reform with a view to the promotion of closer settlement was a key platform in the program of Victorian governments in the early twentieth century. It was seen as essential, not only to consolidate Vic-

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1. W..McLean, 1981, 'The Analysis of Agricultural Productivity: Alternative Views and Victorian Evidence.' *Australian Economic History Review*, Vol. 21; G. Raby, 1996, *Making Rural Australia ,An Economic History of Technical and Institutional Creativity 1788-1860*, Oxford University Press, Melbourne.
 2. L.E. Frost 1982, Victorian Agriculture and the Role of Government, PhD thesis Monash University. B.R.Davidson, 1981, *European Farming in Australia: An Economic History of Australian Farming*, Elsevier, Amsterdam.
 3. E. Dunsdorfs, 1956, *The Australian Wheat Growing Industry 1788-1948* Melbourne University Press, Melbourne.
 4. G.S.J.Brinsmead, 1980, '1888 The Turning Point in the Victorian Dairy Industry.' *Australia* 1988, No. 5; N. Godbold, 1989, *Victoria, Cream of the Country, a History of Victorian Dairying*, Griffen Press, South Australia.
 5. L.E.Frost, 1992, 'Government and Economic Development: The Case for Irrigation in Victoria.' *Australian Economic History Review*, Vol. 32 No.1; T.Dingle 1984, *The Victorians; Settling, Fair-fax*, Syme & Weldon N.S.W.

toria's place in the newly emerging Commonwealth. But also to protect the State's investment in rural infrastructure which had formed a large part of budgetary expenditure in the preceding decades. However, it is the general consensus amongst historians that closer settlement failed to achieve its objectives of promoting small scale agricultural enterprises.⁶ One explanation for this failure lies in an overriding optimism about the future of agriculture generated by the apparent success of new farming techniques. It was assumed that new farm management techniques had overcome many of the barriers to utilising small acres of land and that the possibilities for closer settlement were limitless.⁷

The Western District of Victoria, traditionally the realm of large pastoral estates, became an early target of closer settlement policy. It was the general consensus of contemporaries that it was an area in which the productive capacity of the land was under-utilised and that new intensive farm practices could be applied with very successful results.⁸ It was assumed that the innovations which made intensive farming possible in would see the pastoral landscape of the Western District replaced by a thriving agricultural community of small independent farmers. This paper investigates the impact of agricultural intensification on the Western District and concludes that technical innovations prior to World War One did not make small scale farming more profitable. Instead the main beneficiaries of these innovations were the pastoralists who had dominated the landscape for the past fifty years. The new approaches to agricultural production allowed a reorganisation of the pastoral industry at a time when it was in serious trouble. Rather than encouraging the demise of this dominant form of land use it ensured its survival.

In 1890, 3.2 million acres of the some of the finest land in the Western District was in the hands of men who owned more than 5,000 acres. The squatters cum pastoralists in this period had accumulated both wealth and political power from their holdings. They represented a wealthy class of landowners whose sphere of influence extended well beyond the boundaries of their properties. They emulated the English gentry pursuing a lifestyle well out of the reach of ordinary citizens. In the last decade of the nineteenth century however, a number of factors had put pressure on these landowners who had grown and prospered in the 1870's and 1880's. Their 'sunlit afternoon'⁹ was about to be followed by the threat of a stormy night.

6. M.Lake, 1987, *The Limits of Hope Soldier Settlement in Victoria 1915-1938* Oxford University Press, Melbourne; Frost, 1982 *op.cit.*; Dingle *op.cit.*

7. T.Cherry, 1913, *Victorian Agriculture* Department of Agriculture, Melbourne.

8. *Victorian Parliamentary Debates*, 2. August 1904, pp. 591-93; 15 August 1907, pp. 651-52; 20 October 1909, pp. 1797-1707.

The gathering clouds of change gained momentum as one by one the old pioneers relinquished control of their estates. One outcome of the demise of the original property owners was that properties were held in trust, often for very lengthy periods of time. Around twenty percent of pastoral properties were held in trust in 1891. Whilst some properties were well managed others created serious problems for trustees who did not have the time or inclination to oversee property management. As a result they became rundown, pests and diseases spread and the productivity of the land fell. The property turned from an asset to a liability.¹⁰

However it was not just the decease of the patriarch which created pressure on the profitability of pastoral estates. The 1890's was a time of crisis throughout the country. The depression of the 1890's occurred at a very inopportune time for pastoralists. The price of wool had been falling progressively since 1884. In 1894 it reached an all time low. From 1884 to 1894 it is estimated that the revenue generated from the pastoralist's wool clip had fallen by twenty per cent.¹¹

Prior to 1890 pastoralists had been able to insulate themselves from the worst effects of falling wool prices.¹² After this point however, other problems manifested themselves which challenged the profitability of the pastoral enterprise by increasing production costs.

The exploitative approach to land management was beginning to impact on the productivity of the land in terms of the number of sheep it could support. The early squatters had marvelled at the grazing capacity of the District.¹³ The natural vegetation was ideally suited to

9. Margaret Kiddle used this term to describe the heyday of the squatter who enjoyed a lavish lifestyle derived from the income of their pastoral estates. M. Kiddle, 1961, *Men of Yesterday A Social History of the Western District of Victoria 1843-1890*, Melbourne University Press, Melbourne.

10. One example of the neglect which could occur was the estate of Archibald Johnson. His four properties were held in trust. The complicated nature of his will gave his son only a life interest. By 1900 these properties carried a debt of £70,000 and were run down. F. S. Officer, one of the trustees of the estate, admitted publicly that the system of management was to expend as little as possible and simply draw receipts from the property (VPRS 5417 Box 1191). This approach led to an explosion in the rabbit problem; and the trustees were fined for not destroying rabbits. The deterioration of the property had become a serious problem by 1908 when the government was seeking to acquire it for closer settlement (VPRS 5417 Box 1191).

11. M. Keneley, 1999, *The Pattern of Change in the Economy and Society of the Western District of Victoria, 1890-1934*, Phd Thesis University of Melbourne. p.71.

12. *op.cit.* pp. 75-78.

the dietary requirements of the Merino. The expanse of native grasses provided natural pasture which needed little nurturing or care. By the 1890's though, the tide was changing. The sheep themselves had wrought serious environmental damage and the capacity of pasture to regenerate was seriously affected.¹⁴ Not only were the grasses eaten out, but thousands of cloven feet had impacted on the soil structure creating a hard layer through which moisture could no longer penetrate. Heavy rains began to carry away valuable topsoil and erosion further added to the degradation of the land.

Native grasses also had to compete for nutrients with the spread of weeds. Scotch Thistle, Capeweed, Bathurst Burr, Bracken, Patterson's Curse and other introduced species seemed to grow without problems. Their spread made increasing acreages unusable. The farmer with one or two hundred acres was hard put to keep weed growth under control. For the pastoralist with 15 or 20 thousand acres, the task was nearly impossible. The thistle problem had become quite substantial by the 1890's. The net effect was to increase the costs of producing wool as pastoralists were forced to employ labour to specifically combat weed growth.

The problem of land degradation was further exacerbated by the spread of the rabbit menace. It is ironic that it was members of the Western District squattocracy who first introduced rabbits into the country. By the 1860's pastoralists were spending thousands of pounds to eradicate them.¹⁵ The financial costs associated with maintaining large acreages became more of a burden as the revenue they generated, in terms of the annual wool clip, declined.

These mounting cost/price pressures were becoming a problem for the pastoralists in the 1890's. However, a matter of greater significance in the view of the landowner in this period, was the growing unrest amongst shearers, culminating in the Queensland strikes and growth of unionism in the wool industry.

The impact of increasing industrial unrest was to create an air of uncertainty amongst pastoralists. It was their view that large landholders were once again the target of insidious socialist motives, spurred on by men who could only be jealous of their power and affluence.¹⁶

13. Cummings Papers; J. Cummings to J. Lang Nov. 1851, Latrobe Library MSB 313.

14. C. Massy 1990, *The Australian Merino*, Viking O'Neil, Melbourne, p. 427.

15. In 1868 for example, William Robertson employed 100 men between April and December to kill rabbits, the cost was £5,000. Over 2 million rabbits were killed and still the problem was not under control on his property Kiddle, *op cit.*, p. 542; E. Rolls 1977, *They All ran Wild The Story of Pests of the Land in Australia*, Angus & G. Robertson, Melbourne, pp. 28-29.

The attack moreover, was thought to be unjustified. Many pastoralists genuinely believed that they generated the wealth of the nation and provided for the employment and prosperity of the labouring classes. This sentiment was reflected in a keynote address given by Albert Austin, President of the Victorian Pastoralists Union and owner of two large pastoral estates in the Western District. Austin eulogised on the benefits which would flow if the working men of Australia saw fit to bind themselves loyally with their employers and develop the great resources of the continent. Pastoralist associations, he stated, must become the greatest safeguard working men on station properties can have.¹⁷

The net effect of the profit squeeze and uncertainty led to a questioning of the value of owning large acreages which were becoming increasingly harder to manage. Pastoralists began to search for ways to minimise their risk and reduce their costs. One option was to sell off unproductive acreages and reduce the size of the estate.

Coincidentally, the problems faced by large landowners occurred at a time when a series of technological and economic advances opened up the potential for different forms of land use in the District. Improvements in transport and land based technologies, the opening up of international markets for products other than wool, and a new understanding of how to manage the land, created the potential for a more intensive use of the District's resources. Associated with this, was a reopening of the debate on land ownership. Land subdivision and the application of scientific farming principles would, it was thought, turn the District into a thriving agricultural region. It was expected that with the breaking up of the large pastoral estates, the way would be paved for the small farmer to establish his place as a successful and prosperous primary producer.¹⁸

The two most significant events in terms of the potential use of land in the Western District were; the changes to methods of cultivation with the use of artificial fertilisers and; the introduction of the factory system of milk processing.

The development of bare fallowing techniques and the discovery that the use of small amounts of artificial fertilisers increased the yield of grain crops, particularly wheat, revolutionised approaches to cultivation between 1890 and 1910.¹⁹ Although the Western District had ceased to be a major wheat producing region by the 1890's, the changes in wheat farming methods had two important implications for the

16. Graziers Association of Victoria, Minutes of Annual General Meeting 19 August 189, Latrobe Library Ms 10598.

17. *Pastoralists Review* 15 September 1891, p. 29.

18. *Victorian Parliamentary Debates* 15. August 1907, p. 652; *The Argus* 26 June 1897, p. 6; 12 February 1903, p. 9.

19. Frost, *op.cit.* pp. 118-34; Dingle, 1984, *op.cit.* pp. 111-114.

area. Firstly, improvements in wheat production created the expectation that the Western District could once again become an important wheat growing region. *The Willaura Farmer* for example, extolled the benefits arising from the new school of agriculture. Land previously found to be unproductive was now thought particularly suitable for wheat growing.²⁰ Secondly, new methods of working the soil were also applicable to other crops and created the potential for increased cultivation in the District.

The mechanisation of butter production and the use of refrigeration to transport products to overseas markets dramatically increased the scope for the spread of dairying in Victoria. A centralised system of manufacturing butter and other dairy products permitted a more uniform and improved product to be produced. This system allowed more butter to be produced and overcame the problems with quality and standard which had plagued the industry in the past.²¹

The Western District led the way in the introduction of the factory system. Victoria's first butter factory was opened in Cobden in 1888 and was followed very quickly by five others in the area. Dairying took off at a rapid pace. One reason for this was that it was embraced by large property owners who owned land in the prime dairy country of the District.²² These men were prepared to invest capital in setting up dairies and share farms and in supporting the establishment of butter factories. Some of the most valuable dairy land was locked in the hands of several well established pastoral families whose forefathers had been among the first to take up runs in the Western District. They included the Manifolds of Purrumbete, the Blacks of Mt. Noorat and the Mackinnons of Marida Yallock. It had long been understood that the majority of land held in these estates was not particularly good sheep country.²³ It was however, very good cattle and dairy country, but its full potential could not be developed until methods of milk production changed and markets expanded.²⁴

The changing nature of farm practices and new technology just described had important implications for the pattern of land usage in the Western District. With the new approach to farming came the expectation that the subdivision of large estates into small intensive farms was now viable.²⁵ By applying bare fallowing practices and pursuing a program of crop rotation and fertilisation, the land was made

20. *The Willaura Farmer* 30 November 1906, p. 4; *Pastoralists Review* 15 June 1909, p. 343.

21. Brinsmead, *op.cit.*, No. 5, p.67.

22. P. J. Carroll, 'Agricultural Co-operation in Victoria', *Journal of Agriculture*, Vol.12 1914, p.480.

23. *Pastoralist Review* 15 March 1909, p.32.

24. *Ibid.*

more productive. By adopting mixed farming practices the farmer's livelihood was protected and the risk of depending on one venture minimised. New machinery cut down the repetitive, time consuming tasks and left the farmers more time to develop the capability of the land. Pastoralists embraced this change seeing it as a means of alleviating some of the problems they faced.

The spread of new methods of farming encouraged the subdivision of large estates. *The Argus* reported that in the period June 1907 to June 1908, 91,603 acres in the District was subdivided and sold. This comprised land from 23 of the 180 major estates. The newspaper proudly claimed:

Private enterprise in the Western District is doing what the state government failed to accomplish with its boon scheme a year ago. The land is passing from large estates devoted exclusively to wool growing to farms in which grain growing and mixed farming, dairying and lamb raising will play a prominent part. It is astonishing to see to what extent subdivision for sale and leasing is going on.²⁶

Subdivision was also associated with rising land prices. Between 1903 and 1907 land prices in the District were said to have risen 20 per cent.²⁷ Part of this rise was attributed to a strong demand from farmers coming from other areas to take up land in the District.²⁸

The results of new approaches to farming had a more serious implication for the Western District. It created inflated expectations about the ability of the land to sustain small scale farming in the longer term. It was assumed that science had opened the door to a new era, in which farmers, with the application of modern farming principles, would be able to successfully manage small acreages and prosper. Little importance was attached to demand side factors which could cause prices and returns to the farmer to fall below a subsistence level. The pervading opinion was captured by E. J. Brady who wrote of the Western District:

These lands are destined in the future to support a dense population of contented settlers when intensive methods of farming are substituted for the existing extensive methods of culture.²⁹

25. *Dairy Farmer and Agricultural News* 1905, p. 93; *Victorian Parliamentary Debates* 15.8.1907, pp. 652-54; *Coleraine Albion* 4 .5.1908, Supplement.

26. *The Argus* 27.6.1908 p. 20.

27. Victorian Public Records Office, VPRS 5417 Box 1191.

28. *Ibid.*

The press of the day reinforced this belief, eulogising on the benefits that would accrue with the breaking up of large estates and the spread of farming in the District. *The Willaura Farmer*, after reviewing the success of wheat growing at Willaura, searched the District for land with similar prospects. The experiment they concluded, could be successfully repeated on the Kenilworth estate which was situated on land capable of supporting less than one sheep to the acre. Small acreages on this estate had been put under crop with some success; in addition, the estates had a thriving orchard giving 'prolific yields'. The newspaper concluded that 'grapes grow well here...and it is generally considered that where grapes grow wheat will also ripen.' They added '... there are thousands of acres which could be cropped with advantage, as for the most part the land is of a gently undulating character'.³⁰ This assessment was made of an estate which would later be referred to as the 'most inferior estate in the Western District' and criticised as one of the worst failures of the closer settlement.³¹

The impression created was that the impediments to the profitable cultivation of the land had been overcome. *The Argus* reported that successful wheat farmers from the Wimmera and Mallee were migrating to the Western District to take up farming there.³² The western plains stretching from Cressy to Mortlake were seen as ideal grain growing country. This was despite the fact that most of the land was capable of carrying only less than one sheep per acre. The optimism that the Western District was ideally suited to intensive farming prevailed in the period from 1900 to 1914. Warnings of the land's limitations went unheeded.³³

The protagonists of modern farming however, clung to the belief that the new approach would overcome such problems. It was this pervading view that influenced the approach to closer settlement and contributed to the failure of many settlers in the succeeding period. It was certainly a view that influenced many inspectors of the Closer Set-

29. E.J. Brady 1918, *Australian Unlimited*, G.Robertson & Co, Melbourne, p. 367.

30. *The Willaura Farmer*, 30 November 1906, p. 3.

31. *Victorian Parliamentary Debates* 14.2.1914, p. 3792.

32. *The Argus* 27.6.1908, p.20.

33. Thomas Millear, a large land owner who leased a substantial portion of his land of wheat growing, pointed out in 1905, that wheat was only grown successfully at Willaura under certain conditions. Firstly, the land had to be rested every three years and could not be cropped continuously, as implied in some reports. Secondly, allowance had to be made for swampy and stony land which took up a considerable area of most blocks *The Age* 5.4.1905, p. 7.

tlement Board who repeatedly attributed the failure of new settlers to poor management techniques and an inability to farm on sound principles.³⁴

Technological innovation in agriculture after 1890 encouraged a change in the pattern of land ownership in the Western District. However, the outcome of this shift was not that envisaged by policy makers attempting to promote small scale intensive farming. The result of the adjustment process was to reinforce the District's comparative advantage in wool production and support its pastoral base. Although the total number of holdings increased between 1900 and 1930, there was actually a decline in small holdings.³⁵ Subdivisions which occurred prior to World War One were replaced with the aggregation of holdings after the war. The number of holdings of less than 500 acres fell after World War One, whilst the number of properties between one and five thousand acres increased.³⁶

The most noteworthy feature of the change in the pattern of land-holding was the decline in the size of very large estates. The number of estates greater than 10,000 acres halved between 1890 and 1930. However, these large estates did not disappear, although many changed hands. The total number of pastoral properties did not decrease greatly over this period. The significance of the change lay in their reduction in size. In 1890, 65 per cent of pastoral properties were greater than 10,000 acres. By 1930, this had fallen to 28 per cent.³⁷

In addition, the period between 1890 and 1930 did not witness any significant shift to cultivation and crop diversification. Although some areas experimented with wheat cultivation, the principal crop in the majority of counties was oaten hay necessary for winter fodder. Cultivation patterns reinforced the predominance of the pastoral industry in the District.

Wool production remained the key activity. Dairying expanded, but did so principally in areas which had not been suitable for wool production. The major milk producing areas were those that had been traditionally been used as such. The advent of the factory system allowed these areas to be utilised more effectively.

However, whilst wool production remained the most significant form of land use in this period, the type of wool produced changed. Prior to 1890 the Western District had been renowned for its production of superfine merino wool. Some of the most famous of Australia's stud flocks were located in the District. After 1890 there was a progressive shift away from Merino wool to crossbred varieties. The subdivi-

34. Keneley, *op.cit.* pp. 164-74.

35. Census 1901; Collectors Statistics 1930.

36. Keneley *op.cit.*, p.253.

37. *Ibid.*, p.228.

sion of large estates was accompanied by the dispersion of some of the most famous merino studs in the country. This was due to two main factors. Firstly, a decline in the ability of the land to support the Merino, and secondly, a fall popularity of this type of wool. The application of scientific land management practices would have probably eventually overcome the first problem. However in the meantime changing fashions had reduced the demand for fine wool. This trend was reinforced by the increased demand for coarser wool used for khaki during the War.

The energy that pastoralists devoted to breeding fine Merino wool now turned to the breeding of crossbred varieties. Comeback, Polwarth and Corriedale studs replaced Merino breeders. The net result was that the Western District gained a reputation for the breeding of premier crossbred strains.³⁸

A major impact of new farming principles was that it reduced the number of acres necessary to run a pastoral estate. The ability to increase yield with the application of artificial fertilisers and new methods of cultivation enabled pastoralists to grow more fodder crops and increase carrying capacity. The impact of pasture degradation by sheep could be offset by applying these new principles. This meant that large land owners were able to sell off land without reducing their productivity.

However the application of science required a change in the approach to property management and an injection of capital. Large landowners could no longer afford to neglect estates. Those estates that survived the process of change were those whose owners took a much more active role in property management and were prepared to spend substantial sums in capital improvements.

Coincidentally, the introduction of new approaches to farming occurred at a time when the older generation was replaced by the younger. The next generation of pastoralists were open to new ideas and practices. In one sense it was these large landowners who gained the most from the technical advances described. Their education and background gave them an understanding of how these new ideas could be applied and extended. Furthermore, they had the capital backing necessary to put the principles into practice.

Long term survival of the pastoral property required that a modernisation program be implemented. The downsizing of the property involved considerable capital investment to maintain productivity. Drainage and fencing of paddocks, the making of access tracks, the modernisation of machinery, and attention to pasture improvement were all necessary to run the property effectively.

The history of Blackwood, a grazing property of over 20,000 acres,

38. Ritchie Papers Box 1/9/8 University of Melbourne Archives; *Dalgety's Wool Review* 1 June 1906, 1 September 1915.

illustrates the manner in which the adoption of new farming methods helped resurrect a declining concern. Between 1890 and the 1920's the property was controlled by Robert Ritchie an absentee landlord.

Ritchie lived off the proceeds of his estate without putting anything back into it. The system of management at Blackwood between 1905 and 1926 was described by C.S.I.R. expert J. A. Gilruth as 'like the horse leech crying "give give"'.³⁹ Robert Ritchie paid no attention to pasture improvement and boasted that he had never put a hundred-weight of superphosphate on the property.⁴⁰ He maintained productivity by understocking and shearing less sheep. The result of his approach was that by the 1920's, lambing rates were declining and the sheep were undersized and prone to disease.

Blackwood, and properties like it, would not have survived without a change in management attitude. In 1926 Ritchie's son Alan took over the management of the property and set about transforming it into a modern day pastoral concern. The approach of Alan Ritchie was typical of the modern grazier who realised that the productivity of the estate could only be maintained through careful management practices. His methods indicate that he had thought long and hard about the future management of the property and had investigated almost every aspect of it from a practical point of view before he went into it. He had come to the conclusion, as he told his father, 'that the old methods of grazing are no longer worth bothering with'.⁴¹ He set about transforming the property in a number of ways. Ritchie's papers indicate that he was thorough and methodical in approach to station management and bookkeeping and that he was constantly looking for methods of improving output and yield per acre.⁴² Logical improvements such as subdividing 1,000 acre paddocks into 100 acre paddocks and laying stone across all gateways to make them accessible in winter, were carried out immediately. A program of pasture improvement was instituted and Ritchie sought the advice of eminent experts in the field.⁴³

Ritchie invested considerable sums of money in pursuit of improved productivity. His aim was to build the property up to carry five sheep per acre. In attempting this goal he estimated that he spent up to £10,000 on pasture improvement between 1928 and 1931.⁴⁴ He

39. Ritchie Papers, J. Gilruth to A. Ritchie 11.9.1930.

40. Ritchie Papers, R. Ritchie to A. Ritchie 30.9.1931.

41. Ritchie Papers, A. Ritchie to R. Ritchie 12.3.1931.

42. Ritchie Papers, A. Ritchie to J. Guthrie & K. Niall 23.6.1927; 24.8.1928; 29.1.1934.

43. Ritchie also experimented with the use of fertilisers. These experiments were done in collaboration with S. M. Wadham, then Professor of Agriculture at the University of Melbourne.

considered the outlay would have been worthwhile if three sheep per acre were achieved. However it was not until the 1950's that this goal was achieved and then only on part of the estate.⁴⁵

The application of new technology allowed pastoralists to run smaller acreages by making their land more productive. However it did not lead to the spread of small intensively cultivated farms throughout the area. Two reasons for this can be identified. Firstly geographic constraints limited the prospects for alternative forms of land use. Secondly the changing economic environment after World War One impacted on the viability of small acreage farms

The pastoral economy of the Western District had thrived in the nineteenth century basically because it was the more efficient form of land use in that area. The introduction of a new approach to farming the land broadened the potential for alternative forms of land usage in parts of the District particularly along the coastal volcanic belt which proved to be rich dairy country. However most of the region remained essentially grazing land. The physiographic and climatic parameters limited the ability of the land to sustain intensive agriculture on the scale envisaged by the exponents of new farming methods. The promotion of land intensification by government through the closer settlement and soldier settlement schemes of the period failed to take into account these limitations. The result was that new settlers were not allocated sufficient area to farm successfully. Between 1900 and the 1920's closer settlement policy and private subdivision pushed the size of many farms below their economically efficient point. During the 1920's this pattern was reversed as the size of holdings increased again.⁴⁶ The experience of closer settlement policies in the Western District in the first two decades of the twentieth century indicate that attempts to promote settlement without due consideration of geographic and physiographic constraints were doomed to failure.⁴⁷

The second factor impacting on the viability of small scale intensive farming in the Western District was the changing nature of international trade after World War One and its impact on commodity prices. In the period prior to World War One, industrialisation of Western European countries dramatically increased the demand for trade in primary products. This trade was based on exploiting the comparative advantage of trading partners. Manufactured products produced in Britain and Europe were exchanged for primary commodities produced in countries such as Australia, New Zealand and South Africa. The resulting increased demand for these products was seen as a natu-

44. Ritchie Papers, A. Ritchie to R. Ritchie 12.3.1931.

45. Ritchie Papers Box 5/2.

46. Keneley, *op.cit.* p.254.

47. *Ibid.* pp. 164-88.

ral and permanent outcome of the interaction of market forces.⁴⁸

Structural shifts in trade after the War had a negative impact on the terms of trade of primary producing countries such as Australia. The fall in demand for primary products in European markets had far reaching implications for Australia's primary sector exports.⁴⁹ In addition, the adoption of inward looking policies, the growth of protectionism and the raising of trade barriers reinforced the nature of this shift in supply and demand.

The downturn in international trade impacted on the viability of small farms. Land, which was basically unsuitable for small scale farming, became even more so as commodity prices fell. Land subdivisions, which had been promoted on the basis that pre war prices would continue in the 1920's, proved too small to farm successfully. Land aggregation occurred as unsuccessful farmers left the industry and the their more successful counterparts bought them out.

Thus given the economic climate in the inter war years it was only those landowners with access to capital that were able to utilise and benefit from the application of technological developments in agriculture. In the Western District it was the pastoralists, or graziers as they were increasingly referred to, who were in the best position to take advantage of new developments. Indeed, given the problems these landowners faced in the deterioration of their assets, it was imperative that they did so. The long term survival of the pastoral property required that such a modernisation program be implemented.

Between the 1890's and 1930 technical advances in agriculture created the scope for a broadening of the agricultural base. This was a significant step forward in an era when expansion in primary output was seen as the key to the state's growth and prosperity. The Western District, which was viewed as one of the regions area the greatest potential for agricultural diversification. However, the area did not experience a dramatic change in the land usage or ownership patterns. New methods of production did little to make small scale intensive farming more profitable. Instead the main beneficiaries of these changes were the large landowners. The advances in agriculture allowed a reorganisation of pastoral properties. With the application of new techniques pastoralists increased wool output while decreasing the acreage of their holdings. The sale of unwanted parcels of land provided the capital necessary to invest in property improvements. It was this investment, together with a changing attitude to the management of large estates that ensured the owners of large estates continued to play a significant role in the economy and society of the Western District.

48. *Pastoralists Review*, 15.3. 1913,p.11.

49. C.B. Schedvin, 1970, *Australia and the Great Depression*, Sydney University Press, Sydney, pp. 23-26 .