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Rum Corps to IXL: Services to Pastoralists and Farmers in New South Wales

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Part III 1890-1930: The Development of Commercial Farming

The growth in the railway network in the 1880s and 1890s and the development and adoption of new farming techniques changed the semi-subsistence selector in New South Wales (NSW) into a commercial farmer. They also led to a large increase in the production of wheat and dairy produce and, together with overgrazing in the Western Division, caused a complete relocation of the main types of farming in NSW.

1. The Relocation of Farming

1.1 Wheat

The Land Act of 1884 had led to the establishment of 1000 to 2000 acre farms on the slopes and plains and in these drier regions the mechanized wheat growing techniques which had been developed in South Australia were readily adopted. Large areas of land could be prepared and sown using four or five-furrow ploughs pulled by eight to ten-horse

teams and the crop could be harvested using a Ridley stripper. The labour required for harvesting was further reduced with the introduction of the McKay stripper harvester in the late 1880s, as this machine harvested and winnowed the crop in one operation.

In 1871, 60 per cent of wheat in NSW was produced on the tablelands, but by 1891 only 26 per cent of the colony's wheat was produced there and 72 per cent was grown on the slopes and plains. The proportion of wheat grown in these regions continued to increase (Table 1). By 1891 both the Northern and Southern Tablelands were net importers of wheat.

The increase in returns from cropping larger areas on the slopes and plains with the new machines was enough to offset the lower yields obtained in these drier regions and the fungal disease, wheat rust, was less prevalent. A selector on a 640-acre cleared

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| | 1871 | 1881 | 1891 | 1901 | 1911 | 1921 |
|------------------|------------------------------------|-------|-------|------------|-------|-------|
| | % | % | % | % | % | % |
| Coast | 10.3 | 4.9 | 1.6 | 0.7 | 0.2 | 0.1 |
| Tableland | 59.7 | 49.3 | 26.0 | 11.1 | 5.0 | 4.1 |
| Slopes & Plains | 30.0 | 45.8 | 72.2 | 88.0 | 94.8 | 95.8 |
| Western Division | 0.0 | 0.0 | 0.2 | 0.2 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| TOTAL | 2230 | 3406 | 3964 | 14809 | 25088 | 42767 |
| | | | | Thous. bu. | | |
| Source: | <i>Statistical Register of NSW</i> | | | | | |

holding carrying one sheep per acre could only expect a net return of £72 per annum. The same selector growing 200 acres of wheat could expect a net return of £205 per annum (Davidson 1981, pp. 144-147, 189-199). Better yields were obtained in the early 20th century when bare fallowing and super-phosphate were introduced and the new wheats which had been developed by William Farrer were sown. In 1898 NSW became a net exporter of wheat for the first time in its history and exports increased in subsequent years.

1.2 Meat

The prospects of farmers on the coast and tablelands were also changed by the first successful shipment of refrigerated meat and butter from Australia to Britain in 1880 (Blainey 1966, pp. 272-6). Surplus sheep sold to be boiled down for tallow normally received five to six shillings a head, but sheep sold for freezing fetched between 11 and 15 shillings a head. The increased livestock prices together with the higher yields of wool from sheep increased the net incomes of sheep farmers on the tablelands from £70 per annum to £145 per annum (Davidson 1981, pp. 144-147, 202-6).

1.3 Dairying

The effect of refrigeration on the coast was even greater as it enabled farmers to change from beef production to dairying. With a 12-month growing season the native pastures on the coast could be replaced with more productive pastures of paspalum on the North Coast and English ryegrass and white clover on the South Coast. Three acres of the improved pastures were capable of supporting a cow producing 125 lbs of butterfat per annum. With the introduction of the hand operated cream separator, skimmed milk was produced on the farm and ten milking cows produced enough to support a sow rearing a litter of seven bacon pigs. As the cows had to be milked by hand, labour was normally the factor limiting herd size. A farmer and his family milking 30 cows could expect a net farm income of £136 per annum (Davidson 1981, pp. 209-16).

The high returns from dairying made the clearing of the rain forest on the North Coast a profitable

proposition and led to a relocation of the dairy industry. In 1891, NSW produced 8,198 tons of butter of which 56 per cent was produced on the South Coast, but by 1911 the state was producing 37,145 tons of butter, 71 per cent of which was produced on the North Coast and in the Hunter Valley. The proportion of cheese produced in the north also increased. Pigs were raised and by 1911 half the pigs in NSW were reared on the North Coast and in the Hunter Valley (Table 2).

1.4 Wool

During the 1870s and the first half of the 1880s wool prices were high, and sheep numbers in the newly occupied Western Division expanded rapidly. The profits of stations consisting of Crown Land Leases of 100,000 acres or more were high and credit was easily obtained from the banks and pastoral finance companies. In an attempt to increase land settlement in the region, the NSW Government resumed half of the area of the existing stations in the region in 1884. These resumed areas were available for occupation in holdings of 20,000 acres (NSW 1884). Shortly after the Act was passed wool prices declined and the Western Division was invaded by rabbits. In an endeavour to maintain profits, graziers attempted to carry the same number of livestock on the half of the station that remained in their possession. Further capital had to be invested in ringbarking and rabbit-proof fencing to achieve this aim. The heavier stocking rate and rabbits destroyed the saltbush and bluebush which provided a large proportion of the grazing of the region, and this was followed by an invasion of inedible pine scrub, which had to be controlled by cutting. As the resumed areas were not taken up they became a haven for rabbits and other vermin, which made the control of pests and weeds even more difficult (NSW 1901).

With declining prices and rising costs, profits declined in the 1880s. The situation worsened in the 1890s when a series of droughts, culminating in the long drought of 1896-1902, destroyed large numbers of livestock. By 1900, 168 of the 308 pastoral leases were in the hands of the station owners' creditors, 105 registered in the names of the pastoral finance companies and 63 in the names of banks (Cain 1962). To reduce costs the pastoral finance

| Table 2: Production of dairy produce and pigs in NSW | | | | | | | | |
|--|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | Butter | | | | Cheese | | | |
| | 1891 % | 1901 % | 1911 % | 1921 % | 1891 % | 1901 % | 1911 % | 1921 % |
| North Coast | 8.9 | 26.7 | 47.4 | 49.6 | 3.0 | 0.3 | 3.6 | 21.2 |
| Hunter & Manning | 10.2 | 18.8 | 23.1 | 22.2 | 1.1 | 0.7 | 3.3 | 12.0 |
| Central Coast | 1.3 | 6.3 | 1.1 | 1.1 | 0.0 | 0.1 | 0.4 | 0.1 |
| South Coast | 56.4 | 32.5 | 14.4 | 11.0 | 88.5 | 93.6 | 79.4 | 55.5 |
| Tablelands | 14.6 | 10.9 | 6.9 | 6.9 | 5.9 | 4.4 | 6.2 | 8.1 |
| Slopes | | 3.7 | 5.6 | 7.0 | | 0.6 | 7.1 | 0.1 |
| | {8.4 | | | | {1.5 | | | |
| Plains & Riverina | | 1.1 | 1.4 | 2.2 | | 0.2 | 0.0 | 3.0 |
| Western Division | 0.2 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| TOTAL | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | Quantity, thous lb | | | | | | | |
| TOTAL | 18363 | 39057 | 83205 | 100673 | 5506 | 3839 | 5461 | 7367 |
| Pigs | | | | | | | | |
| | 1891 % | 1901 % | 1911 % | 1921 % | | | | |
| North Coast | | 13.0 | 17.8 | 30.1 | 36.0 | | | |
| Hunter & Manning | | 21.3 | 18.8 | 20.1 | 16.3 | | | |
| Central Coast | | 5.6 | 7.0 | 6.7 | 6.1 | | | |
| South Coast | | 16.0 | 13.1 | 11.9 | 7.1 | | | |
| Tablelands | | 22.1 | 19.3 | 12.3 | 10.3 | | | |
| Slopes | | | 14.4 | 11.4 | 14.7 | | | |
| | | {19.0 | | | | | | |
| Plains & Riverina | | | 6.7 | 5.7 | 8.5 | | | |
| Western Division | | 3.0 | 2.9 | 1.8 | 1.0 | | | |
| TOTAL | | 100.0 | 100.0 | 100.0 | 100.0 | | | |
| | Quantity, thous lb | | | | | | | |
| TOTAL | | 343.4 | 265.7 | 371.7 | 384.0 | | | |
| Source: <i>Statistical Register of NSW</i> | | | | | | | | |

houses amalgamated some stations. They were better able to cope with droughts by passing live-stock from one of their stations to another and they had the advantage of having the capital available to withstand droughts and years when wool prices

were low. Many of these stations were sold to private individuals in subsequent years, but a number were retained and operated by the pastoral finance houses until the 1940s.

The overall effect of the overgrazing, rabbits, droughts and government land policies, was to change the distribution of sheep throughout NSW. In 1891, 26 per cent of NSW sheep grazed in the Western Division, but by 1901 the region only supported 13 per cent of the state's flocks. By 1911 the number of grazing units on the slopes and plains had increased to 90 per cent of their 1891 level, but

New farm inputs such as cultivating and harvesting machines, fertilizer, animal medicines and dips, and additional buildings and fences, called for new or expanded services to supply these inputs. Slaughter of additional livestock and their preparation for export, and the manufacture of cream into butter, could only be achieved if new processing facilities were constructed and a means found of transport-

| Table 3: Regional distribution of sheep and cattle in NSW | | | | | | | | |
|--|------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | Sheep | | | | Beef Cattle | | | |
| | 1891 m | 1901 m | 1911 m | 1921 m | 1891 thou | 1901 thou | 1911 thou | 1921 thou |
| Coast | 1.4 | 1.1 | 1.4 | 1.0 | 640 | 667 | 916 | 951 |
| Tablelands | 8.9 | 8.8 | 9.0 | 7.3 | 504 | 501 | 550 | 635 |
| Slopes & Plains | 32.3 | 26.3 | 27.2 | 23.7 | 547 | 420 | 724 | 927 |
| Western Division | 15.4 | 5.5 | 7.3 | 5.1 | 94 | 42 | 110 | 146 |
| TOTAL | 58.0 | 41.7 | 44.9 | 37.1 | 1785 | 1630 | 2300 | 2659 |
| Beef Cattle and Sheep as Livestock Units | | | | | | | | |
| | 1891 thou | 1901 thou | 1911 thou | 1921 thou | | | | |
| Coast | 6520 | 6436 | 8728 | 8582 | | | | |
| Tablelands | 12932 | 12808 | 13400 | 12399 | | | | |
| Slopes & Plains | 36676 | 29660 | 32992 | 31164 | | | | |
| Western Division | 16152 | 5836 | 8180 | 6305 | | | | |
| TOTAL | 72280 | 54740 | 63300 | 58450 | | | | |
| Source: | <i>Statistical Register of NSW</i> | | | | | | | |

the number in the Western Division was only 50 per cent of those in 1891 (Table 3).

New technologies not only led to the relocation of farming, they also called for new inputs and services. Research was required to develop new techniques and to test those that might be introduced from other areas. As animals yielded more they became more valuable and heavier stocking rates led to higher rates of disease transmission between animals. Research was required to develop new methods of controlling animal diseases.

ing produce from farms to processing plants and produce from these plants to ports for export. Finally, credit was needed by farmers and processors to purchase the new inputs.

2. Research and Extension

The new harvesting and cultivating machinery which was introduced into NSW in the 1880s was developed by farmers in South Australia and Victoria. Even William Farrer, who was possibly the first person to artificially cross different varieties of

wheat, did so initially while working as a private individual. A satisfactory system of shipping frozen meat and butter from Australia to Britain was finally developed in 1879 by the ship owner, Andrew McIlwraith, after years of experimental work had been carried out by Eugene Nicolle with the financial support of T.S. Mort (Williams 1941).

Agricultural societies consisting of farmers interested in improving agricultural techniques had existed at various times in NSW since 1822 and some scientific bodies such as the Australian Philosophical Society were also interested in agriculture. However, new technology could only be developed and adopted rapidly if an organized body existed to search for it and recommend it to farmers. Departments of Agriculture had been established in Victoria and South Australia in 1870, and NSW decided to follow suit in 1890 with the establishment of a similar department and Hawkesbury Agricultural College, at which it was hoped farmers could be trained in the adoption and use of new techniques.

The stated aims of the new department were to offer advice to farmers by means of its experts in chemistry, entomology, botany and pathology and to superintend the agricultural societies and utilize them as Advisory Boards. Attempts to co-operate with the agricultural societies failed, and they were replaced by a special extension section of the Department of Agriculture called the Bureau of Agriculture in 1911 (Black and Craig 1978). By 1916 one hundred branches of the Agricultural Bureau had been established (NSW 1916-17, p. 471). Curiously a definite attempt to train scientists to carry out research in agriculture was delayed until 1911, when a Faculty of Agriculture was established at the University of Sydney.

The new Department of Agriculture was soon at work examining overseas developments in agriculture, advising farmers on plants suitable for various districts, explaining the limits of soil analysis, comparing the prices of the fertilizers available to farmers and warning them of the danger of weeds. Articles on all of these matters were published in the Department's *Agricultural Gazette*. The employment of William Farrer as plant breeder and his collaboration with the Department's chemist,

F.B. Guthrie, in determining the milling qualities of new wheat varieties, was the main reason for NSW becoming the leading wheat breeding state in Australia.

Later the Department was to licence the sale of fertilizers, to establish and examine the standards of hygiene to be observed on dairy farms and to determine which weeds farmers must eradicate (*Agricultural Gazette of NSW* 1890-1894). It has remained the main body responsible for applied agricultural research, extension and regulation in NSW.

In 1926 a major research breakthrough was achieved by the joint efforts of the Queensland Department of Primary Industry and the Commonwealth Prickly Pear Board. This was the introduction of the insect *Cactoblastis* which eliminated the prickly pear cactus that covered millions of acres of land in Queensland and northern NSW (Wilson 1960). In the following year the Council of Scientific and Industrial Research was established by the Commonwealth Government. This research body, together with the Universities, was to play a major part in agricultural research in the following years.

A Faculty of Veterinary Science was established at the University of Sydney in 1909. However, the low value of most livestock on the farms of NSW ensured that there was little demand for the on-farm services of veterinary surgeons. Most of the treatment for diseases of livestock was carried out by the farmers themselves. The veterinarians were employed in supervising the quarantine and importation of livestock into Australia, attempting to check the spread of diseases by enforcing government regulations on the slaughter of diseased stock, and providing farmers with advice on the treatment of disease through the Department of Agriculture. They also investigated the causes of disease and developed new drugs and treatments (Davidson 1988).

3. The Supply of Inputs

3.1 Structures

Between 1890 and 1930 most farm buildings in NSW were built of local timber, either cut on the

farm or obtained from local sawmills and roofed with imported galvanized iron. Fencing was dominated by the spread of rabbits, and ever increasing quantities of wire netting were demanded in an attempt to control them. An English firm, John Lysaght and Co., which had established an agency for selling corrugated iron in NSW, decided to manufacture wire netting in Sydney in 1884. The local manufacture of corrugated iron could not be undertaken as no raw material was available, but wire netting was a different matter. Freight for shipment of this product was high and the company had patented a mechanical wire-weaving device which required a limited but highly skilled labour force. By importing high quality wire from Germany, which could be smoothly covered with zinc, it manufactured a product which was superior to the netting imported from Britain. In fact, it sold at a price ten per cent higher than the imported product. In 1913 Lysaght sales accounted for two-thirds of the 30,000 miles of wire netting sold in Australia, and barbed wire and nails were also produced. The firm continued as Australia's major wire producer until it was taken over by Broken Hill Pty. Ltd. in 1929, retaining the old name (Schedvin 1970).

3.2 Fertilizer

The demand for fertilizer for agriculture led to the development of the Australian chemical industry. In 1862 chemical plants were established to produce sulphuric and nitric acids from imported sulphur and nitrates. However, the demand for fertilizers was small. As late as 1890 sulphate of ammonia manufactured as a by-product of Sydney gas companies was almost entirely exported to the sugar plantations of Mauritius (*Agricultural Gazette of NSW* 1890, P. 217).

A large demand for fertilizer only arose when wheat was sown with superphosphate. In 1910 only 30 per cent of the NSW wheat crop was sown with "super", but by 1930 the area treated increased to 44 per cent (Dunsdorfs 1956, p. 199). Superphosphate was first manufactured in NSW by the Sulphide Corporation at Cockle Creek on Lake Macquarie using sulphur from Broken Hill (Schedvin 1970, p. 40). Australian production increased rapidly in the 1920s using phosphate rock imported from Nauru and Ocean Island (Rural Reconstruction Commission 1945).

3.3 Machinery

Before 1900 most farm cultivating and harvesting machinery was manufactured in South Australia. Shearer Bros in that colony built ploughs, cultivators and strippers and shipped them to NSW. McCormick binders were also imported from the United States of America (USA). Early in the 20th century H.V. McKay became Australia's major farm machinery manufacturer. The stripper harvester and all types of cultivating equipment were manufactured by the McKay Harvesting Co. at Sunshine in Victoria, and some stripper harvesters were manufactured under licence by the Riverina Harvesting Co. at Cowra (NSW 1916-17, pp. xlviii). After 1914 the McKay Harvesting Co. manufactured the header harvester which had been developed by Headlie Taylor in NSW (Wheelhouse 1966). McKay's company also acted as agent for Massey Harris equipment imported from the USA.

Repairs of farmers' machinery were carried out by the local blacksmith or by farmers themselves. The price of spare parts was high because of the large stocks which had to be carried by the machinery agents in country areas. Agents were allowed 25 per cent selling commission on spare parts but only five per cent on new machinery (NSW 1916-17, p. 223).

4. Marketing and Processing

4.1 Wheat

With the growth of the railways, wheat could be moved quickly and cheaply either for export or for milling in country or metropolitan mills. It is probable that 15 per cent of the crop was delivered directly to country mills from surrounding farms. The remainder of the crop was carried by rail. Storage at railway sidings was essential. In any one area, harvesting was carried out over a short period of time. In some regions 25 to 30 per cent was harvested in one week. In addition wheat was purchased at railway sidings by agents of shippers and millers. Farmers were unwilling to sell immediately after harvest when prices were low. In NSW the government railway constructed storage sheds at railway sidings and these were leased by farmers at a cost of 0.11 to 0.15 pence per bushel (Dunsdorfs 1956, p. 221).

Until 1920, when bulk handling was introduced, all wheat was handled in bags from farm to flour mill or ship, but by 1930 40 per cent of NSW wheat was bulk handled.

Wheat was purchased directly by flour millers or by merchants for sale to flour millers or for export. The largest wheat buying merchants included Darling & Co., Bell & Co., Gillespie & Co., Dreyfus & Co. and Lindley Walker. All of these employed agents to purchase wheat at country sidings. The agents, who were often local auctioneers, were supplied with letters of credit and instructed to purchase either a stated quantity of wheat or to spend a stated sum of money, purchasing wheat over a given period of time. Some of the wheat purchasing firms also imported wheat bags from India and sold them to farmers. Bags were also supplied by firms such as Burns Philip who were not engaged in wheat purchasing. In addition two Sydney firms imported jute from India and manufactured wheat bags for sale to farmers (NSW 1916-17, pp. 344-5, 407, 630-9).

Many smaller merchants purchased wheat on their own behalf, buying during the harvest when prices were low, and selling to flour millers or shippers later in the season when prices increased. It is possible that the activities of these smaller merchants prevented the development of a buyers' cartel similar to the one which developed in South Australia, where purchasing was dominated by a few large firms (SA 1908).

During the 1914-18 war all wheat was acquired by the Australian Wheat Board and sold on the grower's behalf. Advances on the crop were made to wheat growers by the Board issuing certificates payable at banks. A final settlement was made when all of one year's pooled wheat was disposed of (Dunsdorfs 1956, pp. 227-8). After the war farmers attempted to continue selling wheat through a co-operative managed for the farmers by Dalgety & Co. In 1921-22, 58 per cent of the NSW crop was sold in this way. Co-operative selling continued until 1928 and some sales were made through pools in the 1930s. However, in the 11 years during which co-operative sales were made, between 1921-2 and 1933-4, sales through pools only averaged 20 per cent of the crop. In most years the prices paid to

growers by merchants were higher than those paid by the co-operative and growers preferred to sell through private merchants (Dunsdorfs 1956, pp. 230-3).

As wheat production increased, the number of flour mills in NSW declined. In 1881 there were 160 flour mills in NSW. The number had declined to 69 by 1912 and in 1930 there were only 55 flour mills of which 16 were in Sydney and 39 were in large country towns (*NSW Statistical Register*). City and country mills were of similar capacity, but the city mills produced three times as much flour per mill, as they could draw on wheat from a larger area over a longer period (Dunsdorfs 1956, pp. 214-5). Nearly all flour mills were privately owned. Attempts by farmer co-operatives to establish flour mills and export wheat were attempted, but most failed through bad management and lack of capital (NSW 1916-17, p. lxix).

4.2 Dairy produce

On the coast where dairying was rapidly increasing, the story was different. In 1891, 40 per cent of the butter manufactured in NSW was made in factories and 60 per cent was still made on farms. By 1901 nearly all dairy products were made in factories and a very high proportion of these new butter, cheese and bacon factories were built, owned and operated by farmer co-operatives. Some were complex operations and produced two or even all three of these commodities.

Transport of cream from farm to factories was carried out in the co-operative's vehicles. In some instances the co-operative also operated a store, and bread and groceries were delivered to the farmer by the cream waggon. The co-operatives held their produce in cold stores and were responsible for its transport and sale to NSW wholesalers and retailers. They also organized the shipment of surplus produce to Britain and its sale on arrival (NSW 1916-17, p. lxix; NSW 1921).

Dairy farmers' co-operatives were probably successful because they operated to serve a limited number of farmers in a clearly defined region, most of whom were known to each other. More importantly dairy farmers did not require as much credit

or require it over such a long period as did wheat farmers: the quantity of capital invested in land, livestock and machinery was much smaller on dairy farms than on wheat farms. As cream was paid for by factories on a monthly basis the cash flow problems of dairy farmers were fewer than those of wheat farmers.

Initially towns were supplied with fresh milk by neighbouring farmers and as Sydney increased in size it was supplied from dairies milking stall-fed cows within the metropolitan area. With the construction of railways it was possible to transport fresh milk to Sydney from the country. By 1921, 60 per cent of the 49,000 gallons of milk consumed each day by the one million people of Sydney was railed from the Illawarra region and the Hunter Valley. The remainder was produced by 7680 cows milked in 414 dairies within the metropolitan area itself (NSW 1921, p. 243).

Half of the milk railed to Sydney was supplied by the Dairy Farmers Co-operative Co. and most of the remainder by the Fresh Food & Ice Co., the firm established by T.S. Mort in 1875, of which Eugene Nicolle was manager when he carried out research in refrigeration. The Dairy Farmers Co-operative collected the milk from farmers at a number of railway stations, weighed, sampled it and flash pasteurized it at 180°F. It was then cooled and railed in 700-gallon, tin-lined copper containers for its nine-hour journey to Sydney. On arrival at the central Harris St. Depot it was cooled to 35°F and distributed to one of the Co-operative's four bulk milk depots in the suburbs. Some 56 of the Company's retail centres collected milk in 40-gallon tanks from the depots and delivered the milk to the customer's door (NSW 1922, p. 250).

The standard of hygiene and milk purity was controlled by the NSW Department of Health, under the Dairies Supervision Act of 1886 and the Pure Foods Act of 1908. All dairies had to be registered with the local authorities and were inspected four times a year. Milk samples taken at railway stations were examined in the Department's laboratories. All milk supplied had to have a "solids-not-fat" content of at least 8.5 per cent and a "butter fat" content of not less than 3.5 per cent (NSW 1922, p. 231).

4.3 Wool

With the redistribution of the state's sheep, an increasing proportion of wool was produced on farms on the tablelands, slopes and plains. These smaller producers required an immediate return from the sale of wool, and they sold through the Australian auctions, rather than consigning wool for sale in Britain. By 1900 half of the Australian wool was sold by auction in Australia and by 1914 local sales had increased to 70 per cent of the clip (Barnard 1958). Wool selling in Australia was expanded by the English pastoral finance companies joining existing firms such as Goldsbrough Mort & Co., who had amalgamated in 1888, in auctioning wool in Australia. Dalgety & Co. took this course in 1892 and were later joined by the New Zealand Loan & Mercantile Co. In 1903, the Australian Mercantile Land & Finance Co. purchased the wool selling business of the Australian Mortgage & Agency Co. to become the last major pastoral finance company to auction wool (Bailey 1966, pp. 180-184).

The wool selling services offered by the pastoral finance houses consisted of large multistoried-brick woolstores in Sydney and Melbourne, built on railway lines so that bales of wool could be delivered directly from country trains. A floor of the building served as show floor, where a sample of bales of each class of each farm or station's clip was opened and could be inspected by buyers who were supplied with a catalogue in which each lot was identified. Sale by auction, or on a per lb basis with bids in farthings, was carried out in a central city wool exchange.

Additional services were added in later years. By 1930 a grazier could have his clip reclassified by the wool selling firm. Smaller graziers could have their clips reclassified and each class bulked with those of other small graziers for sale, as larger lots of wool tended to attract higher prices. The normal commission for selling wool was 2 per cent of the sale price. Additional charges were made for reclassing and interlotting. Wool travellers for the firms visited farmers to retain their custom and to attempt to attract new customers. As in the past, willingness to supply credit was often the factor determining which company handled a particular farmer's wool.

After purchase storage facilities were offered to buyers and bales were double dumped by hydraulic presses before shipment to reduce the shipping space required. The wool was then railed to wharves for shipment, mainly in fast steamers, to Europe via the Suez Canal.

During the 1914-18 war all Australian wool was purchased by the British Government. The wool was appraised for value by the classers of the large wool broking firms. The same firms played a major part in the British Australian Wool Realization Association, which was set up by the Australian and British Governments to dispose of the stocks of

wool purchased by the British Government during the war, of which large quantities were still stored in Australia (Bailey 1966, pp. 216-9).

4.4 Beef and mutton

The shipment of refrigerated meat, which commenced in 1880, opened the British market to surplus Australian beef and mutton (Blainey 1966, pp. 272-6). Most of the beef produced in NSW was still absorbed locally but a high proportion of mutton was exported. The proportion of sheep slaughtered for export varied with the season. In drought years such as 1901-2 and 1902-3, large

Table 4: Livestock slaughtered, frozen and preserved

| Year | Sheep | | | Cattle | | |
|---------|-------------|-----------------------|--|-------------|-----------------------|--|
| | Slaughtered | Frozen & Preserved | Frozen & Preserved as % Slaughtered | Slaughtered | Frozen & Preserved | Frozen & Preserved as % Slaughtered |
| | thous | thous | % | thous | thous | % |
| 1901-2 | 4519 | 1696 | 37.5 | 336 | 35 | 10.4 |
| 1902-3 | 4636 | 1412 | 30.5 | 288 | 23 | 8.0 |
| 1903-4 | 3277 | 487 | 14.9 | 275 | 11 | 4.0 |
| 1904-5 | 3059 | 630 | 20.6 | 299 | 15 | 5.0 |
| 1905-6 | 4284 | 1663 | 38.8 | 321 | 14 | 4.4 |
| 1906-7 | 4482 | 1559 | 34.8 | 359 | 15 | 4.2 |
| 1907-8 | 5185 | 1921 | 37.0 | 380 | 7 | 1.8 |
| 1908-9 | 5201 | 1817 | 34.9 | 377 | 6 | 1.6 |
| 1909-10 | 6430 | 2661 | 41.4 | 412 | 21 | 5.1 |
| 1910-11 | 7481 | 3320 | 44.4 | 484 | 47 | 9.7 |
| 1911-12 | 6547 | 2395 | 36.6 | 549 | 72 | 13.1 |
| 1913-14 | 5812 | 1808 | 31.1 | 613 | 62 | 10.1 |
| 1914-15 | 6426 | 2535 | 39.5 | 680 | 131 | 19.3 |
| 1915-16 | 5998 | 2839 | 47.3 | 635 | 157 | 24.7 |
| 1916-17 | 4177 | 838 | 20.1 | 385 | 23 | 6.0 |
| 1917-18 | 3759 | 820 | 21.8 | 394 | 54 | 13.7 |
| 1918-19 | 3202 | 737 | 23.0 | 378 | 70 | 18.5 |
| 1919-20 | 4275 | 1232 | 28.8 | 437 | 74 | 16.9 |
| 1920-21 | 5537 | 1869 | 33.8 | 594 | 95 | 16.0 |
| 1921-22 | 3851 | 505 | 13.1 | 526 | 39 | 7.4 |
| 1922-23 | 5230 | 920 | 17.6 | 632 | 56 | 8.9 |

Source: *Statistical Register of NSW*

numbers of sheep were available for export. But in years following droughts when farmers were re-stocking, such as 1903-4 and 1904-5, exports of mutton declined (Table 4). During the war meat shipments were reduced by shipping shortages. The existence of an export market prevented gluts and provided a floor price in years when larger numbers of surplus sheep and cattle were available for export.

Trade in livestock normally commenced with their sale in local stockyards. Sales by auction were organized by stock and station agents in all major country towns. These were widely advertised and

were attended by farmers wishing to purchase store stock for fattening and by the agents of slaughtering firms purchasing fat stock (NSW 1913, p.xxvii). Alternatively farmers could rail livestock directly to the central saleyards at Flemington until 1913, when they relocated at Homebush.

Most of the beef cattle in NSW were grazed on the coast and tablelands. However, the number of cattle placed on rail formed a much lower proportion of the cattle within these regions than do those placed on rail in the slopes, plains and Western Division. This suggests that many of the cattle bred in the drier areas were sent for fattening to the coast

Table 5: Distribution of sheep and cattle in NSW and percentage of livestock in each region railed out

| | Beef Cattle | | | Cattle Railed Out as % of Region | | |
|----------------|---|-----------|-----------|----------------------------------|-----------|-----------|
| | 1901 % | 1911 % | 1921 % | 1901 % | 1911 % | 1921 % |
| Coast | 40.9 | 39.8 | 35.7 | 6.7 | 12.0 | 8.6 |
| Tablelands | 30.7 | 23.9 | 23.9 | 15.3 | 13.8 | 16.6 |
| Slopes | 18.8 | 18.4 | 18.7 | 11.8 | 25.2 | 28.4 |
| Plains | 7.0 | 13.1 | 16.2 | 17.3 | 43.9 | 38.9 |
| Western Div. | 2.6 | 4.8 | 5.5 | 48.2 | 23.4 | 20.9 |
| TOTAL | 100.0 | 100.0 | 100.0 | 12.2 | 18.9 | 19.8 |
| | Number cattle, thous | | | | | |
| | 1629 | 2299 | 2659 | 198 | 434 | 526 |
| | Sheep | | | Sheep Railed Out as % of Region | | |
| | 1901 % | 1911 % | 1921 % | 1901 % | 1911 % | 1921 % |
| Coast | 2.7 | 3.2 | 2.6 | 12.8 | 11.7 | 16.8 |
| Tablelands | 21.2 | 19.9 | 19.7 | 14.9 | 11.6 | 15.8 |
| Slopes | 28.0 | 24.9 | 24.6 | 14.7 | 18.5 | 16.7 |
| Plains | 35.0 | 35.7 | 39.3 | 14.4 | 19.1 | 22.6 |
| Western Div. | 13.1 | 16.3 | 13.8 | 2.0 | 4.1 | 3.8 |
| TOTAL | 100.0 | 100.0 | 100.0 | 12.9 | 14.8 | 16.8 |
| | Number sheep, thous | | | | | |
| TOTAL | 41730 | 44947 | 37177 | 5381 | 6654 | 6232 |
| Source: | <i>Statistical Register of NSW; NSW Railways Commission, Annual Reports</i> | | | | | |

and tablelands. There also appears to have been a movement of surplus sheep from the slopes and plains to the tablelands in some years. However, the proportion of sheep railed from the Western Division is small in all years (Table 5). There is a limit to the degree to which an analysis of movements by rail can be used to explain total livestock movement, as in the early 20th century, large, but unknown, numbers of livestock were moved by drovers along state stock routes. These, including watering and camping reserves, occupied a total of 8.6 million acres of land, of which 3.4 million acres were in the Western Division (NSW 1916-17, p. lxxx).

Farmers normally slaughtered their own livestock and country towns were supplied from the small slaughterhouses of local butchers. The main slaughtering centre was in Sydney, where, by 1921, the population exceeded 1 million people. The city itself consumed approximately 38,000 sheep and 4,900 cattle a week. Most of the livestock were slaughtered at the state's Glebe Island Abattoirs or by the Riverstone Meat Company, and a few large butchers also had slaughter yards (NSW 1913, p. xxiv). The Glebe Island abattoir was let to the highest bidder who slaughtered for 20 beef and six mutton carcass wholesalers of whom T.A. Field, Geo. Oldham and Elliot & Co. were the largest (NSW 1913, pp. xxxii). Stock purchased at Flemington were driven the 8 miles to Glebe Island and slaughtered immediately. The Riverstone Meat Co. and T.A. Field had their own distribution depots in the city. Five hundred other retail butchers were supplied by wholesale carcass butchers from Glebe Island (NSW 1913, pp. xxix-xxx).

Initially the saleyards at Flemington were controlled by the Sydney City Council, but in 1913 control was transferred to the newly constituted Meat Industry & Abattoirs Board, which also controlled the new abattoirs at Homebush (NSW 1913, p. xxvii). The supervision of all other slaughtering facilities under the 1802 Act rested with local government authorities who were required to report to the Board of Health each month. However, as inspections were not carried out on a regular basis, little supervision was exercised (NSW 1913, p. xxx).

There were many criticisms of the meat marketing

chain. Farmers complained that rail trucks were not available when required and that cattle arrived in poor condition at Flemington. This is not surprising as the rail journey often took from 40 to 60 hours during which they received neither water nor food. Even after arriving they were often held in trucks for long periods of time and not given time to drink before being sold. Some preferred selling to dealers rather than consigning their own livestock to Flemington (NSW 1913, pp. xxv-xxvi). The difficulty of transporting livestock to Sydney could have been overcome by establishing the major slaughtering facilities in country areas and transporting chilled meat by rail to Sydney. However, uncertainty of continuous supplies of meat in a limited area and the difficulty of treating the by-products in a number of small centres, discouraged this solution (NSW 1913, p. xxix).

Meat refrigeration and its export was handled by T.A. Field & Co., the Riverstone Meat Company and the Colonial Wholesale Meat Co. Canning for export was undertaken by the Sydney Meat Preserving Co. All of these operated from Sydney (NSW 1913, pp. lii-liii). In the 1890s a number of centres for exporting frozen meat were established in country areas, but all were short-lived ventures. Even the Riverina Meat Company, which was established in 1893, in which the Australian Mercantile Land & Mortgage Co. owned a large number of shares, was forced to close in 1910 (Bailey 1966, p. 151). Unlike Queensland, the largest overseas meat exporting firms, such as Swift Beef Co. of Chicago and the British firms Birt & Co. and Thomas Borthwick Ltd., played little part in the NSW meat export market. Exports from NSW consisted mainly of mutton, in which these firms had little interest (NSW 1913, p. lv; Duncan 1962, pp. 112-13).

5. New Settlement

5.1 Irrigation

A new type of agriculture was introduced into NSW with the establishment of the Murrumbidgee Irrigation Area (MIA) in 1913. The scheme, including the control of Burrinjuck storage, the distribution channels and weirs and the allotment of water to farmers was completely controlled by the

NSW Irrigation Commission. Some 300,000 acres of land was acquired in the Riverina and a portion of this was leased to settlers in areas ranging from two to 50 acres. Crop and pasture yields were lower than expected and farmers were unable to pay land rents or water charges. However, the number of settlers was increased when over 800 ex-servicemen were settled on irrigation farms at the end of World War I. Irrigation farmers' incomes remained at an unsatisfactory level even after the introduction of rice growing in 1924 and the granting of tariff protection to this product in 1926.

The problem of low incomes of irrigation farmers was only solved in 1930 when farm sizes were increased to between 500 and 600 acres for rice and fat lamb production and 40 acres for growing fruit. Even with these adjustments farmers were only able to pay enough in water charges to maintain the distributory channels. The full capital cost of the Burrinjuck storage had to be met by the state. The area irrigated expanded and by 1930, 126,000 acres of land were irrigated on the MIA (Davidson 1969). Fruit canneries and rice mills, some of which were operated as co-operatives, were built at Leeton and Griffith to process the produce of the irrigation farmers.

5.2 Soldier settlement

After the first world war an attempt was made to establish large numbers of ex-servicemen on the land. Many of these had been injured in the war, others had little farming experience and very few possessed much capital. Most were settled on small farms on the western fringe of the wheat belt where the probability of drought was high. Limited amounts of capital were supplied by the government and the soldier settlers were to repay this and to pay for the land over a period of years (Australia 1929). Dry seasons and lower prices in the 1920s made repayment of government loans and land payments impossible for most settlers. The situation was only stabilized by the government writing off settlers' debts and enlarging the area of their farms (Rural Reconstruction Commission 1944).

6. Rural Credit

Between 1880 and 1892 ample funds from Britain

were available for the development of the Australian pastoral industry. By 1890 Australian banks held over £30 million of British deposits and the pastoral finance companies held a further £17 million in debentures, most of which had been sold to small British investors. Much of this capital was utilized in financing the large graziers in western NSW. In the early 1880s station mortgages of £100,000 were not uncommon, but by 1890 a similar number of mortgages were for £500,000. British supplies of capital dried up rapidly in the financial crisis of 1893. During the droughts of 1896-1902 both pastoral companies and banks were forced to foreclose and operate a large proportion of stations themselves. There was no increase in lending to the pastoral industry until 1924. Both banks and pastoral financing companies financed individual operators to purchase stations that they had obtained by foreclosure within a fixed debt structure. During the 1914-18 war many of these clients were able to pay off their mortgages. Lending by pastoral finance companies and banks increased by approximately 50 per cent between 1924 and 1930, but lending was restricted again in the 1930s (Butlin 1962).

Much less is known of the sources of credit of the growing commercial farming sector. In the 1880s and 1890s the borrowing of farmers from banks was probably restricted by lack of title to their land, which was held by the government until land purchased under the 1884 Selection Act was paid for. Once farmers acquired a title to their land, banks were probably the cheapest source of credit. Many dairy farms and wheat farms were operated by share farmers who could not obtain overdrafts from banks as they owned no land. For these, and farmers without a full title to their land, a number of other sources of credit were available. Small graziers selling wool through a wool broking firm could obtain finance by mortgaging their wool clip. Most machinery firms operated hire purchase schemes, but interest rates were high and many of the companies insisted on a lien on the farmer's crops as well as on the machinery purchased (NSW 1916-17, p. xlix). Livestock mortgages at higher than bank interest rate were available, both from the pastoral finance houses or, more commonly for small land holders, from the local stock and station agents in country towns. For all types of farmers

the country storekeeper remained a major source of short term credit. Some charged interest of eight per cent per annum on debts outstanding for more than three months. Storekeepers relied on the security offered by the farmers' crops and resented the machinery selling firms demand for a lien on the crop as well as on the machinery purchased by farmers, as the practice destroyed the storekeepers' only security (NSW 1916-17, p. 426, 551).

It is also certain that many farmers relied on borrowing from relatives and from other farmers. It was a common practice for farmers to establish their sons on farms if they could. However, nothing is known of the proportion of farmer finance which was provided in this way.

7. Transport and Communication

Changes in communication in the late 19th and early 20th century were dominated by the rapid expansion of the NSW rail system. In 1881 there were only 1618 miles of railway track, but by 1921 this had been expanded to 5043 miles and in 1931 to 6044 miles. The amount of freight carried increased even more rapidly (Table 6).

In spite of vigorous local attempts to develop a major port on the north coast by introducing direct railways to one of them, the state rail system continued with Sydney and Newcastle as the main exporting ports. The northern coastal ports were small and would have been difficult to develop as

major centres of export because of bars across the river mouths. In addition, the local population could never agree that any particular port or railway should be constructed (Harman 1970). As the North Coast railway line was not completed until after 1930 and no South Coast railway has ever been constructed south of Nowra, both North and South Coasts of NSW continued to rely on coastal shipping as the main means of moving freights.

Broken Hill was linked by rail to Adelaide via the Silverton line to the South Australian border in 1888. In 1910 a rail connection between Cobar and Sydney was completed and by the 1930s Broken Hill was also connected to the Sydney system. As a result the river trade on the Darling River continued to decline and transport of goods on the Murray Darling River system was at an end by 1930, when it was no longer feasible to maintain the ageing vessels.

As railways were regarded as the main system of land transport, roads were neglected (Antill 1969). With the passing of the NSW Local Government Act of 1906 all of the state with the exception of the Western Division was incorporated into municipalities and shires and these were made responsible for maintenance and construction of roads under the direction of the Roads Department. Payments for the upkeep of main roads were made to the shires.

The increase in motor transport in the early 1920s

Table 6: Land transport

| | Rail Tracks | Rail Freight | Motor Vehicles | Gravel Roads | Other Roads | Total Roads |
|----------------|-----------------------|-----------------|-------------------|-----------------|----------------|----------------|
| | miles | tonmiles | number | % | % | miles |
| 1881 | 996 | n.a. | n.a. | n.a. | n.a. | n.a. |
| 1891 | 2194 | n.a. | n.a. | n.a. | n.a. | n.a. |
| 1901 | 2845 | 405 | n.a. | n.a. | n.a. | n.a. |
| 1911 | 3761 | 810 | 6945 | 17 | 83 | 83193 |
| 1921 | 5043 | 1418 | 44856 | 22 | 78 | 101695 |
| 1931 | 6044 | 1425 | 209424 | 23 | 77 | 118776 |
| Source: | NSW, <i>Year Book</i> | | | | | |

led to a demand for better roads. The Roads Act of 1924 established the Main Roads Board, which was responsible for main roads until 1932 when control passed to the Main Roads Department of the Ministry of Transport. Funds to construct and maintain main roads were raised by taxes on motor vehicles, grants from the Federal Government and contributions from the municipal and shire councils (NSW Year Book 1941-2).

In spite of increased funding, progress in improving roads was slow. In 1931 less than one quarter of the state's roads were properly and regularly surfaced with gravel (Table 6). Only the main highways in the better settled areas fell into this category. As the motor car replaced the horse and

scriber was given a particular call sign consisting of a number of short and long rings, rung by turning a small handle — a half turn for a short ring and three turns for a long one — by the operator at the local exchange. With a system on which all could listen to each other's conversation, news spread rapidly and this was probably a factor in the decline in the number of country newspapers circulated after 1920. Country telephone lines even linked the large pastoral stations in the far west of the state, but the problem of maintaining the lines in this vast region made the service an erratic one.

A system of cross subsidization and even direct grants helped to improve the communications provided for the rural population. Before 1920 the

| Table 7: Posts and telegraphs | | | |
|-------------------------------|-----------------------|------------------|------------|
| | Post Offices | Postal Routes | Telephones |
| | no. | miles | no. |
| 1881 | 927 | 22427 | n.a. |
| 1891 | 1384 | 31257 | 10000 |
| 1901 | 1684 | 37219 | 13778 |
| 1911 | 1948 | n.a. | 43032 |
| 1921 | 2031 | n.a. | 104108 |
| 1931 | 2108 | n.a. | 188345 |
| Source: | NSW, <i>Year Book</i> | | |

buggy as the farmer's principal form of transport between the farm and the country town, the lack of proper roads was strongly felt. The state of roads and expenditure on them became the dominant topic for local shire councils.

While roads lagged behind demand, postal services increased rapidly. Mail travelled faster in trains, and even away from train services after 1910, as carriage by mail cars replaced carriage by Cobb & Co. coaches. The telephone service became a major form of communication between farmers and country towns and the city (Table 7). Telephone lines could be erected cheaply and a large number of phones could be connected to one line. Each sub-

postal service was prepared to carry 60 per cent of the loss of non-profitable country mail deliveries and even larger losses were carried by the Post Master General's Office in the 1920s. Similarly telephone exchanges were provided wherever possible in rural areas even though these were operated at a loss, which was made good by the large profits made by the metropolitan exchanges.

In the 1920s rural pressure groups succeeded in obtaining lower rail freights than were normally charged for some rural products, including wheat, and all Commonwealth road grants which commenced in 1922 were devoted to improving or constructing rural roads (Butlin *et al.* 1982).

8. Education and Social Services

Improvement in communications between the metropolitan area and the country made farmers more aware of the differences between the social services available to them and those available in the city. To those who were disillusioned with farming after the financial crash of 1893, or the droughts of the 1890s and early 1900s, education appeared to be the only way in which their children could enter the better paid ranks of commerce, banking, the civil service and the professions. As the fortunate individuals in these positions wore collars and ties while at work, it was obvious to the farming community that they received an income "without working".

At the primary school level educational services continued to improve. In 1881, 12 per cent of children between the ages of ten and 15 years of age were illiterate, but by 1901 this was reduced to two per cent (NSW Year Book 1904-5). Early in the 20th century many of the schools in rural areas with less than ten children which had been operated on a half-time basis were turned into full-time schools by means of a government subsidy to parents who were prepared to meet half of their cost. Teaching by correspondence was later introduced for children in remote areas (NSW Year Book 1912, pp. 488-9).

However, entrance to many commercial and professional positions and the University was limited to those with secondary education. Until 1912 this was only available for country children at expensive private boarding schools. In that year, the first three country high schools providing four years of post-primary education were established at Grafton, Orange and Wagga. In addition, 25 district schools providing two years of secondary education, the minimum level of entrance for the civil service, were established in country areas (NSW Year Book 1912, p. 424). The number of full high schools in country areas expanded slowly. By 1923 there were 17 High Schools providing five years post-primary education, and 28 Intermediate High Schools providing three years of secondary schooling in country areas (NSW Year Book 1923). It was not until the end of the 1930s when school buses became available that secondary schooling was an option for the majority of country children.

9. The Country Town

The new farming techniques which were introduced between 1880 and 1900 and the increased farm incomes which arose from them created the demand for centres where farm produce could be processed, marketed or concentrated for transport to market, and inputs and consumer goods could be purchased by farmers. The centre for all these operations was the country town.

Initially it was intended that a statistical analysis of the number and distribution of different types of commercial enterprises in towns of different sizes and in different regions would be undertaken using the data available in "Sands Business Directory". However, as the Directory lists as few as half of the business activities in some towns, and in others the same business is listed more than once, this proved impossible (Buxton 1967, p. 216). However, sufficient data are available from the *Sands Directory of NSW* to give an indication of the types of service offered in towns of different sizes and enough photographic material is available to describe them while their method of operation could be established through discussion with residents.

So long as transport depended on horses, a halt for resting them and some refreshment for riders and drivers was required every ten miles, as such a journey took two hours. Thus hotels were located every ten miles and small towns with a number of services were located at 20 and 30 mile intervals from each other. When motor cars replaced horses as the main form of country transport in the 1920s, hotels and stores at ten mile intervals disappeared, while most small towns at 20 and 30 mile intervals decreased in size, as some of their more specialized services were transferred to neighbouring large towns.

Statistics are only available for municipalities with a population of more than 3000 people and these increased in number throughout the period 1891 to 1931. In 1911 there were 16 municipalities outside the Sydney and Newcastle Metropolitan areas with more than 3000 people, but by 1931 there were 39 municipalities in this category, of which approximately 14 were in the coastal regions, 13 on the tablelands, seven on the slopes and six on the

plains. Broken Hill was the only municipality with more than 3000 people in the Western Division.

The bare statistics concerning the size and the nature of business and other activities reveals little of what the country town looked like, or how it operated. This varied with both the size and location of the country town.

It is unfortunate that Australia never developed a name for a small group of dwellings except the clumsy and seldom used term of "township". Strangely, the English terms of "hamlet" and "village" were never adopted. Such small centres, consisting of a store or hotel, and possibly with a blacksmith, a butcher's shop and a one-teacher school, were to be found in all parts of NSW. Residents provided their own water supplies and sanitary services. No medical services were provided in these centres until the establishment of the Bush Nursing Association in 1911.

Only when towns had about ten or more businesses were these arranged in formal streets. The shops that made up the larger country towns were invariably laid out alongside a main thoroughfare which had originally been designed for a bullock wagon to be turned in. Later, the centre was often filled with gardens or a park lined with deciduous trees. The shops were either built of weatherboard, or, where timber was scarce, of brick, roofed with corrugated iron, and had a verandah that stretched across the footpath, supported by posts which served a dual purpose by also acting as hitching posts for horses.

The dominant feature of all country towns was the hotel. No respectably-sized town had less than two, and large towns had more than ten. In 1911, Deniliquin, a town serving a locality of 2000 to 5000 people, had no less than 20 hotels. Wagga, with a population of 6400 had 33 hotels in the same year. Hotels ranged from single storied weatherboard structures to large two-storied brick buildings, built on street corners with a balcony on two sides of the upper story.

By law these premises were only licenced to sell alcohol if they also provided accommodation, and they were inspected to ensure that the latter were of

an approved minimum standard. Initially the standard was restricted to a minimum of hygiene in the preparation of food, a suitable dining area, adequate space for sleeping and an approved system of sanitation. The provision of facilities for washing, particularly those involving hot water, did not eventuate until the 1920s.

The most important feature of any hotel was the bar and its adjacent bar parlour. Initially the bar consisted of a counter on which stood a keg of beer from which beer was drawn by means of a tap. Later, when carbondioxide became available in steel cylinders, the barrel was placed beneath the counter and the beer was drawn by means of a tap on the counter. Precisely how Australians became a nation of beer drinkers in a country with summer temperatures exceeding 90°F in the shade, and no means of cooling their beer, is difficult to imagine. Ice or refrigeration was not available outside the dairying areas until the 1920s.

Behind the bar were shelves containing bottles of whisky, brandy, gin and wine. Whisky was favoured by the older and wealthier members of society but wine was seldom drunk except by those in an advanced stage of alcoholism. Ladies did not drink alcohol and were not permitted to enter bars. They sometimes drank lemon squash in the lounge, but were often left to cope with children while sitting in the hot sun in the car. This problem was partly overcome by the establishment of the Country Women's Association in 1923. Rest Rooms, at which women could rest, talk, make tea and change the baby's napkin, were established by the Association throughout NSW. The same organization was largely responsible for the establishment of Baby Health Centres in country towns in the 1920s (Townsend c.1988).

In the smaller towns the country store provided groceries, drapery and hardware for its customers. The grocery department consisted of a long counter with a coffee grinder with two large wheels at the end furthest from the entrance. Behind the counter were bins of flour, sugar, dried fruits and even bulk tea. These goods were scooped from the bins into paper bags resting on scales on the counter ("No Springs, Honest Weight", as a notice always proclaimed). Above the flour and other bins were a

series of shelves containing tinned fruit, packages of tea, canned meat and fish, tobacco and large jars of confectionery. Some stores were also licenced to sell alcohol but not to serve drinks. The other side of the grocery department was normally the hardware department in which axes, shovels, picks, hinges, nails, screws, nuts and bolts, saddlery and harness, horse shoes and other ironmongery were sold. The ceiling was practically covered with billies and buckets of all shapes and sizes, suspended by hooks. An attractive odour pervaded the department, made up of a blend of coffee, dried fruit and leather.

The drapery department occupied the other half of the store and the scent here was dominated by naphthalene. Large bolts of cotton and woollen cloth filled the shelves behind the counter. It was from these that the country housewife, now assisted by the sewing machine, produced most of the family's clothing, although the use of ready-made clothing was expanding. Suits, when required, were made by tailors in the larger country towns.

The final exchange of money for goods was normally carried out by a single cashier housed in a high office at the end of the store. Overhead wires from all counters led to this office. A small cylinder, powered by a thick elastic band, with a docket describing the goods and the money to pay for them, was sent along the wires to the cashier. The appropriate change was returned to the shop assistant by the same means.

The goods sold by country shopkeepers were purchased from city wholesalers. The link between the two was the commercial traveller who, accompanied by large baskets of his samples, journeyed by rail to country towns and took orders for shopkeepers' supplies. Most travellers belonged to the Commercial Travellers' Association. At least one hotel in each town was affiliated with this organization and set aside special rooms where travellers could display the samples of their wares to local shopkeepers.

In areas where farms were a long distance from town, some goods, particularly drapery and small items of hardware, had been partly supplied by travelling Indian hawkers. With the introduction of

motor transport some country store-keepers, particularly drapers, provided a similar service by means of travelling vans which carried merchandise to farms and hamlets for direct sale. Country store-keepers also had to compete directly with large city stores who advertised their goods in annual catalogues which were posted to farmers, who could order any of the advertised items directly by mail from the city firm.

Both medium sized and large towns had butchers, bakers, confectioners, bootmakers, chemists, banks, blacksmiths, churches, schools, and a post office and police station, the number and size depending on the size of the town. Garages with their distinctive petrol bowsers were built after 1920 to serve the increasing number of motorists.

Storekeepers and grocers in such towns sent a shop assistant on horseback each week to all town dwellers and to the farmers close to towns to collect orders and to remind householders of goods they might forget to order. The ordered goods were delivered to the townsfolk by a shop assistant in a spring cart the next day.

Both bread and meat were delivered to householders daily. Bakers carried their wares from a horse-drawn cart to the back door in a basket and the selection was made at the door. However, to obtain meat, the householders had to venture as far as the front gate to inspect, order, have weighed and pay for the meat selected from the butcher's cart, while the flies were kept at bay with a bunch of gum leaves.

Milk supplies for country towns came from neighbouring farms. However, some townspeople preferred to supply their own milk by grazing cows in back streets and vacant allotments. Special licencing arrangements for grazing cows existed in some country towns.

Only the large country towns supported separate grocery, hardware stores and drapers' shops, together with tailors, doctors, undertakers, and later dentists. Most District and Private Hospitals were found in these towns. The larger towns were provided with piped water and coal gas and some were sewered in the 1930s, but most of them, like all the

medium sized towns, continued to depend on the sanitary pan collection service provided by the municipal or shire council. Smaller towns in the drier areas were also provided with piped water from reservoirs or rivers, but on the coast they relied on the run-off from the roofs of houses which was stored in galvanized iron tanks.

Butter, cheese and bacon factories were located in the large country towns on the coast, as were the flour mills on the slopes and plains. These towns also housed the agents who purchased wheat and sold machinery and fertilizer to farmers, and many carried out more than one of these functions. The most prominent were the stock and station agents which were found in all large country towns. Their offices tended to be on the outskirts, beside their sale yards. They were usually family firms or partnerships, often operated by those of Scottish descent. The small iron roofed weatherboard structures boasted the name, McArthur & Co., McLeod & Co., or McLean & Co. and the date of its foundation. They were invariably painted in a long-lasting yellow paint and divided into small rooms which their clerks referred to as "sweating chambers". The whole structure gave the impression that not a penny was wasted, in what was possibly an attempt to impart to their farmer clients the virtues of frugality.

The civic and entertainment centre of the towns was the School of Arts. This contained the lending library, a meeting room and a large hall. It was here that the meetings of the Oddfellows, the Manchester Union, the Australian Natives' Association and other lodges took place. The same building served as platforms for visiting politicians and more importantly, for public meetings to discuss matters such as the state of the roads and bridges, and the deficiencies of schools and health services. They also sometimes served as the drill hall of the Volunteer Reserve Rifle Companies (Buxton 1967, pp. 238-41).

The local dances were almost a weekly event at the School of Arts. Concerts were popular, but these frequently depended on the organizing ability and enthusiasm of particular individuals and visiting concert groups. Fetes to raise money for churches were held annually and even a rained-out Sunday

School picnic could be transferred to the School of Arts if the need arose. Silent motion pictures were introduced in the 1920s and became the main form of indoor entertainment in the country towns. They were often installed by the local garage proprietor in the School of Arts. In smaller communities silent pictures were provided by a travelling van. In small centres where no School of Arts existed, the one-teacher school building, which had normally been built by the residents, performed the same function.

Outdoor sports were catered for by football and cricket clubs and a surprisingly large number of horse racing clubs, which seem to have existed even in the small towns. Cycling clubs became popular in the 1890s. Rifle clubs, which were subsidized by the government to ensure an adequate supply of marksmen in time of war, were found in most towns. Other sports clubs including polo, rowing, boxing, athletic and gun clubs were less common. The Returned Soldiers & Sailors Imperial League of Australia (R.S.L.) which was established during the first world war to guard the interests of ex-servicemen, became a major force in all country areas in the 1920s.

The country show held under the auspices of the Royal Agricultural Society, with its livestock judging and equestrian contests and a host of side shows operated by visiting showmen, was the main event of the larger country towns. The local sports meetings, with athletic events, and in coastal areas, spectacular wood-chopping contests, served the same purposes in the smaller towns.

Satisfaction with country-town life declined as communications improved and country people became more familiar with cities, and realized the range of facilities and employment opportunities available to them. As the new farming techniques demanded little labour, populations moved from both the farms and the small towns to the cities. The move was facilitated by many new manufacturing centres of farm requisites and the marketing of agricultural produce being located in the metropolitan areas. The large country towns continued to grow, but between 1891 and 1921 their population only increased by 71 per cent compared with an increase of almost twice this number in the Sydney Metropolitan area (NSW Year Books, various years).

Cultural services in the form of Municipal Libraries, which were partly supplied with books by the Public Library of NSW, continued throughout the period. However, the number of country newspapers published declined after 1910. Some in the small towns were no longer published and others were amalgamated with larger newspapers in neighbouring towns. In the larger towns, amalgamations of the existing newspapers took place and some, such as the Tamworth Daily Observer, were published as daily papers.

The circulations of county papers were also threatened by the large city dailies. These could now be transported rapidly to country areas, and they took an increasing interest in rural affairs. Reporters were despatched to major country areas and feature articles were published dealing with subjects in which the people were interested (Harmon 1975).

In the 1920s the newly established wireless broadcasting service began to penetrate to some areas. As there were no regional stations reception was poor, and this form of communication did not become a major influence in country areas until the 1930s.

10. Conclusion

The new transport and farming techniques that were introduced between 1880 and 1900 led to a redistribution of dairying, wheat, wool and meat producing industries and an increase in the production of all of them. New inputs were required, some of which were imported and others produced in Australia. Additional and new processing and marketing facilities were established to handle the additional produce and many of the new facilities were located in country towns. With the replacement of horse transport with motor transport in the 1920s the smaller country towns declined, and the larger ones increased in population. However, many of the new industries and marketing services were located in the cities and metropolitan populations increased at a faster rate than the rural population.

As NSW became a net exporter of all its major agricultural products between 1880 and 1920, the prices farmers received were determined in world markets. The following decades were to be dominated by attempts to develop a marketing system

which would maintain farmers' incomes in periods when world market prices were low. In the longer term attempts to interfere with the market system were ineffective and farm incomes were only maintained by the introduction of new technology which increased the productivity of the agricultural industries.

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