Estimates of the Task of Transporting Principal Rural Products in Australia in 1975/76

Information Paper

The study identifies and measures the transport task undertaken for the principal rural products in terms of three variables: tonnes consigned, tonne kilometers performed and freight charges paid by the users. It is considered the study provides valuable insights into the nature and size of the rural product transport task in Australia.

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Estimates of the Task of Transporting Principal Rural Products in Australia, 1975-76

Bureau of Transport Economics

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FOREWORD

It has been recognised for some time that only an imperfect understanding exists of the nature of rural product movements within Australia and of the direction and magnitude of the resulting freight flows that occur. The study reported in this Paper provides an initial overview of rural product movements for the year 1975-76. The study identifies and measures the transport task undertaken for the principal rural products in terms of three variables: tonnes consigned, tonne kilometres performed, and freight charges paid by the users. Although it was necessary, because of limited available information, to estimate many of the components involved, it is considered that the study provides valuable insight into the nature and size of the rural product transport task in Australia.

Hassall and Associates, Agricultural Consultants of Goulburn NSW, were engaged to carry out this study on behalf of the Bureau of Transport Economics (BTE). All the factual material contained in this Paper was provided by these consultants. Dr H.G. Quinlan, Officer-in-Charge, Resources Assessment Section, has used the material gathered by the Consultants in preparing this Paper.

The BTE wishes to thank those persons who helped with the provision of information for this study. Particular acknowledgement is made of the contribution of the Central and State Offices of the Australian Bureau of Statistics, the Bureau of Agricultural Economics, the State Departments of Agriculture, Railway Administrations, and various Marketing Organisations.

(J.W. Moll)
Assistant Director
Systems and Information

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Canberra
July 1981

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EXPLANATORY NOTES

- All numerical data contained in this Information Paper are derived from specialised assessment of available quantitative information. To this extent they represent estimates of the true measures. All tables are titled to this effect but references to numerical data in the text are not.

- All numerical data shown, with the exception of the 'Raw Data' contained in Appendix II, have been rounded to two significant figures in order not to infer an inappropriate level of precision.

- Because of the rounding practices followed, it must be noted that most values appearing in the statistical tables will not sum exactly to the totals shown.

- The ACT is included with NSW throughout this Paper.

- All tables which are not sourced are attributable to Hassall and Associates of Goulburn NSW.

- In the statistical tables, use has been made of the following symbols:
  '-' indicating a value which is less than half the unit specified
  '..' indicating no value

- In this paper two physical units are used to describe the transport task, namely, tonnes consigned and tonne kilometres performed.

CHAPTER 1 - INTRODUCTION

TRANSPORT OF RURAL PRODUCTS

Australia supports a wide range of rural production. Agricultural activities range from the cultivation of intensive crops such as sugar and vegetables in the higher-rainfall areas to the growing of grain crops in the drier areas. Pastoral activities occur over a much greater area of the continent, with cattle predominating in the wetter north and sheep in the drier interior parts. Many farms which grow crops also graze animals.

The movement of rural products from farms is closely linked to the marketing processes, and products are marketed in different ways according to their nature and perishability. Since grains are able to be stored without deterioration for several years, they tend to be moved from farms to local storages where they remain until required(1). Perishable products are moved quickly to obtain the best prices for top quality items; fruit and vegetables are usually sent from farm direct to market(2) while milk from the many farms in a particular locality is first accumulated at nearby factories before being sent either for wholemilk distribution or for manufacturing. Most livestock are sold at auction at regional selling centres, and from there they are re-consigned for slaughter or for further fattening on farms. In recent years, an important trade has developed in the export of live sheep to Middle East destinations.

As expected, the main flows of rural products are directed towards Sydney, Melbourne, Brisbane, Adelaide and Perth which are Australia's largest markets as well as being major ports for overseas exports. However, all exports of raw sugar and some exports of wheat, barley, sorghum and oats are made from ports other than the capital cities.

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(1) Grain is sometimes moved from local storages to larger regional storages as part of the grain handling authorities' practice for consolidating grains of a particular variety and quality.

(2) Interstate movements of fruit are usually sent direct from farms to markets in the State in which the produce is to be sold. This avoids delays that would occur if produce was re-consigned from one market to another.

By their very nature, rural products tend to be moved either over relatively short distances or over relatively long distances. The former category includes movements of grains from farms to local silos, livestock movements from farms to regional selling centres, sugar cane transported to crushing mills, movements of milk from farms to regional depots, etc. The long distance movements are characterised by the consolidated movements of products from producing areas either to the large markets in the Australian capital cities or to ports for export overseas.

SCOPE OF THE STUDY

This study was undertaken to provide an overview of the nature and size of the task that was undertaken in transporting the principal rural products within Australia in 1975-76. The transport task is defined directly in terms of two measures: tonnes consigned and tonne kilometres performed. Products are considered to be consigned each time they are transferred between modes or from one vehicle of a particular mode to another. It is for this reason that the weight of rural products consigned is mostly greater than the quantity actually requiring transport (Table 1.1). The tonne kilometre is an abstract measure which is a better measure of the resources used transporting freight than the alternative measure of tonnes consigned. It is calculated for each consignment by multiplying the tonnes consigned by the distance travelled.

An additional measure examined in this study is the freight charge paid by the consignor for the transport service; in most instances this reflects the tonne kilometres performed.

The study set out to include all farm products which were transported from farms in 'significant' amounts. Reference to production statistics for 1975-76(1) revealed that the following products should be included:

---

(1) Production taken in this study to be for 1975-76 is actually that recorded for the year ended 31 March 1976. Because of the seasonal growing conditions in Australia there would be little difference between these figures and figures (if they existed) for the year ended 30 June 1976.

TABLE 1.1 - ESTIMATED QUANTITIES OF PRINCIPAL RURAL PRODUCTS REQUIRING TRANSPORT, 1975-76

('000 tonnes)

Product	State from which produce originated							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
FARM PRODUCTS								
Sheep	910	690	100	400	810	62	..	3 000
Cattle	2 000	2 200	1 400	590	590	160	56	7 000
Pigs	95	71	48	43	35	7	1	300
Sugar cane	890	..	20 000	..	..	..	..	21 000
Wheat	4 100	1 700	800	1 000	3 900	2	..	12 000
Barley	600	410	390	1 000	440	17	..	2 900
Oats	120	160	20	53	230	..	.	580
Sorghum	370	..	740	..	..	..	..	1 100
Maize	50	1	60	..	..	..	..	110
Oilseeds	51	13	77	17	71	..	..	230
Paddy rice	420	..	3	..	..	..	..	420
Milk	1 000	3 300	630	360	240	450	..	6 000
Apples	55	52	25	19	51	73	..	280
Other fruit	300	210	200	320	30	4	..	1 100
Vegetables	310	480	290	170	130	130	..	1 500
Wool	220	110	59	97	170	18	..	680
Cotton	21	..	5	..	..	..	..	26
Hay	130	150	45	63	48	8	2	450
Eggs	55	30	19	12	10	3	1	130
TOTAL	12 000	9 600	25 000	4 200	6 700	930	60	58 000
FACTORY PRODUCTS								
Meat	990	630	350	120	200	54	9	2 400
Raw sugar	100	..	2 800	..	..	..	..	2 900
Flour	420	260	160	130	84	23	..	1 100
Hides & skins	97	59	84	23	38	8	..	310
Milled rice	180	74	..	..	..	..	..	260
TOTAL	1 800	1 000	3 400	280	320	85	9	7 000
ALL PRINCIPAL RURAL PRODUCTS								
TOTAL	14 000	11 000	29 000	4 500	7 100	1 000	69	65 000

- sheep
- cattle
- pigs
- sugar cane
- wheat
- barley
- oats
- sorghum
- maize
- oilseeds
- paddy rice
- milk
- apples
- other fruit
- vegetables
- wool
- cotton
- hay
- eggs.

The quantity of the above products which is estimated to have left farms in 1975-76 is 58 million tonnes (Table 1.1). It is estimated that the total Australian production in 1975-76 of rural products other than those listed above would not have exceeded 200 000 tonnes(1).

A study of only those rural products which originated on farms would not present a representative picture of the complete rural product transport task because a number of products are processed *en route* from the farm to the Australian markets or export ports. It was therefore agreed that the scope of this study should be widened to include (in addition to the produce transported from farms) the movements within Australia of the following processed products:

- meat
- raw sugar
- flour
- hides and skins
- milled rice.

However, dairy products, other than bulk liquid milk, were excluded from this study.

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(1) Based on an estimate of the weight of those rural products recorded by the Australian Bureau of Statistics as having been produced in 1975-76 but which were excluded from this study.

Details of the quantities of the 24 principal rural products included in this study which had to be transported in each State in 1975-76 are set out in Table 1.1. The total quantity was 65 million tonnes, made up of 58 million tonnes from farms and 7 million tonnes of rural products processed in factories. Details of the transport task which was undertaken in 1975-76 for each product are set out in Chapter 2.

The regional concept

As has already been mentioned, the transport task associated with the movement of rural products is made up of two kinds of movements which can be categorised by distance - 'short distance' movements and 'long distance' movements. As a means of quantifying the magnitude of short and long distance movements, a regional approach was adopted in this study.

The regional approach assumes that the regions as defined consist of areas of homogeneity of some variable, and that the boundaries of a region separate areas having noticeable differences in terms of the variable considered. Thus, in the use of regions based on economic criteria, it would be expected that economic activities associated with the movements of grains from farms to nearby railheads, and the collection of milk at local milk depots, would take place within a region. Movements from areas of production to markets or ports would be movements between regions, unless the production occurred in those regions which contain the large markets or export ports. This mainly applies to vegetable growing which tends to be located close to the markets where its produce is sold.

A problem which occurs with the use of the regional approach is that some short distance movements may be between places in two adjoining regions and thus be correctly treated as interregional movements. Variations in the size of regions can also distort the general theme that interregional movements are 'long distance' and intraregional movements are 'short distance' Nevertheless, it is believed that this distortion is relatively slight and that the overwhelming majority of intraregional movements are over short distances and interregional movements over relatively long distances.

In this study, the regions were those used for the 1976 Census of Population and Housing. Statistical Divisions were used in Victoria (Vic), Queensland (Qld), South Australia (SA) and Western Australia (WA) and Statistical Subdivisions in New South Wales (NSW) and Tasmania (Tas). In the Northern Territory (NT), where there are no statistical divisions as such, the Territory was divided into two large regions representing the 'North' and the 'Centre' (with the Barkly Tableland being included in the 'North'). For the purposes of this study the Australian Capital Territory was included as a region within NSW. Maps showing the boundaries of these regions are shown in Appendix I.

Using this regional pattern, the average distance for an intraregional movement was 36 km and, for an interregional movement, 410 km.

METHODOLOGY USED IN THE STUDY

The BTE engaged H.M. Hassall and Associates, Agricultural Consultants, of Goulburn NSW, to undertake the information-gathering tasks associated with this study. Three main phases were carried out, as outlined below. More detailed information on certain aspects of the methodology used is set out in Appendix II.

Phase 1 - Preliminary investigations

The first stage of the study involved assembly of all available statistics on the production of rural products in 1975-76. Basic statistical data were provided on the required regional basis by the various State Offices of the Australian Bureau of Statistics.

The BTE provided the consultants with estimates of the quantities (tonnes) of the various rural products transported in 1975-76 by coastal shipping and by rail (BTE 1976, 1979). These tonnage figures originally were available in the

form of either port-to-port and station-to-station movements but for this study, they were converted into the required regional origin-destination movements(1).

The consultants then identified the marketing agencies that have been set up to handle the various rural products covered in this study. Visits were made to each of these organisations to discuss the study and to explore available sources of data. Visits were also made to the various State Departments of Agriculture; Commonwealth agricultural authorities were consulted prior to the commencement of the study.

The work was organised by the consultants on both a product and a State basis, with different staff members taking responsibility for each area. A close relationship was maintained between the persons responsible for compiling the information on individual products and those responsible for producing State aggregates to ensure that all movements were systematically accounted for.

Phase 2 - Field investigations

All other factual information for this study was obtained either during, or subsequent to, personal interviews between the consultants and producer, marketing and transport representatives. No factual information was collected by the consultants until after personal contacts had been made. Investigations carried out in each State were, in general, undertaken by State-based consultants who were familiar with the local situation.

The initial task was to bring together and assess data which led to the estimation of the quantities of each product which were actually despatched from the farms in each region. These estimates became the starting totals for road movements for all products with the exception of sugar cane (the

(1) Intraregional movements were those having the same region for both origin and destination.

only product which is transported from farms by rail). The consultants then disaggregated these figures for each region into two components which showed for each product:

- the tonnes consigned by road to destinations within the same region; and

- the tonnes consigned by road to destinations in other regions, by region of destination.

For the intraregional movements, an estimate of the total freight charges incurred was made by multiplying the average unit charge for hauls of weighted average distance by the total quantity hauled. For interregional movements, the consultants obtained an average freight rate for movements of each product between all relevant pairs of regions.

The basis for the rail movement estimates was somewhat different from that for road movements in that the quantities of products which were transported in 1975-76 did not correspond exactly with quantities produced in that year. Thus, in the case of wheat, much of the wheat consigned by rail from up-country silos in 1975-76 would have been grown in earlier years, and much of the 1975-76 crop delivered to the silos would still have been there at 30 June 1976.

For rail consignments, the consultants obtained from the BTE details of the principal station-to-station movements which occurred both within and between regions. As many products were carried at published rates, freight charges relating to these products were obtained by reference to the various railway rate books. Where contract rates were charged, the consultants obtained representative rates from either producer bodies or individual producers.

For some products, the consultants found that a comprehensive overview of the transport task could be obtained from marketing authorities, commencing with figures of receivals from farms and including some details of the longer-distance movements which were regrouped into regional origin-destination figures. Some of these organisations were also able to provide details of typical freight rates paid, where these rates differed from those published by the various railways.

It should be noted that the rail charges used in this study relate only to payments for the rail movement, and that loading and unloading charges are not included. In this respect, rail charges are not directly comparable to road charges which usually cover all costs incurred in moving rural products from farm stores to ultimate destinations.

In this overview study, it was not possible for the consultants to visit all producing regions in order to collect relevant data, although they did visit most of the principal production areas.

Phase 3 - Data compilation

After taking into account the areas in each region where production occurred, a single centre was chosen which was considered to have a location representative of the region as a whole in respect of its rural production. These centres are listed in Appendix II. So-called 'standard' distances were defined for all relevant regional pairs by noting the most frequently-used route between the chosen representative centres in each region. The 'standard' distances for road and rail movements respectively were measured from road maps and obtained from railway sources. Sea distances between ports were obtained from recognised nautical charts.

For all products carried by road and rail, figures for tonnes consigned(1) between each relevant regional origin-destination pair and for the representative freight rate per tonne were recorded and transcribed onto magnetic tape. The resulting tape, and another tape which recorded details of interregional distances, became inputs into a computerised operation which produced two further categories of information, the tonne kilometres performed and the total freight charges paid. Tonne kilometre estimates were obtained by multiplying the total tonnes consigned by the standard distance between regions, and total freight charges were calculated by multiplying the total tonnes consigned by the recorded freight rate per tonne. Results were obtained for each product which showed, for both road and rail, the tonnes consigned, tonne kilometres performed and the total freight charges paid for movements between each pair of regions.

(1) Recorded in units of one thousand tonnes weight.

The above tasks were carried out manually for coastal sea movements as there were only a small number of port-to-port movements that involved rural products.

The intraregional tonne kilometres performed in moving each product within each region were calculated by multiplying the total quantity transported by the weighted average distance hauled. Similarly, intraregional freight charges were obtained by multiplying the total quantity transported in each region by the average unit freight charge for movements over the average distance. Figures for each region were added to obtain State totals. Overall aggregates were obtained by adding the appropriate intraregional and interregional totals for each transport mode.

PRESENTATION OF RESULTS

It is considered that figures obtained from this study are unlikely to have any precision extending beyond two significant digits. Consequently, all tables which appear in the body of this Paper show quantitative values rounded to this level of accuracy.

In this Paper, Chapter 2 sets out a brief description of the transport tasks undertaken for each of the products studied. This text is supported by a set of two tables for each product. The first of these tables shows the basic magnitudes of the intraregional and interregional transport tasks undertaken in 1975-76 according to State and transport mode. The second table shows 1975-76 details of the principal originating regions and principal destination regions for all produce sent between regions. This table does not appear for sugar cane as this product is not transported between regions.

Chapter 3 brings together details which indicate the magnitude of the overall task of transporting within Australia all of the 24 products included in this study. Separate consideration is given to the characteristics of the total intraregional and interregional movements, to totals by State and transport modes, to the States of origin and destination of interregional movements, and to interstate movements.

A brief summary of the more important features of the rural product transport task appears in Chapter 4.

CHAPTER 2 - TRANSPORT OF INDIVIDUAL PRODUCTS

This Chapter considers the 1975-76 transport task accounted for by the 24 products covered in this study. For each product there is a brief description of the principal features of the transport task, and this is followed by a standard table setting out, for that product, the tonnes consigned, the tonne kilometres performed and the freight charges paid. Dissections are also made by transport mode, State and type of consignment (intraregional and interregional). This is followed by a further table which shows the same variables (tonnes consigned, tonne kilometres and freight charges) for interregional movements by principal originating regions and principal destination regions. As well as by name, these regions are identified by a number assigned by the BTE; the areal extent of these regions can be seen from the regional maps included in Appendix I.

At the introduction to each product there is a general reference besides the name of the product to the tables which provide more factual data on that product than are set out in the text.

The reader should be aware that all figures of tonnes consigned, tonne kilometres performed and freight charges paid were produced as part of this study and that, for reasons explained in the previous chapter, the values given for these variables must be regarded only as estimates(1). In the text of this chapter many references are made to these variables and, in order to economise on space, the word 'estimate' has not been included each time.

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(1) This qualification does not apply to figures of numbers of animals, areas of crops planted and production of the various rural products as these were obtained from available statistical sources.

SHEEP (Tables 2.1 and 2.2)

The sheep industry in Australia is located south of latitude 20 degrees with the greatest numbers being concentrated in areas that have a favourable rainfall for pasture production. Sheep are not usually grazed on the coastal areas of the eastern states or the tropical regions of Australia because of problems that they experience in those parts due to high summer temperatures and high rainfall. At 31 March 1976 there were 149 million sheep in Australia. Of these, 53 million were in NSW, 35 million in WA, 25 million in Vic, 17 million in SA, 14 million in Qld and 4 million in Tasmania.

The major transport movement of sheep is from farm to saleyard, where sale takes place by auction. The main selling centres are located adjacent to major abattoirs, with minor saleyards located at many smaller centres throughout the sheep districts of Australia. From the saleyards, the sheep are sent to killing works, to other farms (for fattening or restocking) or to seaports for export live to Middle East destinations. Some sheep are sold privately and sent direct from the farm to their destinations.

In 1975-76, some 3 million tonnes of sheep were consigned to all destinations, with this task involving 550 million tonne km and incurred freight charges amounting to $29 million. Intraregional consignments totalled 1.7 million tonnes and interregional consignments 1.4 million tonnes. Interregional movements by road totalled 1.2 million tonnes and by rail 170 000 tonnes. Road transport was by far the more significant mode for the transport of sheep, accounting for 96 per cent of total intraregional movements and 87 per cent of total interregional movements.

New South Wales was the most significant originating State for sheep consignments, recording 910 000 tonnes, 170 million tonne km and freight charges of $10 million. Western Australia was the next most significant State in terms of these measures.

TABLE 2.1 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF SHEEP WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	530	390	50	140	410	30	..	1 600
Interregional	340	240	35	180	350	31	..	1 200
Rail-								
Intraregional	..	27	..	15	27	..	..	69
Interregional	38	42	15	59	15	1	..	170
Sea-								
Interregional	..	..	..	..	..	2	..	2
TOTAL	910	690	100	400	810	64	..	3 000
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	22	13	6	14	17	1	..	74
Interregional	130	58	31	73	90	3	..	380
Rail-								
Intraregional	..	1	..	2	2	..	..	6
Interregional	16	15	16	32	12	-	..	90
Sea-								
Interregional	..	..	..	..	..	1	..	1
TOTAL	170	87	53	120	120	5	..	550
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	1.7	0.9	0.3	0.8	0.4	0.1	..	4.3
Interregional	7.7	3.7	1.6	3.8	5.0	0.4	..	22
Rail-								
Intraregional	..	0.1	..	0.1	-	..	..	0.1
Interregional	0.6	0.4	0.4	0.9	0.3	-	..	2.7
Sea-								
Interregional	..	..	..	..	..	0.1	..	0.1
TOTAL	10	5.1	2.3	5.6	5.8	0.6	..	29

TABLE 2.2 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF SHEEP BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
220 Southern Tablelands	53	12	0.7
217 Lachlan	38	16	1.0
214 Macquarie-Barwon	37	18	1.1
221 Central Murrumbidgee	36	14	0.8
224 Central Murray	34	13	0.8
223 Upper Murray	31	10	0.6
Other regions	150	61	3.4
Total NSW	380	140	8.3
From Vic -			
334 Wimmera	67	18	1.1
332 South Western	60	19	1.1
333 Central Highlands	42	5	0.3
Other regions	110	31	1.5
Total Vic	280	73	4.1
From Qld -			
State total	50	47	2.0
From SA -			
564 South East	73	32	1.5
562 Yorke and Lower North	42	13	0.7
563 Murray Lands	35	19	0.9
Other regions	92	40	1.7
Total SA	240	105	4.7
From WA -			
684 Midlands	150	33	1.8
683 Upper Great Southern	66	16	0.9
680 Perth	63	20	1.0
681 South West	36	11	0.6
682 Lower Great Southern	33	12	0.6
Other regions	19	11	0.5
Total WA	370	100	5.4
From Tas -			
State total	34	4	0.5
AUSTRALIA	1 400	470	25

TABLE 2.2 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF SHEEP BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	41	14	0.8
202 Outer Sydney	41	15	0.9
216 Central Tablelands	32	10	0.6
Other regions	170	53	3.1
Total NSW	280	92	5.3
To Vic -			
330 Melbourne	310	100	5.5
332 South Western	32	15	0.7
Other regions	89	34	1.9
Total Vic	430	150	8.1
To Qld -			
441 Moreton	26	17	0.9
Other regions	32	23	0.9
Total Qld	58	40	1.9
To SA -			
560 Adelaide	120	45	1.9
563 Murray Lands	28	20	1.0
Other regions	45	22	1.1
Total SA	190	88	4.0
To WA -			
680 Perth	255	69	3.6
684 Midlands	45	11	0.6
681 South West	42	10	0.6
Other regions	25	9	0.5
Total WA	370	99	5.3
To Tas -			
State total	32	3	0.4
AUSTRALIA	1 400	470	25

CATTLE (Tables 2.3 and 2.4)

The cattle industry is spread throughout all parts of Australia where animals are grazed. Cattle are grazed with sheep through most of the sheep producing areas and in isolation in the northern areas of the continent. At 31 March 1976, one-third of total cattle were located in Queensland. Numbers in the various States at that date were: Qld 12 million, NSW 9 million, Vic 6 million, WA 3 million, SA 2 million, NT 2 million, and Tas 1 million.

Like sheep, cattle are marketed through the auction system or by private sale. Irregular auctions of store cattle are conducted when seasonal conditions are suitable and store cattle are available. Within the cattle industry, short-term fattening on an opportunistic basis is more widely practised than with sheep. Cattle which have been fattened in a feedlot bring higher prices because of their more attractive qualities in the meat industry.

In 1975-76, intraregional consignments of cattle amounted to 4 million tonnes and interregional movements to 3 million tonnes. Road transport carried 6 million tonnes, and rail transport 1.0 million. Of the interregional movements, road transport carried 2.1 million, rail 840 000 tonnes and sea (from Tas to Vic) 4000 tonnes.

More cattle were consigned from Victoria (2.2 million tonnes) than from any other State. Queensland, the State with the largest number of cattle, recorded total consignments of 1.4 million tonnes.

The transport task represented by cattle amounted to 1700 million tonne km, of which 1500 million tonne km were associated with interregional movements and 200 million tonne km with intraregional movements. Queensland recorded more tonne km than any other State because of the longer distances travelled.

Freight charges for transporting cattle totalled $64 million. Victorian cattle consignments incurred charges of $19 million, which was more than for any other State.

TABLE 2.3 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF CATTLE WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	1 200	1 200	730	260	350	110	21	3 900
Interregional	660	710	230	210	200	46	24	2 100
Rail-								
Intraregional	..	33	79	20	5	..	..	140
Interregional	120	250	330	99	30	..	11	840
Sea-								
Interregional	..	..	..	..	..	4	..	4
TOTAL	2 000	2 200	1 400	590	590	160	56	7 000
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	42	29	47	13	18	3	4	160
Interregional	290	250	140	85	61	5	39	870
Rail-								
Intraregional	..	2	18	3	1	..	..	24
Interregional	82	130	260	79	55	..	20	630
Sea-								
Interregional	..	..	..	..	..	1	..	1
TOTAL	410	410	470	180	130	8	63	1 700
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	1.8	2.2	2.8	0.7	1.1	0.3	0.2	9.1
Interregional	10	14	5.5	4.0	2.0	0.6	1.7	38
Rail-								
Intraregional	..	0.1	0.6	0.1	-	..	..	0.8
Interregional	2.7	3.2	6.2	2.2	1.5	..	0.6	16
Sea-								
Interregional	..	..	..	..	..	0.2	..	0.2
TOTAL	15	19	15	7.0	4.7	1.0	2.5	64

TABLE 2.4 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF CATTLE BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
213 Central Macquarie	75	37	1.3
212 North Central Slopes	66	30	1.0
Other regions	640	310	10
Total NSW	780	370	13
From Vic -			
337 Goulburn	150	59	2.6
332 South Western	140	65	3.1
340 Central Gippsland	130	30	1.6
338 North Eastern	120	56	2.2
333 Central Highlands	100	26	1.5
339 East Gippsland	72	27	1.3
331 Barwon	70	17	0.8
Other regions	190	100	4.0
Total Vic	960	380	17
From Qld -			
444 South West	110	85	2.7
443 Darling Downs	110	41	1.6
451 North West	96	100	2.3
445 Fitzroy	81	56	1.8
446 Central West	79	68	1.8
Other regions	96	54	1.5
Total Qld	570	400	12
From SA -			
564 South East	150	72	2.9
Other regions	160	91	3.3
Total SA	310	160	6.2
From WA -			
681 South West	90	25	0.8
Other regions	150	91	2.7
Total WA	230	120	3.5
From Tas - State Total	50	6	0.7
From NT - State Total	35	58	2.3
AUSTRALIA	2 900	1 500	54

TABLE 2.4 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF CATTLE BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	140	77	2.5
203 Newcastle	78	24	0.9
213 Central Macquarie	68	30	1.1
207 Richmond-Tweed	66	32	1.1
Other regions	390	220	7.6
Total NSW	740	380	13
To Vic -			
330 Melbourne	800	240	11
338 North Eastern	90	22	0.8
Other regions	180	73	3.3
Total Vic	1 100	340	15
To Qld -			
441 Moreton	230	190	6.0
440 Brisbane	160	120	3.5
448 Northern	81	63	2.0
Other regions	170	150	6.0
Total Qld	640	530	17
To SA -			
560 Adelaide	170	94	3.5
Other regions	36	37	1.2
Total SA	210	130	4.7
To WA -			
680 Perth	170	74	2.3
Other regions	55	27	1.0
Total WA	230	100	3.2
To Tas -			
State total	46	5	0.6
To NT -			
State total	6	11	0.4
AUSTRALIA	2 900	1 500	54

PIGS (Tables 2.5 and 2.6)

The Australian pig population at 31 March 1976 was 2.2 million, of which 70 per cent were located in the eastern States. Numbers recorded in each State were: NSW 710 000, Vic 390 000, Qld 410 000, SA 230 000, WA 260 000 and Tas 70 000.

The transport of pigs from the farm is almost exclusively to auction or directly to killing works. The major auction centres generally draw pigs for sale from within their immediate environments. The post-sale movements of pigs are usually direct to killing works, although some of these movements are much longer than the distances from farms to sale yards.

The longer-distance movements are generally towards the capital cities. Melbourne drew more pigs from interstate origins in 1975-76 than it did from Victorian centres, obtaining 15 000 tonnes from SA, 7000 tonnes from NSW, and only 17 000 tonnes from Victorian centres. New South Wales also supplied 6000 tonnes to Qld.

Consignments of pigs in 1975-76 to intraregional destinations totalled 0.2 million tonnes and to interregional destinations 0.1 million tonnes. These movements represented 56 million tonne km, some 86 per cent of which were attributed to interregional movements because of the longer hauls involved. Total freight charges for pig movements were $2.4 million.

TABLE 2.5 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF PIGS WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	59	54	23	17	18	7	1	180
Interregional	34	17	19	25	17	..	..	110
Rail-								
Intraregional		..	4	..	..	..	..	4
Interregional	2	..	2	1	..	..	..	5
TOTAL	95	71	48	43	35	7	1	300
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	2	2	2	1	1	-	-	7
Interregional	16	6	5	15	4	..	..	46
Rail-								
Intraregional	..	..	1	..	..	..	..	1
Interregional	1	..	1	1	..	..	..	2
TOTAL	18	8	9	16	5	-	-	56
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	0.1	0.1	0.1	-	-	-	-	0.3
Interregional	0.6	0.3	0.2	0.7	0.1	..	..	1.9
Rail-								
Intraregional	..	..	-	..	..	..	..	-
Interregional	-	..	-	-	..	..	..	0.1
TOTAL	0.7	0.4	0.4	0.7	0.2	-	-	2.4

TABLE 2.6 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF PIGS BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
217 Lachlan	11	5	0.2
Other regions	25	11	0.4
Total NSW	36	16	0.6
From Vic -			
State total	17	6	0.3
From Qld -			
442 Wide Bay-Burnett	8	3	0.1
443 Darling Downs	8	2	0.1
Other regions	5	1	0.1
Total Qld	21	6	0.3
From SA -			
State total	26	15	0.7
From WA -			
684 Midlands	11	2	0.1
Other regions	6	2	0.1
Total WA	17	4	0.1
AUSTRALIA	120	48	2.0
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
State total	23	11	0.4
To Vic -			
330 Melbourne	35	18	0.8
Other regions	4	1	-
Total Vic	39	19	0.9
To Qld -			
441 Moreton	16	4	0.2
Other regions	11	7	0.2
Total Qld	27	11	0.4
To SA -			
560 Adelaide	11	4	0.2
To WA -			
680 Perth	17	4	0.1
AUSTRALIA	120	48	2.0

SUGAR CANE (Tables 2.7)

In Australia, sugar cane is grown mostly within 50 km of the coast along the plains and in river valleys of northern NSW and Qld. The canelands stretch about 2100 km in a discontinuous strip from Maclean, on the Clarence River in NSW, to Mossman, Qld. Over 75 per cent of the cane is grown in tropical Qld which provides the best conditions for good growth.

As sugar cane deteriorates relatively soon after harvest, it has to be transported to crushing mills as quickly as possible. In NSW it is all transported by road but in Qld both road and rail are used. In Qld, the sugar mills maintain 3200 route km of permanent track of 610 mm gauge for their rail operations.

In the 1975-76 crushing season, 21 million tonnes of cane were sent to crushing mills, 20 million tonnes from Qld farms and 1 million tonnes from NSW farms. In Qld, 90 per cent (18 million tonnes) was carried to mills by rail.

The work done in transporting sugar cane was 440 million tonne km, 430 million tonne km of which was in respect of Qld cane. Likewise, the charges for transporting Qld cane to crushing mills was 96 per cent of the total cost of moving all Australian cane ($24 million).

There were no interregional movements of sugar cane in Australia.

TABLE 2.7 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF SUGAR CANE WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	890	..	2 500	..	..	..	..	3 400
Rail-								
Intraregional	..	..	18 000	..	..	..	..	18 000
TOTAL	890	..	20 000	..	..	..	..	21 000
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	13	..	41	..	..	..	..	54
Rail-								
Intraregional	..	..	390	..	..	..	..	390
TOTAL	13	..	430	..	..	..	..	440
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	0.7	..	2.8	..	..	..	..	3.5
Rail-								
Intraregional	..	..	20	..	..	..	..	20
TOTAL	0.7	..	23	..	..	..	..	24

WHEAT (Tables 2.8 and 2.9)

Wheat is Australia's most important crop in terms of both area sown and quantity produced. Growing areas are principally confined to the southern half of the continent. In 1975-76 some 8.6 million ha were sown to wheat and production amounted to 12 million tonnes. New South Wales and WA both produced 4 million tonnes, Vic 2 million tonnes, and Qld and SA each 1 million tonnes. Tasmanian production was only 1000 tonnes. Three-quarters of the Australian crop is exported as grain, flour or wheat products.

Following harvest, wheat is trucked to the nearest or most convenient handling authority receiving point. Nearly all receiving points are silos located on railway lines. Unlike movements from farms which are distinctly seasonal, movements from silos tend to be all-year-round. It should be noted that, because of the carry-over of wheat in country silos, some of the wheat transported in 1975-76 would have been grown in earlier seasons.

Intraregional movements of wheat by road in 1975-76 amounted to 13 million tonnes while road movements between regions were only 0.6 million tonnes. Intraregional rail movements of wheat (mainly between local silos and regional bulk terminals) were 1.7 million tonnes but interregional rail movements totalled 8.3 million tonnes. The quantities of wheat consigned in NSW and WA were about equal (totalling 7.5 million and 8.0 million tonnes respectively). The next most important producing States, Vic and SA, were also of about equal size in the quantity of wheat consigned (3.3 million and 3.2 million tonnes respectively).

In terms of tonne km performed, the NSW task (1500 million tonne km) was more than twice that of WA (730 million tonne km) and represented 45 per cent of the total tonne km task (3300 million km). The reason for the NSW dominance is the location of the growing areas at some distance from the coast.

Freight charges for transporting wheat in Australia were $150 million. The cost attributed to intraregional movements was $64 million and to interregional movements $82 million.

Tasmania is a wheat deficient State and nearly all of its requirements are shipped in from the mainland.

TABLE 2.8 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF WHEAT WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	3 900	1 500	800	2 100	4 500	2	..	13 000
Interregional	390	40	46	87	46	..	..	610
Rail-								
Intraregional	120	52	120	780	630	..	..	1 700
Interregional	3 000	1 600	570	170	2 900	..	..	8 300
Sea-								
Interregional	13	26	..	38	..	..	..	77
TOTAL	7 500	3 300	1 500	3 200	8 000	2	..	23 000
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	160	46	28	71	230	-	..	530
Interregional	54	2	5	9	4	..	..	75
Rail-								
Intraregional	18	8	18	55	95	..	..	190
Interregional	1 300	550	100	42	410	..	..	2 400
Sea-								
Interregional	14	18	..	52	..	..	..	84
TOTAL	1 500	630	150	230	730	-	..	3 300
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	18	5.0	3.0	7.9	22	-	..	56
Interregional	2.6	0.2	0.4	0.6	0.3	..	..	4.1
Rail-								
Intraregional	0.9	0.4	1.0	1.7	3.9	..	..	7.9
Interregional	35	17	5.2	1.0	18	..	..	75
Sea-								
Interregional	0.4	0.5	..	1.6	..	..	..	2.6
TOTAL	56	23	9.6	13	44	..	..	150

TABLE 2.9 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF WHEAT BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
217 Lachlan	780	340	9.1
212 North Central Slopes	540	210	5.7
211 Northern Slopes	500	130	4.6
221 Central Murrumbidgee	470	240	5.8
213 Central Macquarie	410	110	3.8
214 Macquarie-Barwon	200	110	2.5
224 Central Murray	160	53	1.8
222 Lower Murrumbidgee	120	36	1.4
223 Upper Murray	120	47	1.3
Other regions	140	71	1.6
Total NSW	3 400	1 400	38
From Vic -			
334 Wimmera	660	200	6.4
335 Northern Mallee	580	260	6.6
336 Loddon-Campaspe	220	52	2.0
337 Goulburn	120	27	1.1
Other regions	130	36	1.4
Total Vic	1 700	570	17
From Qld -			
443 Darling Downs	560	89	5.0
Other regions	59	17	0.5
Total Qld	620	110	5.5
From SA -			
562 Yorke and Lower North	110	17	0.6
Other regions	180	87	2.6
Total SA	300	100	3.2
From WA -			
684 Midlands	2 400	270	14
683 Upper Great Southern	530	130	3.8
Other regions	15	7	0.1
Total WA	2 900	410	18
AUSTRALIA	9 000	2 600	82

TABLE 2.9 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF WHEAT BY ALL TRANSPORT MODES, 1975-76

STATES AND MAJOR REGIONS OF DESTINATION	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
To NSW -			
201 Sydney	1 400	700	17
203 Newcastle	780	310	8.7
216 Central Tablelands	330	72	2.9
211 Northern Slopes	220	35	1.5
221 Central Murrumbidgee	200	63	2.1
Other regions	160	66	1.8
Total NSW	3 100	1 200	34
To Vic -			
331 Barwon	1 400	480	14
330 Melbourne	230	80	2.4
336 Loddon-Campaspe	120	33	1.2
333 Central Highlands	100	33	1.1
Other regions	79	12	0.6
Total Vic	1 900	640	19
To Qld -			
440 Brisbane	580	100	5.3
443 Darling Downs	120	12	0.5
Other regions	20	3	0.1
Total Qld	730	120	6.0
To SA -			
560 Adelaide	190	44	1.1
Other regions	70	9	0.5
Total SA	260	53	1.6
To WA -			
680 Perth	2 400	290	14
682 Lower Great Southern	230	66	1.7
681 South West	160	34	1.1
Other regions	110	17	0.8
Total WA	2 900	410	18
To Tas -			
State total	77	84	2.6
AUSTRALIA	9 000	2 600	82

BARLEY (Tables 2.10 and 2.11)

Barley is grown in all Australian States and tends to be more extensively grown in the southern half of the continent. In 1975-76, there were 2.3 million ha sown to barley and total production amounted to 3.2 million tonnes. South Australia was the largest producing State with 1.1 million tonnes, followed by NSW with 0.7 million tonnes, WA with 0.5 million tonnes, and Vic and Qld each with 0.4 million tonnes. Approximately two-thirds of the Australian crop in 1975-76 was exported.

Barley is normally handled in bulk. Farmers deliver the grain to railhead silos from which it is moved for consumption or export. Road transport is mostly used for movements of barley to feed manufacturers and Australian users while rail carries most of the barley that is exported.

There are quite large movements of barley interstate, especially from NSW. From northern NSW, some grain goes to maltsters in Toowoomba (Qld) or to Brisbane for export. Some barley grown in the southern areas of NSW is carried into Vic.

In 1975-76, 3.5 million tonnes of barley were consigned within regions and 2.2 million tonnes between regions. The intraregional movements involved 190 million tonne km (25 per cent of total) and freight charges were $13 million (40 per cent of total). Interregional movements produced 570 million tonne km (75 per cent of total) and freight charges were $19 million (60 per cent of total). South Australia was the most significant barley State with 39 per cent of tonnes consigned (2.2 million), 27 per cent of tonne km performed (210 million), and 28 per cent of the freight charges ($8.7 million).

TABLE 2.10 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF BARLEY WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Aust
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	240	420	380	1 100	510	10	..	2 700
Interregional	270	77	96	190	31	3	..	660
Rail-								
Intraregional	..	36	2	660	130	..	..	830
Interregional	340	400	270	260	180	10	..	1 500
TOTAL	860	930	750	2 200	860	23	..	5 600
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	11	12	11	40	31	-	..	100
Interregional	51	3	15	11	3	-	..	83
Rail-								
Intraregional	..	-	-	72	13	..	..	85
Interregional	170	150	48	85	37	2	..	490
TOTAL	230	160	74	210	83	3	..	770
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	1.2	1.3	1.2	4.4	2.7	-	..	11
Interregional	2.3	0.4	1.0	1.0	0.2	-	..	4.9
Rail-								
Intraregional	..	-	-	1.6	0.3	..	..	1.9
Interregional	4.1	4.2	2.5	1.7	1.2	0.1	..	14
TOTAL	7.7	5.9	4.7	8.7	4.4	0.1	..	31

TABLE 2.11 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF BARLEY BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
221 Central Murrumbidgee	110	10	0.7
217 Lachlan	100	45	1.2
Other regions	400	170	4.6
Total NSW	620	220	6.5
From Vic -			
334 Wimmera	200	65	2.0
335 Northern Mallee	120	59	1.4
Other regions	160	28	1.2
Total Vic	480	150	4.6
From Qld -			
443 Darling Downs	320	51	3.0
Other regions	52	12	0.5
Total Qld	370	63	3.5
From SA -			
563 Murray Lands	140	38	0.9
562 Yorke and Lower North	130	8	0.7
Other regions	180	51	1.1
Total SA	450	96	2.7
From WA -			
683 Upper Great Southern	110	25	0.8
684 Midlands	100	15	0.6
Other regions	2	-	-
Total WA	210	40	1.4
From Tas -			
State total	13	2	0.1
AUSTRALIA	2 100	580	19

TABLE 2.11 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF BARLEY BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	250	140	3.2
Other regions	170	28	1.2
Total NSW	420	170	4.4
To Vic -			
330 Melbourne	190	78	2.1
331 Barwon	160	49	1.5
332 South Western	110	38	1.2
Other regions	160	29	1.3
Total Vic	630	190	6.1
To Qld -			
440 Brisbane	380	71	3.7
Other regions	41	5	0.3
Total Qld	420	76	4.0
To SA -			
560 Adelaide	180	40	1.0
562 Yorke and Lower North	130	48	0.9
566 Northern	130	8	0.7
Other regions	6	-	-
Total SA	450	96	2.7
To WA -			
680 Perth	160	30	1.0
Other regions	50	10	0.3
Total WA	210	40	1.4
To Tas -			
State total	13	2	0.1
AUSTRALIA	2 100	580	19

OATS (Table 2.12 and 2.13)

Oats are grown in all Australian States in similar situations to wheat and barley. The crop has a wider distribution than other cereals mainly because oats are hardy and better adapted to withstand wet conditions than are other winter crops. The grain stores well and is easier to feed to livestock than other cereal grains.

Oats grain is stored more by producers than any other grain in relation to overall production. The grain is excellent to store as it is less liable to weevil attack than other cereals. The grain is a negotiable reserve that is able to be traded, sold or fed depending on the season and farmers' liquidity.

In 1975-76, 1.0 million ha were sown with oats and 1.1 million tonnes of oats were produced. Western Australia produced 0.4 million tonnes, NSW and Vic each 0.3 million tonnes, and SA 0.1 million tonnes. Some 0.7 million tonnes of the 1975-76 production were consumed on farms. At 30 June 1976, the quantity of oats in storage on farms around Australia was equal to about 80 per cent of an average year's production.

Road movements to silos (that is, intraregional movements) totalled 0.5 million tonnes in 1975-76 while interregional movements amounted to 0.2 million tonnes. Rail consignments totalled 0.1 million tonnes within regions and 0.3 million tonnes between regions. The total movement of oats involved 1.1 million tonnes consigned, 180 million tonne km performed and freight charges of $7.5 million.

Western Australia was the most significant State in regard to the quantity of oats consigned (0.5 million tonnes), followed by Vic (0.3 million tonnes) and NSW (0.2 million tonnes).

TABLE 2.12 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF OATS WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	69	150	5	43	250	..	..	520
Interregional	94	31	16	30	50	..	..	220
Rail-								
Intraregional	..	5	..	7	82	..	..	94
Interregional	39	120	4	14	99	..	..	280
TOTAL	200	310	25	94	480	..	..	1 100
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	2	6	-	2	10	..	..	21
Interregional	39	3	2	9	6	..	..	60
Rail-								
Intraregional	..	-	..	1	8	..	..	9
Interregional	18	51	1	6	20	..	..	95
TOTAL	59	60	3	19	44	..	..	180
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	0.3	0.6	-	0.2	0.4	..	..	1.6
Interregional	1.2	0.2	0.1	0.3	0.4	..	..	2.2
Rail-								
Intraregional	..	-	..	-	1.0	..	..	1.0
Interregional	0.5	1.3	-	0.1	0.7	..	..	2.6
TOTAL	1.9	2.2	0.2	0.7	2.5	..	..	7.5

TABLE 2.13 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF OATS BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
221 Central Murrumbidgee	36	18	0.5
217 Lachlan	25	12	0.3
Other regions	72	27	0.9
Total NSW	130	56	1.7
From Vic -			
336 Loddon-Campaspe	41	10	0.3
334 Wimmera	39	12	0.4
333 Central Highlands	31	11	0.3
337 Goulburn	22	12	0.3
Other regions	21	10	0.2
Total Vic	150	54	1.6
From Qld -			
State total	20	3	0.2
From SA -			
State total	44	15	0.4
From WA -			
683 Upper Great Southern	90	17	0.6
684 Midlands	56	7	0.4
Other regions	3	2	-
Total WA	150	26	1.0
AUSTRALIA	500	150	4.8

TABLE 2.13 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF OATS BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	82	41	1.1
Other regions	37	10	0.4
Total NSW	120	51	1.5
To Vic -			
332 South Western	110	50	1.3
330 Melbourne	15	5	0.2
331 Barwon	14	3	0.1
337 Goulburn	12	-	0.1
Other regions	18	3	0.2
Total Vic	170	62	1.8
To Qld -			
State total	21	3	0.2
To SA -			
560 Adelaide	29	9	0.2
Other regions	11	4	0.1
Total SA	40	13	0.4
To WA -			
680 Perth	100	15	0.7
681 South West	36	8	0.3
Other regions	9	3	0.1
Total WA	150	26	1.0
AUSTRALIA	500	150	4.8

SORGHUM (Tables 2.14 and 2.15)

New South Wales and Qld are the only States which grow significant quantities of sorghum. The crop can be grown either under irrigation (in the Namoi, Gwydir and Macquarie River valleys of NSW) or on a dryland basis (on the north west slopes and plains of NSW and the Darling Downs of Qld). Sorghum is utilised principally as a stockfeed and in 1975-76, some 72 per cent of the production was exported for this purpose.

In 1975-76 some 500 000 ha were planted to sorghum and production amounted to 1.1 million tonnes, 0.7 million tonnes in Qld and 0.4 million tonnes in NSW.

The transport of sorghum in 1975-76 involved to 2.0 million tonnes consigned, 360 million tonne km performed and freight charges of $15 million. Queensland consigned 1.4 million tonnes and NSW 0.6 million tonnes. Intraregional consignments for Australia totalled 1.1 million tonnes (86 per cent by road) and interregional consignments 0.9 million tonnes (80 per cent by rail). Interregional consignments accounted for 75 per cent of the total tonne km performed in Australia and for 64 per cent of the total freight charges incurred by shippers.

TABLE 2.14 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF SORGHUM WITHIN AUSTRALIA, 1975-76

Mode and type of movemcnt	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	280	..	670	..	..	..	..	950
Interregional	93	..	100	..	..	..	..	190
Rail-								
Intraregional	..	..	150	..	..	..	..	150
Interregional	250	..	500	..	..	..	..	750
TOTAL	620	..	1 400	..	..	..	..	2 000
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	9	..	26	..	..	..	..	35
Interregional	31	..	34	..	..	..	..	65
Rail-								
Intraregional	..	..	60	..	..	..	..	60
Interregional	97	..	100	..	..	..	..	200
TOTAL	140	..	220	..	..	..	..	360
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	1.0	..	2.9	..	..	..	..	3.9
Interregional	1.0	..	1.2	..	..	..	..	2.2
Rail-								
Intraregional	..	..	1.8	..	..	..	..	1.8
Interregional	2.7	..	4.7	..	..	..	..	7.4
TOTAL	4.8	..	11	..	..	..	..	15

TABLE 2.15 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF SORGHUM BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
211 Northern Slopes	170	54	1.8
213 Central Macquarie	51	26	0.6
Other regions	120	47	1.3
Total NSW	340	130	3.8
From Qld -			
443 Darling downs	450	88	4.3
442 Wide Bay-Burnett	80	26	0.8
Other regions	72	22	0.7
Total Qld	600	140	5.8
AUSTRALIA	940	260	9.6
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
203 Newcastle	170	56	1.8
201 Sydney	110	59	1.4
Other regions	70	23	0.9
Total NSW	350	140	4.1
To Vic -			
State total	25	9	0.3
To Qld -			
440 Brisbane	500	110	4.8
Other regions	57	10	0.4
Total Qld	560	120	5.2
AUSTRALIA	940	260	9.6

MAIZE (Tables 2.16 and 2.17)

Maize production in Australia is generally restricted to the eastern States. In NSW, maize is grown on the north coast and in irrigated soils of the Macquarie, Murrumbidgee and Hunter River valleys. Queensland production comes from the Darling Downs, the Wide Bay-Burnett area and the Atherton Tablelands to the west of Cairns. Maize is used in the stockfeed industry, the breakfast foods industry and industrially for starch and by-product extraction.

In 1975-76, some 47 000 ha were planted to maize and production totalled 132 000 tonnes (Qld 79 000 tonnes, NSW 51 000 tonnes and Vic 2000 tonnes).

The transport tasks for maize in 1975-76 amounted to 160 000 tonnes consigned, 45 million tonne km performed and freight charges of $1.4 million. Both road and rail modes share the transport task, with road handling the majority of the shorter hauls and rail the majority of the longer distance (including interstate) movements. Nearly all of the interregional consignments were destined for Sydney, Brisbane, Melbourne or Adelaide. Significant quantities of maize were railed from Qld to NSW, and from NSW to Vic and SA.

TABLE 2.16 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF MAIZE WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	13	2	56	..	..	..	..	71
Interregional	33	..	23	..	..	..	..	56
Rail-								
Intraregional	..	..	10	..	..	..	..	10
Interregional	4	1	13	..	..	..	..	18
TOTAL	50	3	100	..	..	..	..	160
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	-	-	2	..	..	..	..	2
Interregional	16	..	20	..	..	..	..	37
Rail-								
Intraregional	..	..	2	..	..	..	..	2
Interregional	2	-	3	..	..	..	..	5
TOTAL	18	-	26	..	..	..	..	45
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	-	-	0.2	..	..	..	..	0.2
Interregional	0.4	..	0.4	..	..	..	..	0.9
Rail-								
Intraregional	..	..	0.1	..	..	..	..	0.1
Interregional	-	-	0.1	..	..	..	..	0.2
TOTAL	0.5	-	0.8	..	..	..	..	1.4

TABLE 2.17 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF MAIZE BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
222 Lower Murrumbidgee	10	6	0.1
213 Central Macquarie	6	3	0.1
Other regions	21	10	0.3
Total NSW	37	18	0.5
From Vic -			
State total	1	-	-
From Qld -			
443 Darling Downs	20	10	0.3
442 Wide Bay-Burnett	16	13	0.3
Total Qld	36	23	0.6
AUSTRALIA	74	42	1.1
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	46	32	0.7
Other regions	1	1	-
Total NSW	47	32	0.7
To Vic -			
330 Melbourne	7	3	0.1
To Qld -			
440 Brisbane	16	4	0.2
To SA -			
560 Adelaide	4	3	0.1
AUSTRALIA	74	42	1.1

OILSEEDS (Tables 2.18 and 2.19)

The most important oilseeds grown in Australia are lupins, sunflowers, soybeans, linseed and rapeseed. New South Wales and Qld together account for most of the sunflower and soybean production, while SA and WA account for nearly all of the lupin production. Rapeseed and linseed are grown in all mainland states. Altogether, some 330 000 ha were sown with oilseeds in 1975-76.

Production of oilseeds in 1975-76 totalled 250 000 tonnes, of which WA produced 90 000 tonnes, Qld 80 000 tonnes, NSW 50 000 tonnes, SA 20 000 tonnes and Vic 10 000 tonnes. Of the total production, some 80 000 tonnes were exported (mostly from WA), 150 000 tonnes were processed in Australia (all of NSW and Vic production and most of the production of Qld and SA), and 20 000 tonnes were consumed on farms (mostly in WA). In all States except WA, road transport dominated the haulage operation.

In 1975-76, the total consignments amounted to 290 000 tonnes, with the consignments within regions and between regions being equal. Nearly half of the total consignments emanated from WA (130 000 tonnes). Some 57 000 tonnes of oilseeds were consigned to oil crushing plants located at Moree (NSW).

The total task performed in 1975-76 amounted to 67 million tonne km, while total freight charges were $2.8 million.

TABLE 2.18 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF OILSEEDS WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	19	..	15	2	67	..	..	100
Interregional	30	13	58	15	3	..	..	120
Rail-								
Intraregional	..	..	..	..	45	..	..	45
Interregional	6	..	6	..	13	..	..	25
TOTAL	55	13	79	17	130	..	..	290
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	2	..	-	-	3	..	..	6
Interregional	8	3	29	7	-	..	..	46
Rail-								
Intraregional	..	..	..	..	5	..	..	5
Interregional	2	..	2	..	5	..	..	9
TOTAL	12	3	31	7	14	..	..	67
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	0.2	..	0.1	-	0.4	..	..	0.7
Interregional	0.3	0.2	0.9	0.2	-	..	..	1.6
Rail-								
Intraregional	..	..	..	..	-	..	..	..
Interregional	0.1	..	0.1	..	0.1	..	..	0.2
TOTAL	0.6	0.2	1.0	0.2	0.8	..	..	2.8

TABLE 2.19 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF OILSEEDS BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
211 Northern Slopes	13	2	0.1
213 Central Macquarie	10	3	0.1
Other regions	13	5	0.2
Total NSW	36	10	0.4
From Vic -			
State total	13	3	0.2
From Qld -			
443 Darling Downs	27	12	0.4
445 Fitzroy	14	9	0.2
Other regions	23	9	0.3
Total Qld	64	30	0.9
From SA -			
564 South East	13	6	0.2
Other regions	2	-	-
Total SA	15	7	0.2
From WA -			
State total	16	6	0.1
AUSTRALIA	140	55	1.8
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
212 North Central Slopes	57	23	0.7
201 Sydney	23	13	0.4
Total NSW	80	36	1.1
To Vic -			
330 Melbourne	20	7	0.3
To Qld -			
445 Fitzroy	10	3	0.1
Other regions	9	2	0.1
Total Qld	19	4	0.2
To SA -			
State total	9	2	0.1
To WA -			
State total	16	6	0.1
AUSTRALIA	140	55	1.8

RICE (Tables 2.20 and 2.21)

Rice is an irrigated crop grown primarily in the Murrumbidgee Irrigation Area, the Coleambally Irrigation Area and the Murray Valley in NSW, and in the Burdekin River Area of Qld. In 1975-76, 74 500 ha were sown to rice, all of this apart from 2300 ha being in NSW. Production amounted to 416 000 tonnes of paddy rice.

After harvest the paddy rice is road-hauled from the farm to one of the many rice storage depots located through the growing areas, where it is graded and stored. When the paddy rice is required for milling it is transported to a rice mill. Rice mills are located in NSW at Leeton, Griffith, Yenda, Coleambally and Deniliquin; in Vic at Echuca; and in Qld at Home Hill.

In 1975-76, total consignments of paddy rice amounted to 840 000 tonnes, which included movements from farms to storage depots and from storage depots to mills. Some of these movements were to mills in areas other than where the rice was stored (eg Echuca Vic). The total task was 23 million tonne km (22 million tonne km being associated with NSW produce) and the total freight charges were $1.9 million.

TABLE 2.20 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF PADDY RICE WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld [a]	SA	WA	Tas	NT [a]	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	720	..	11	..	..	..	..	740
Interregional	38	..	..	..	..	..	..	38
Rail-								
Interregional	71	..	..	..	..	..	..	71
TOTAL	830	..	11	..	..	..	..	840
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	16	..	-	..	..	..	..	16
Interregional	1	..	..	..	..	..	..	1
Rail-								
Interregional	6	..	..	..	..	..	..	6
TOTAL	22	..	-	..	..	..	..	23
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	1.5	..	-	..	..	..	..	1.6
Interregional	-	..	..	..	..	..	..	-
Rail-								
Interregional	0.3	..	..	..	..	..	..	0.3
TOTAL	1.8	..	-	..	..	..	..	1.9

(a) Includes the task of moving approximately 3000 tonnes of milled rice in Queensland.

TABLE 2.21 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF PADDY RICE BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
224 Central Murray	110	7	0.3
AUSTRALIA	110	7	0.3
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
222 Lower Murrumbidgee	38	1	-
To Vic -			
336 Loddon-Campaspe	71	6	0.3
AUSTRALIA	110	7	0.3

MILK (Tables 2.22 and 2.23)

The dairy industry in Australia is mainly located in areas of ample and reliable rainfall. In NSW, the main production areas are the narrow coastal belt and the Hunter Valley, together with areas along the Murray River. Victoria is the predominant State for dairy production, with significant production in all areas of the State except the north west. Victoria has approximately 50 per cent of the total Australian milking herd. In Qld, the industry is mainly located in the immediate area surrounding Brisbane with a secondary area on the Atherton Tablelands in the north. South Australian production is centred on an area adjoining Adelaide with significant production along the Murray River and in the south east of the State. In WA, the industry is located to the south of Perth. The Tasmanian industry is mainly located in the north east, with smaller areas of production in the central regions and the north west.

In 1975-76, Australian milk production totalled 6 million tonnes. Victoria produced 3.3 million tonnes, NSW 1.0 million tonnes, Qld 0.7 million tonnes, Tas 0.4 million tonnes, SA 0.4 million tonnes and WA 0.2 million tonnes. One quarter of this production was used for whole milk sales to the public and the other three-quarters for manufacturing.

The transport of milk in 1975-76 involved the consignment of 6.4 million tonnes, the performance of 400 million tonne km, and freight charges of $48 million. All of the pick-up from farms was performed by road transport. The only use of rail tankers for transporting milk over longer distances occurred in NSW, where 310 000 tonnes were consigned by this mode. Only 100 000 tonnes were carried by road over longer distances in NSW.

TABLE 2.22 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF MILK WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Aust
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	980	2 700	550	250	150	420	..	5 000
Interregional	100	610	90	120	87	32	..	1 000
Rail-								
Intraregional	11	..	..	..	..	..	..	11
Interregional	310	..	..	..	..	..	..	310
TOTAL	1 400	3 300	640	370	240	450	..	6 400
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	34	59	33	16	2	5	..	150
Interregional	19	93	15	20	18	2	..	170
Rail-								
Intraregional	-	..	..	..	..	..	..	-
Interregional	84	..	..	..	..	..	..	84
TOTAL	140	150	48	36	20	8	..	400
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	5.6	18	6.3	1.5	1.7	1.7	..	35
Interregional	0.8	6.5	0.9	1.4	1.0	0.3	..	11
Rail-								
Intraregional	-	..	..	..	..	..	..	-
Interregional	1.9	..	..	..	..	..	..	1.9
TOTAL	8.4	25	7.3	2.9	2.7	2.0	..	48

TABLE 2.23 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF MILK BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
204 Hunter	110	31	0.7
206 Illawarra	80	10	0.3
209 Hastings	61	23	0.6
224 Central Murray	40	3	0.2
Other regions	130	36	1.1
Total NSW	420	100	2.8
From Vic -			
340 Central Gippsland	240	32	2.3
337 Goulburn	150	22	1.6
336 Loddon-Campaspe	63	8	0.6
Other regions	160	31	2.0
Total Vic	610	93	6.5
From Qld -			
441 Moreton	40	5	0.3
Other regions	50	11	0.7
Total Qld	90	15	0.9
From SA -			
563 Murray Lands	57	14	0.9
561 Outer Adelaide	51	5	0.3
Other regions	7	1	0.1
Total SA	120	20	1.4
From WA -			
681 South West	83	16	0.9
Other regions	4	2	0.1
Total WA	87	18	1.0
From Tas -			
State total	32	2	0.3
AUSTRALIA	1 400	250	13

TABLE 2.23 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF MILK BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	290	76	1.9
Other regions	100	29	1.1
Total NSW	390	105	3.0
To Vic -			
330 Melbourne	250	43	2.9
337 Goulburn	110	11	0.8
339 East Gippsland	100	14	1.0
Other regions	170	20	1.5
Total Vic	630	88	6.2
To Qld -			
440 Brisbane	90	15	0.9
To SA -			
560 Adelaide	93	15	0.9
Other regions	29	7	0.5
Total SA	120	22	1.4
To WA -			
680 Perth	75	14	0.8
Other regions	12	4	0.2
Total WA	87	18	1.0
To Tas -			
State total	32	2	0.3
AUSTRALIA	1 400	250	13

APPLES (Tables 2.24 and 2.25)

Apples are grown in the cooler temperate regions of all States in Australia. The principle growing areas are the Huon Valley of Tasmania, the Central Tablelands of NSW, the area around Melbourne in Vic, the south west of WA, the Stanthorpe area of Qld, and the Adelaide Hills in SA. Production in 1975-76 totalled 276 000 tonnes. Tasmania produced 73 000 tonnes, NSW 56 000 tonnes, Vic 52 000 tonnes, WA 51 000 tonnes, Qld 25 000 tonnes and SA 19 000 tonnes.

Almost 60 per cent of Australian production was consumed as fresh apples on the domestic market. A further 18 per cent was processed in Australia and the remainder was sent to overseas markets.

Apples are prepared for market on the site of production. Growers generally deliver their own apples by road to market or retail outlets or processors. Apples which are destined for export, especially in WA, are usually containerised in the production areas and railed to the point of export.

The transport task for apples is predominantly one of movement from farm direct to market. Consequently, intraregional movements are not very significant. In 1975-76, intraregional movements made up only 82 000 tonnes of the total apple consignments of 300 000 tonnes, and only 2 million tonne km of the total of 110 million tonne km for all consignments. Total freight charges were $4.1 million. Of the interregional movements, road transport contributed 200 000 tonnes, rail 18 000 tonnes and sea (from Tasmania) 7000 tonnes.

TABLE 2.24 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF APPLES WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	14	29	2	7	17	13	..	82
Interregional	39	34	20	13	32	59	..	200
Rail-								
Interregional	2	..	3	..	13	..	..	18
Sea-								
Interregional	..	..	..	..	..	7	..	7
TOTAL	55	63	25	20	62	79	..	300
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	-	1	-	-	-	-	..	2
Interregional	16	13	17	14	18	5	..	83
Rail-								
Interregional	-	..	1	..	13	..	..	15
Sea-								
Interregional	..	..	..	..	..	7	..	7
TOTAL	17	14	18	14	31	12	..	110
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	-	0.1	-	-	0.1	-	..	0.3
Interregional	0.7	0.5	0.7	0.5	0.7	0.4	..	3.5
Rail-								
Interregional	-	..	-	..	0.2	..	..	0.3
Sea-								
Interregional	..	..	..	..	..	0.1	..	0.1
TOTAL	0.7	0.7	0.7	0.5	1.0	0.6	..	4.1

TABLE 2.25 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF APPLES BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
216 Central Tablelands	28	12	0.5
Other regions	13	5	0.2
Total NSW	41	16	0.7
From Vic -			
State total	34	13	0.5
From Qld -			
443 Darling Downs	23	18	0.7
From SA -			
State total	13	14	0.5
From WA -			
681 South West	34	6	0.5
Other regions	11	25	0.4
Total WA	45	31	0.9
From Tas -			
791 Southern	58	5	0.4
Other regions	8	7	0.1
Total Tas	66	12	0.5
AUSTRALIA	220	100	3.8

TABLE 2.25 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF APPLES BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	35	24	0.8
Other regions	19	14	0.4
Total NSW	54	37	1.2
To Vic -			
330 Melbourne	21	7	0.2
Other regions	10	3	0.1
Total Vic	31	10	0.3
To Qld -			
440 Brisbane	16	11	0.4
Other regions	13	14	0.5
Total Qld	29	25	0.9
To SA -			
State total	10	15	0.2
To WA -			
680 Perth	34	6	0.5
Other regions	4	3	0.2
Total WA	38	9	0.7
To Tas -			
790 Hobart	59	5	0.4
To NT -			
State total	1	3	0.1
AUSTRALIA	220	100	3.8

FRUIT OTHER THAN APPLES (Tables 2.26 and 2.27)

The main categories of fruit included are grapes, citrus fruits, stone fruits, bananas, pineapples and pears. In 1975-76, Australia produced 508 000 tonnes of grapes, 439 000 tonnes of citrus fruits, 141 000 tonnes of stone fruits, 110 000 tonnes of bananas, 103 000 tonnes of pineapples, and 151 000 tonnes of pears and other fruits. South Australia, because of its production emphasis on grapes and citrus fruits, contributed 478 000 tonnes of the Australian total of 1 452 000 tonnes of fruit other than apples. New South Wales (with emphasis on these same two products) made up 405 000 tonnes of total production, followed by Vic with 320 000 tonnes and Qld with 204 000 tonnes.

Transport of fruit from the farm to a particular market is influenced by the location where it is grown. In the case of tropical fruits, for example, which are produced only in Qld and northern NSW, there are long interstate movements to States where they are not produced. Ninety per cent of pineapples are canned but bananas, which cannot be preserved, are sent in a green state and ripened immediately prior to being marketed.

Fruit which is sold interstate usually does not pass through the wholesale market in the State of origin, but goes direct to the wholesale market in the State of consumption. There are virtually no interstate movements of fruit from one wholesale market to another.

In 1975-76, the movement of all fruit other than apples involved the consignment of 0.6 million tonnes within regions and 0.9 million tonnes between regions. Some 0.6 million tonnes of the interregional movements were destined for capital cities.

Total tonne km performed in this transport task in 1975-76 amounted to 510 million, and the freight charges amounted to $20 million.

TABLE 2.26 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF FRUIT OTHER THAN APPLES WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	260	110	82	150	27	3	..	640
Interregional	120	160	180	230	14	8	2	710
Rail-								
Interregional	67	6	33	11	10	..	..	130
Sea-								
Interregional	..	10	..	..	..	..	..	10
TOTAL	450	290	290	390	51	11	2	1 500
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	4	4	2	3	1	-	..	14
Interregional	62	30	83	111	14	2	3	310
Rail-								
Interregional	90	5	66	17	4	..	..	180
Sea-								
Interregional	..	4	..	..	..	..	..	4
TOTAL	160	44	150	130	18	2	3	510
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	0.6	0.9	0.3	0.3	0.1	-	..	2.2
Interregional	2.7	2.0	4.1	3.2	0.6	0.1	0.1	13
Rail-								
Interregional	2.4	0.1	1.8	0.6	0.2	..	..	5.1
Sea-								
Interregional	..	0.1	..	..	..	..	..	0.1
TOTAL	5.8	3.1	6.2	4.1	0.8	0.1	0.1	20

TABLE 2.27 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF FRUIT OTHER THAN APPLES BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
201 Sydney	33	21	0.7
208 Clarence	31	40	1.1
225 Murray Darling	31	26	1.0
Other regions	96	66	2.3
Total NSW	190	150	5.2
From Vic -			
337 Goulburn	65	12	0.9
335 Northern Mallee	57	13	0.7
330 Melbourne	37	10	0.5
Other regions	12	5	0.1
Total Vic	170	40	2.2
From Qld -			
441 Moreton	68	11	0.9
442 Wide Bay-Burnett	51	27	1.4
440 Brisbane	35	46	1.4
Other regions	58	64	2.2
Total Qld	210	150	5.9
From SA -			
563 Murray Lands	210	84	3.0
Other regions	29	44	0.8
Total SA	240	130	3.8
From WA -			
State total	24	17	0.7
From Tas -			
State total	8	2	0.1
From NT -			
State total	2	3	0.1
AUSTRALIA	850	490	18

TABLE 2.27 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF FRUIT OTHER THAN APPLES BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	110	96	3.5
225 Murray Darling	26	1	0.1
Other regions	52	20	1.1
Total NSW	190	120	4.6
To Vic -			
330 Melbourne	170	120	4.0
Other regions	36	7	0.4
Total Vic	200	130	4.5
To Qld -			
440 Brisbane	170	91	3.8
Other regions	24	10	0.6
Total Qld	200	100	4.4
To SA -			
561 Outer Adelaide	110	19	1.1
560 Adelaide	82	36	1.2
Other regions	8	3	0.1
Total SA	200	57	2.4
To WA -			
680 Perth	34	67	1.3
Other regions	9	5	0.3
Total WA	43	72	1.6
To Tas -			
State total	18	6	0.2
To NT -			
State total	5	7	0.3
AUSTRALIA	850	490	18

VEGETABLES (Tables 2.28 and 2.29)

Vegetables are grown in favoured areas of climate and/or soils in every State both for fresh consumption and for processing. The vegetables included in this category in descending order of tonnes produced in 1975-76 are potatoes, tomatoes, onions, peas, beans, carrots, cauliflowers, cabbage, pumpkin, lettuce, beetroot, and other types. The total production of vegetables for Australia in 1975-76 was 1 520 000 tonnes. Some 22 000 tonnes were exported as fresh vegetables, 351 000 tonnes were processed and the remaining 1 147 000 tonnes were consumed on the domestic market.

Movement of vegetables from the farm to a particular destination is often influenced by the season in which they are grown. In the off-season, growers are able to take advantage of the higher prices in interstate markets by sending their produce long distances to those markets.

In 1975-76, some 2.0 million tonnes of vegetables were consigned. Some 0.9 million tonnes were sent to local nearby markets and processors and 1.1 million tonnes were sent to destinations in other regions. More consignments were made from Victoria than from any other State (0.7 million tonnes), with the next most significant States being NSW (0.4 million tonnes) and Old (0.3 million tonnes). The task performed in transporting vegetables was 580 million tonne km (440 million by road, 130 million by rail and 14 million by sea) and the total freight charges paid were $30 million. Charges made for road transport amounted to $26 million and those for rail transport to $4 million.

TABLE 2.28 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF VEGETABLES WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	200	180	180	86	110	110	3	870
Interregional	140	470	130	150	17	16	6	920
Rail-								
Intraregional	..	..	..	..	..	..	3	3
Interregional	16	8	24	15	75	..	..	140
Sea-								
Interregional	..	..	..	..	..	23	..	23
TOTAL	350	660	340	250	200	150	12	2 000
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	4	5	3	2	2	1	1	18
Interregional	43	190	81	80	12	3	9	420
Rail-								
Intraregional	..	..	..	..	..	..	1	1
Interregional	16	8	41	22	43	..	..	129
Sea-								
Interregional	..	..	..	..	..	14	..	14
TOTAL	67	200	120	100	57	19	11	580
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	1.3	2.5	1.1	0.6	1.0	0.7	0.1	7.3
Interregional	2.1	8.8	3.6	2.2	1.0	0.2	0.3	18
Rail-								
Intraregional	..	..	..	..	..	..	-	-
Interregional	0.3	0.2	1.6	0.9	1.1	..	..	4.1
Sea-								
Interregional	..	..	..	..	..	0.3	..	0.3
TOTAL	3.7	12	6.4	3.7	3.0	1.2	0.4	30

TABLE 2.29 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF VEGETABLES BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
State total	160	63	2.4
From Vic -			
330 Melbourne	160	69	3.1
333 Central Highlands	72	30	1.4
337 Goulburn	53	17	0.8
340 Central Gippsland	43	19	0.9
Other regions	150	57	2.8
Total Vic	480	190	9.0
From Qld -			
441 Moreton	91	38	2.0
Other regions	67	84	3.3
Total Qld	160	120	5.3
From SA -			
560 Adelaide	71	73	2.0
Other regions	89	29	1.0
Total SA	160	100	3.1
From WA -			
681 South West	56	15	0.5
Other regions	36	40	1.5
Total WA	92	55	2.0
From Tas -			
State total	39	18	0.5
From NT -			
State total	6	9	0.3
AUSTRALIA	1 100	560	23

TABLE 2.29 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF VEGETABLES BY ALL TRANSPORT MODES, 1975-76

STATES AND MAJOR REGIONS OF DESTINATION	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
To NSW -			
201 Sydney	240	240	7.8
205 Wollongong	17	1	0.1
128 Canberra-Queanbeyan	17	14	0.4
Other regions	52	24	1.1
Total NSW	330	280	9.3
To Vic -			
330 Melbourne	280	71	4.1
337 Goulburn	50	10	0.7
331 Barwon	12	1	0.1
Other regions	69	21	1.0
Total Vic	410	100	5.8
To Qld -			
440 Brisbane	98	59	2.4
Other regions	23	24	0.9
Total Qld	120	83	3.3
To SA -			
560 Adelaide	93	26	1.0
Other regions	18	6	0.2
Total SA	110	32	1.3
To WA -			
680 Perth	71	30	0.9
Other regions	18	12	0.9
Total WA	89	41	1.8
To Tas -			
790 Hobart	12	3	0.1
Other regions	4	-	-
Total Tas	16	3	0.2
To NT -			
State total	14	21	1.0
AUSTRALIA	1 100	560	23

WOOL (Tables 2.30 and 2.31)

Shorn wool production in Australia in 1975-76 was 4.6 million bales, or 677 000 tonnes. Some wool is sold to buyers at the farm but most is sent to selling centres located at Sydney, Newcastle, Goulburn and Albury in NSW, Melbourne, Geelong, Ballarat and Portland in Vic, Brisbane in Qld, Adelaide in SA, Perth and Albany in WA, and Hobart and Launceston in Tas. Wool that is sold is sent from the selling centres either for export or for local consumption.

In the Australian wool industry there are large inventories of wool which are held in store by the Australian Wool Corporation and the wool selling brokers. Thus, the wool that was sold in 1975-76 included some wool, possibly of the order of 10 per cent, which was shorn in earlier years. Similarly, some wool shorn in 1975-76 (but not sold in that year) would have been re-offered for sale in later years.

New South Wales was the principal wool-producing State with 220 000 tonnes, followed by WA with 170 000 tonnes, Vic with 110 000 tonnes, SA 100 000 tonnes, Qld 60 000 tonnes and Tas 18 000 tonnes. In 1975-76, exports of wool totalled 581 000 tonnes, consumption by Australian mills totalled 76 000 tonnes, and the net addition to stocks of unsold wool were 20 000 tonnes.

Transport of wool in 1975-76 involved movement of 1.2 million tonnes with the share by States being in proportion to the production in each State. Road movements amounted to 0.7 million tonnes and rail movements to 0.5 million tonnes, nearly all of the rail total being interregional. Most of the interregional movements were destined for capital cities. Because of the longer distances over which wool was consigned by rail, the task measured in tonne km was greater for rail than for road (170 million and 150 million tonne km respectively). In all, 320 million tonne km were performed. The total freight charges for moving this wool was $21 million, the road share being $12 million.

TABLE 2.30 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF WOOL WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	87	47	37	21	120	8	..	320
Interregional	150	64	23	76	54	12	..	380
Rail-								
Intraregional	..	2	..	..	7	..	..	9
Interregional	130	180	40	26	120	4	..	490
Sea-								
Interregional	..	2	..	..	..	8	..	10
TOTAL	370	290	100	120	300	32	..	1 200
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	4	1	3	1	6	-	..	16
Interregional	58	12	14	27	21	2	..	130
Rail-								
Intraregional	..	-	..	..	-	..	..	-
Interregional	50	35	23	11	51	1	..	170
Sea-								
Interregional	..	1	..	..	..	3	..	4
TOTAL	110	49	40	39	78	6	..	320
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	1.0	0.4	0.8	0.2	1.3	0.1	..	3.8
Interregional	3.7	1.0	1.0	1.4	1.2	0.2	..	8.5
Rail-								
Intraregional	..	-	..	..	0.1	..	..	0.1
Interregional	1.5	1.8	1.2	0.3	2.9	0.1	..	7.8
Sea-								
Interregional	..	0.1	..	..	..	0.6	..	0.6
TOTAL	6.2	3.2	3.0	2.0	5.6	0.9	..	21

TABLE 2.31 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF WOOL BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
220 Southern Tablelands	40	10	0.6
203 Newcastle	35	6	0.3
217 Lachlan	26	10	0.6
221 Central Murrumbidgee	21	7	0.4
Other regions	160	74	3.3
Total NSW	280	108	5.2
From Vic -			
331 Barwon	110	8	0.6
332 South Western	56	22	0.9
334 Wimmera	20	5	0.4
Other regions	58	13	0.9
Total Vic	240	47	2.9
From Qld -			
444 South West	24	12	0.8
446 Central West	21	6	0.8
Other regions	39	18	0.6
Total Qld	63	36	2.2
From SA -			
564 South East	23	9	0.4
Other regions	79	29	1.3
Total SA	100	38	1.7
From WA -			
684 Midlands	47	6	0.8
683 Upper Great Southern	39	10	0.8
682 Lower Great Southern	34	19	0.9
686 Central	28	14	0.7
Other regions	22	22	0.8
Total WA	170	72	4.1
From Tas -			
State total	24	6	0.8
AUSTRALIA	890	310	17

TABLE 2.31 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF WOOL BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	150	60	2.6
203 Newcastle	41	19	0.7
927 Albury/Wodonga	16	2	0.2
220 Southern Tablelands	13	4	0.2
Other regions	6	5	0.2
Total NSW	230	90	3.9
To Vic -			
330 Melbourne	260	67	4.0
331 Barwon	39	8	0.7
332 South Western	10	2	0.2
Total Vic	310	77	4.9
To Qld -			
440 Brisbane	64	35	2.2
To SA -			
560 Adelaide	96	36	1.7
To WA -			
680 Perth	170	67	3.9
Other regions	2	1	0.1
Total WA	170	68	4.0
To Tas -			
State total	18	3	0.3
AUSTRALIA	890	310	17

COTTON (Tables 2.32 and 2.33)

The Australian cotton industry is located in two States - NSW and Qld. In NSW, the crop is grown in the Namoi River valley near Wee Waa, and in the Macquarie River valley in the Trangie-Warren-Nevertire area. In Qld, cotton is grown at six locations. These are the St George area in the south west, Cecil Plains on the western edge of the Darling Downs, at Emerald in the Fitzroy Region, and the Lockyer, Dawson and Callide River valleys. Most crops are grown with irrigation.

Cotton gins are located at Wee Waa, Trangie and Warren in NSW, and at St George, Biloela and Cecil Plains in Qld. At the gins, after removing the cotton seed, the fibre (or lint cotton) is pressed into bales weighing about 225 kg. Cotton is transported from the gins entirely by road in Qld and mostly by road in NSW.

In 1975-76, 26 000 tonnes of lint cotton were produced by cotton gins, 20 000 tonnes were processed in Australia, 10 000 tonnes were exported, and cotton stocks were reduced by a net amount of 4000 tonnes.

The transport task involved in handling the Australian cotton crop in 1975-76 resulted in consignments totalling 30 000 tonnes, 26 000 tonnes of which were consigned by road and the remainder by rail. The total transport task amounted to 24 million km and the freight charges were $0.6 million.

TABLE 2.32 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF COTTON WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Interregional	17	..	9	..	..	..	..	26
Rail-								
Interregional	4	..	..	..	..	..	..	4
TOTAL	21	..	9	..	..	..	..	30
	TONNE KILOMETRES (Million)							
Road-								
Interregional	12	..	9	..	..	..	..	22
Rail-								
Interregional	2	..	..	..	..	..	..	2
TOTAL	15	..	9	..	..	..	..	24
	FREIGHT CHARGES ($ million)							
Road-								
Interregional	0.3	..	0.2	..	..	..	..	0.5
Rail-								
Interregional	0.1	..	..	..	..	..	..	0.1
TOTAL	0.4	..	0.2	..	..	..	..	0.6

TABLE 2.33 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF COTTON BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
212 North Central Slopes	14	10	0.2
Other regions	7	4	0.2
Total NSW	21	15	0.4
From Qld -			
State total	9	9	0.2
AUSTRALIA	30	24	0.6
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	17	10	0.3
Other regions	1	-	-
Total NSW	18	11	0.3
To Vic -			
State total	6	7	0.2
To Qld -			
440 Brisbane	3	1	-
To SA -			
560 Adelaide	3	5	0.1
AUSTRALIA	30	24	0.6

HAY (Tables 2.34 and 2.35)

Hay is used as means of transferring surplus spring pasture production to fill the autumn and winter feed gap. In 1975-76, hay was cut on 1.2 million ha in Australia and total production was 4.3 million tonnes. Most of this hay is used by the growers but there are some areas which produce surplus hay for sale. In 1975-76, sales of hay amounted to 450 000 tonnes, with Vic and NSW (150 000 and 130 000 tonnes respectively) being the largest hay-producing States.

In normal seasons the demand for hay comes mainly from the dairying, poultry and pig industries. Lesser quantities are used by the horse and stock feed industries. More hay moves in times of drought, but still not in very large quantities. In 1975-76, there was a severe drought in Vic, but instead of significant additional quantities of hay moving into Vic, large numbers of animals were transferred to other States.

Hay is generally moved by road, although rail is used to transport hay over the longer distances. In 1975-76, the total transport task for hay amounted to consignments of 450 000 tonnes, with 83 million tonne km performed and freight charges of $6.0 million. Road charges were $4.7 million.

TABLE 2.34 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF HAY WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	81	110	14	55	33	8	2	310
Interregional	34	18	12	4	15	..	..	83
Rail-								
Intraregional	..	..	3	..	..	..	..	3
Interregional	17	21	16	4	..	..	..	58
TOTAL	130	150	45	63	48	8	2	450
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	3	4	2	2	1	-	-	12
Interregional	10	2	12	1	2	..	..	27
Rail-								
Intraregional	..	..	1	..	..	..	..	1
Interregional	11	5	26	2	..	..	..	43
TOTAL	24	11	41	4	3	-	-	83
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	0.7	1.0	0.2	0.5	0.3	0.1	-	2.8
Interregional	0.8	0.3	0.6		0.3	..	..	1.9
Rail-								
Intraregional	..	..	-	..	..	..	..	-
Interregional	0.3	0.2	0.7	0.1	..	..	..	1.3
TOTAL	1.8	1.5	1.4	0.6	0.6	0.1	-	6.0

TABLE 2.35 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF HAY BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
217 Lachlan	15	6	0.4
221 Central Murrumbidgee	13	8	0.2
Other regions	23	7	0.5
Total NSW	51	21	1.1
From Vic -			
336 Loddon-Campaspe	14	2	0.1
337 Goulburn	9	2	0.1
Other regions	16	3	0.2
Total Vic	39	7	0.5
From Qld -			
443 Darling Downs	9	13	0.4
Other regions	19	25	0.9
Total Qld	28	38	1.2
From SA -			
State total	8	2	0.1
From WA -			
684 Midlands	10	1	0.2
Other regions	5	1	0.1
Total WA	15	2	0.3
AUSTRALIA	140	71	3.2

TABLE 2.35 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF HAY BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	24	9	0.5
Other regions	21	10	0.5
Total NSW	45	19	1.0
To Vic -			
330 Melbourne	29	4	0.3
Other regions	13	3	0.2
Total Vic	42	7	0.5
To Old -			
State total	29	40	1.3
To SA -			
560 Adelaide	8	2	0.1
To WA -			
680 Perth	17	3	0.3
AUSTRALIA	140	71	3.2

EGGS (Tables 2.36 and 2.37)

Egg production is mainly located close to the capital cities of each State because these population centres represent the principal markets. Other important specialised producing areas are near Tamworth (NSW) and in the Murray Lands of SA. Total Australian production of eggs in 1975-76 was 125 000 tonnes, of which approximately 98 000 tonnes were marketed in Australia and the remaining 27 000 tonnes exported. Within Australia, 91 per cent of egg production was marketed in shell form and 9 per cent in pulped form.

All transport of eggs is undertaken by road. In 1975-76, the total transport task involved transport within regions of 100 000 tonnes and consignments between regions of 62 000 tonnes. The tonne km task amounted to 21 million, with 17 million being in respect of the interregional task. Total freight charges amounted to $2.2 million.

TABLE 2.36 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF EGGS WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	39	30	7	12	11	3	1	100
Interregional	31	8	12	9	2	..	..	62
TOTAL	70	38	19	21	13	3	1	170
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	1	1	-	1	1	-	-	4
Interregional	9	1	4	2	1	..	..	17
TOTAL	11	2	4	2	1	-	-	21
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	0.3	0.2	0.1	0.1	0.1	-	-	0.7
Interregional	0.5	0.2	0.5	0.2	0.1	..	..	1.4
TOTAL	0.8	0.4	0.6	0.3	0.2	-	-	2.2

TABLE 2.37 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF EGGS BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
211 Northern Slopes	12	6	0.3
Other regions	19	4	0.3
Total NSW	31	9	0.5
From Vic -			
State total	8	1	0.2
From Qld -			
443 Darling Downs	6	3	0.3
Other regions	6	1	0.2
Total Qld	12	4	0.5
From SA -			
State total	9	2	0.2
From WA -			
State total	2	1	0.1
AUSTRALIA	62	17	1.4
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	20	7	0.4
Other regions	11	3	0.2
Total NSW	31	9	0.5
To Vic -			
State total	8	1	0.2
To Qld -			
440 Brisbane	9	1	0.2
Other regions	3	2	0.3
Total Qld	12	4	0.5
To SA -			
560 Adelaide	9	2	0.2
To WA -			
State total	2	1	0.1
AUSTRALIA	62	17	1.4

MEAT (Tables 2.38 and 2.39)

In this study, meat is taken to include beef, lamb and mutton in the form of carcass and cuts (bone-in and boneless), plus non-processed edible offals. Pig and poultry meats are excluded. Approximately 90 per cent of total slaughtering capacity for both sheep and cattle is provided by the large abattoirs holding export licences. At 30 June 1976, there were 105 export abattoirs in Australia, with 28 located in metropolitan areas and 77 in the country.

Meat production in 1975-76 was 2.1 million tonnes. Production in NSW was 0.7 million tonnes, followed by Vic with 0.6 million tonnes and Qld with 0.4 million tonnes.

Chilled meat is mostly in carcass form and is destined for the fresh meat trade or for boning-out prior to packaging. Meat which has been boned-out at the site of production is generally packaged and frozen before transport to its destination. Containerisation has led to the accumulation and final packaging of meat in larger parcels for transport.

Total meat consignments in 1975-76 were 2.4 million tonnes, 1.4 million tonnes within regions (being mostly the production from abattoirs located at coastal centres) and the remainder between regions (usually where the abattoirs were located in the country). Twice as much meat was moved by road than by rail between regions (0.6 million and 0.3 million tonnes respectively), and 25 000 tonnes of meat were brought by sea from Tasmania for overseas export through Melbourne. Interregional movements of meat were predominantly to the mainland capital cities.

The transport task totalled 490 million tonne km, 30 million of which was for movements within regions and 460 million for movements between regions. The shares of the interregional transport task by road and rail were approximately equal (220 million and 230 million respectively). The total freight charges for meat transport were $26 million.

TABLE 2.38 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF MEAT WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	470	460	80	82	80	51	9	1 200
Interregional	320	45	230	18	21	3	..	640
Rail-								
Intraregional	55	82	..	5	54	..	..	200
Interregional	150	50	43	19	43	..	..	300
Sea-								
Interregional	..	..	..	..	..	25	..	25
TOTAL	990	630	350	120	200	79	9	2 400
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	7	5	4	3	2	1	-	24
Interregional	120	10	73	6	7	1	..	220
Rail-								
Intraregional	1	1	..	-	2	..	..	4
Interregional	86	25	45	22	52	..	..	230
Sea-								
Interregional	..	..	..	..	..	13	..	13
TOTAL	210	42	120	31	63	15	-	490
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	0.6	0.5	0.4	0.3	0.2	0.2	-	2.2
Interregional	8.4	0.6	5.1	0.3	0.4	-	..	15
Rail-								
Intraregional	0.1	0.1	..	-	-	..	..	0.3
Interregional	3.1	1.0	1.8	0.6	1.5	..	..	8.0
Sea-								
Interregional	..	..	..	..	..	0.3	..	0.3
TOTAL	12	2.2	7.3	1.2	2.3	0.5	-	26

TABLE 2.39 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF MEAT BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
210 Northern Tablelands	52	28	1.8
211 Northern Slopes	52	25	1.5
221 Central Murrumbidgee	40	20	1.2
213 Central Macquarie	39	18	1.1
216 Central Tablelands	38	10	0.7
207 Richmond-Tweed	32	25	0.9
217 Lachlan	28	11	0.7
203 Newcastle	26	4	0.3
Other regions	160	67	3.4
Total NSW	470	210	11
From Vic -			
332 South Western	36	12	0.6
Other regions	59	23	1.0
Total Vic	95	35	1.6
From Qld -			
441 Moreton	140	19	1.2
443 Darling Downs	34	8	0.5
445 Fitzroy	32	24	1.6
Other regions	68	68	3.5
Total Qld	270	120	6.9
From SA -			
State total	37	28	0.9
From WA -			
681 South West	27	8	0.3
Other regions	37	51	1.7
Total WA	64	59	2.0
From Tas -			
State total	28	13	0.3
AUSTRALIA	970	460	23

TABLE 2.39 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF MEAT BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	390	170	9.3
Other regions	27	8	0.4
Total NSW	410	180	9.7
To Vic -			
330 Melbourne	130	92	3.1
Other regions	22	5	0.3
Total Vic	160	97	3.4
To Qld -			
440 Brisbane	310	140	8.1
Other regions	5	3	0.2
Total Qld	320	140	8.3
To SA -			
State total	23	7	0.4
To WA -			
680 Perth	57	30	1.4
To Tas -			
State total	3	1	
AUSTRALIA	970	460	23

RAW SUGAR (Tables 2.40 and 2.41)

In the 1975 crushing season, the 33 Australian crushing mills processed 22 million tonnes of cane to produce 2.9 million tonnes of raw sugar. Thirty of these mills are located in Qld and 3 in NSW. Queensland's share of raw sugar production in 1975-76 was 2.8 million tonnes.

Raw sugar from the crushing mills in Qld was sent by land transport to the refineries located in Brisbane and Bundaberg, or to coastal sugar terminals to await shipment either overseas or to refineries in other mainland State capital cities. These coastal storages are located at Cairns, Mourilyan, Lucinda, Townsville, Mackay and Bundaberg, and together they have capacity for 1.5 million tonnes of raw sugar. In NSW, production from the Tweed River is sent to Brisbane by road while production from the Richmond and Clarence Rivers is shipped to Sydney.

Consignments of raw sugar in 1975-76 amounted to 3.6 million tonnes, 2.9 million tonnes of which was intraregional. Raw sugar differs from all other Australian products in that nearly all of the interregional movements were by sea. All interregional destinations were State capital cities.

The task of transporting raw sugar within regions amounted to 120 million tonne km while the corresponding task accomplished between regions (nearly all by sea) totalled 1700 million tonne km. Total freight charges were $17 million, the greater part ($10 million) being for sea transport.

TABLE 2.40 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF RAW SUGAR WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	..	..	1 400	..	..	..	..	1 400
Interregional	42	..	..	..	..	..	..	42
Rail-								
Intraregional	..	..	1 500	..	..	..	..	1 500
Sea-								
Interregional	61	..	640	..	..	..	..	700
TOTAL	100	..	3 500	..	..	..	..	3 600
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	..	..	44	..	..	..	..	44
Interregional	5	..	..	..	..	..	..	5
Rail-								
Intraregional	..	..	75	..	..	..	..	75
Sea-								
Interregional	36	..	1 700	..	..	..	..	1 700
TOTAL	42	..	1 800	..	..	..	..	1 900
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	..	..	2.7	..	..	..	..	2.7
Interregional	0.3	..	..	..	..	..	..	0.3
Rail-								
Intraregional	..	..	3.9	..	..	..	..	3.9
Sea-								
Interregional	1.6	..	8.0	..	..	..	..	9.6
TOTAL	1.9	..	15	..	..	..	..	17

TABLE 2.41 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF RAW SUGAR BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
207 Richmond-Tweed	72	24	1.1
208 Clarence	31	17	0.8
Total NSW	100	42	1.9
From Qld -			
447 Mackay	320	1 000	4.8
448 Northern	240	610	3.1
Other regions	76	60	0.1
Total Qld	640	1 700	8.0
AUSTRALIA	740	1 700	9.9
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	310	480	4.0
To Vic -			
330 Melbourne	280	770	3.3
To Qld -			
440 Brisbane	42	5	0.3
To SA -			
560 Adelaide	68	250	1.5
To WA -			
680 Perth	40	230	0.9
AUSTRALIA	740	1 700	9.9

FLOUR (Tables 2.42 and 2.43)

Flour mills are located in all Australian States and 66 were in operation in 1975-76. Production of flour totalled 1.1 million tonnes, of which 0.4 million tonnes were produced in NSW, 0.3 million tonnes in Vic and 0.2 million tonnes in Qld.

Wheat destined for mainland mills is generally received by rail from rail silos located in the wheat producing areas. Because of local characteristics of wheat produced in various parts of a State, it is usual for mills to receive wheat from various parts in order to produce flour of a standard blend. Flour is despatched from mills by both road and rail. All wheat destined for the Hobart, Launceston and Devonport mills in Tas is brought in by ship from mainland ports.

In 1975-76, some 1.6 million tonnes of flour were consigned from mills, of which 1.1 million tonnes was intraregional. Of the consignments between regions, 0.4 million tonnes were carried by rail and 0.1 million tonnes by road. The total transport task was 26 million tonne km for the intraregional movements and 180 million for the interregional movements. The rail share of the interregional task was five times that for road. Total freight charges for moving flour were $12 million, with the amounts for interregional and intraregional movements being equal.

TABLE 2.42 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF FLOUR WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	400	260	160	130	54	23	..	1 000
Interregional	38	26	2	26	4	6	..	100
Rail-								
Intraregional	..	44	3	..	32	..	..	79
Interregional	160	77	57	45	15	..	..	350
TOTAL	590	410	220	200	110	29	..	1 600
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	6	5	6	4	2	1	..	23
Interregional	8	3	1	8	9	1	..	29
Rail-								
Intraregional	..	1	-	..	1	..	..	3
Interregional	75	19	42	9	6	..	..	150
TOTAL	88	28	48	21	19	1	..	210
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	1.7	1.2	1.2	0.9	0.4	0.2	..	5.7
Interregional	0.4	0.2	0.2	0.3	0.6	-	..	1.7
Rail-								
Intraregional	..	0.2	-	..	0.1	..	..	0.4
Interregional	2.1	0.8	0.6	0.3	0.1	..	..	4.0
TOTAL	4.2	2.4	2.1	1.5	1.4	0.2	..	12

TABLE 2.43 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF FLOUR BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
221 Central Murrumbidgee	35	14	0.5
201 Sydney	32	12	0.4
212 North Central Slopes	28	17	0.4
217 Lachlan	27	12	0.3
227 Albury-Wodonga	27	9	0.3
Other regions	48	18	0.6
Total NSW	200	82	2.5
From Vic -			
333 Central Highlands	46	7	0.4
336 Loddon-Campaspe	36	9	0.4
Other regions	21	5	0.2
Total Vic	100	22	1.0
From Qld -			
443 Darling Downs	48	33	0.6
Other regions	11	9	0.2
Total Qld	59	42	0.8
From SA -			
561 Outer Adelaide	64	10	0.4
Other regions	7	7	0.1
Total SA	71	17	0.5
From WA -			
State total	19	15	0.8
From Tas -			
State total	6	1	-
AUSTRALIA	460	180	5.7

TABLE 2.43 (CONT) - ESTIMATES OF INTERREGIONAL MOVEMENTS OF FLOUR BY ALL TRANSPORT MODES, 1975-76

STATES AND MAJOR REGIONS OF DESTINATION	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
To NSW -			
201 Sydney	68	31	0.8
203 Newcastle	13	4	0.1
128 Canberra-Queanbeyan	13	5	0.2
205 Wollongong	12	2	0.1
Other regions	45	21	0.7
Total NSW	150	61	2.0
To Vic -			
330 Melbourne	98	25	1.1
331 Barwon	13	1	0.1
332 South Western	11	6	0.2
Other regions	33	9	0.4
Total Vic	160	42	1.7
To Qld -			
441 Moreton	15	2	0.1
440 Brisbane	13	9	0.2
Other regions	29	30	0.4
Total Qld	57	42	0.6
To SA -			
560 Adelaide	48	7	0.3
Other regions	17	6	0.1
Total SA	65	12	0.4
To WA -			
State total	20	20	0.8
To Tas -			
State total	6	1	-
To NT -			
State total	1	2	-
AUSTRALIA	460	180	5.7

HIDES AND SKINS (Tables 2.44 and 2.45)

Production of hides and skins occurs at killing works located throughout the country, with the major centres being the export-licensed abattoirs. In 1975-76, 198 000 tonnes of hides and 97 000 tonnes of skins were produced. New South Wales, Qld and Vic produced 86 per cent of hides, and NSW and Vic dominated the production of skins.

Hides and skins can be transported by packing into crates, pressing into bales or placement in containers. Movements include dried unprocessed hides and skins as well as the processed products. The extent of drying undertaken before movement influences the weight of the loadings.

In 1975-76, 0.3 million tonne of hides and skins were transported, two-thirds of which was interregional, mostly by road. Nearly all of the 150 million tonne km performed were interregional with road contributing 84 million, rail 64 million and sea (all from Tas), 4 million. The task of transporting Qld hides and skins was greater than for any other State because the inland location of many abattoirs required long hauls to seaboard centres. Total freight charges were $6.1 million of which road transport's share was $5.1 million.

TABLE 2.44 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF HIDES AND SKINS WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	18	43	3	7	22	8	..	100
Interregional	74	16	64	9	6	..	..	170
Rail-								
Interregional	5	..	17	7	10	..	..	39
Sea-								
Interregional	..	..	..	..	..	6	..	6
TOTAL	97	59	84	23	38	14	..	320
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	-	1	-	-	-	-	..	2
Interregional	36	3	37	5	2	..	..	82
Rail-								
Interregional	3	..	32	6	22	..	..	64
Sea-								
Interregional	..	..	..	..	..	4	..	4
TOTAL	40	4	69	11	24	4	..	150
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	0.1	0.2	-	-	0.1	-	..	0.5
Interregional	1.8	0.3	2.2	0.2	0.1	..	..	4.6
Rail-								
Interregional	0.1	..	0.4	0.1	0.4	..	..	0.9
Sea-								
Interregional	..	..	..	..	..	0.1	..	0.1
TOTAL	1.9	0.5	2.6	0.3	0.6	0.1	..	6.1

TABLE 2.45 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF HIDES AND SKINS BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
State total	79	39	1.9
From Vic -			
State total	16	3	0.3
From Qld -			
441 Moreton	29	3	0.4
440 Brisbane	21	39	0.7
Other regions	31	28	1.5
Total Qld	81	69	2.6
From SA -			
560 Adelaide	9	8	0.2
Other regions	7	3	0.2
Total SA	16	11	0.3
From WA -			
State total	16	24	0.5
From Tas -			
State total	6	4	0.1
AUSTRALIA	210	150	5.7
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	64	33	1.5
To Vic -			
330 Melbourne	72	82	2.0
To Qld -			
440 Brisbane	63	31	1.9
To SA -			
560 Adelaide	5	2	0.1
To WA -			
680 Perth	10	3	0.2
AUSTRALIA	210	150	5.7

MILLED RICE (Tables 2.46 and 2.47)

Rice mills in Australia are located at Leeton, Griffith, Yenda, Coleambally and Deniliquin in NSW, at Echuca in Vic, and at Home Hill in Qld. Rice is usually harvested in the autumn and delivered straight to the nearest storage depot. Most of the 1975-76 crop would have been milled in 1976-77 and thus the milled rice produced in 1975-76 does not necessarily relate to the paddy rice grown in that year.

In 1975-76, some 260 000 tonnes of milled rice were consigned, all to interregional destinations which were Sydney, Melbourne and the ports of Geelong and Portland. Some 220 000 tonnes were consigned by rail. The total transport task performed was 110 million tonne km, 97 million of which was by rail. Total freight charges were $2.9 million, with $2.5 million being for rail transport.

TABLE 2.46 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF MILLED RICE WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000)							
Road-								
Intraregional	..	..	(a)	..	..	..	..	(b)
Interregional	36	..	..	..	..	..	..	36
Rail-								
Interregional	150	74	..	..	..	..	..	220
TOTAL	180	74	(a)	..	..	..	..	(b) 260
	TONNE KILOMETRES (Million)							
Road-								
Intraregional	..	..	(a)	..	..	..	..	(b)
Interregional	12	..	..	..	..	..	..	12
Rail-								
Interregional	77	20	..	..	..	..	..	97
TOTAL	90	20	(a)	..	..	..	..	(b) 110
	FREIGHT CHARGES ($ million)							
Road-								
Intraregional	..	..	(a)	..	..	..	..	(b)
Interregional	0.4	..	..	..	..	..	..	0.4
Rail-								
Interregional	1.9	0.6	..	..	..	..	..	2.5
TOTAL	2.3	0.6	(a)	..	..	..	..	(b)2.9

(a) The task of moving approximately 3000 tonnes of milled rice is recorded with movements of paddy rice.
(b) Excluding Queensland.

TABLE 2.47 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF MILLED RICE BY ALL TRANSPORT MODES, 1975-76

	Tonnes ('000)	Tonne kilometres (Million)	Freight charges ($ million)
STATES AND MAJOR REGIONS OF ORIGIN			
From NSW -			
224 Central Murray	98	36	1.0
222 Lower Murrumbidgee	83	54	1.3
Total NSW	180	90	2.3
From Vic -			
336 Loddon-Campaspe	74	20	0.6
AUSTRALIA	260	110	2.9
STATES AND MAJOR REGIONS OF DESTINATION			
To NSW -			
201 Sydney	83	54	1.3
To Vic -			
330 Melbourne	81	22	0.7
331 Barwon	71	23	0.7
332 South Western	20	10	0.2
Total Vic	170	55	1.6
AUSTRALIA	260	110	2.9

CHAPTER 3 - THE OVERALL AUSTRALIAN TRANSPORT TASK FOR RURAL PRODUCTS

The previous Chapter considered the transport task which was involved in moving each of the 24 principal rural products covered in this study in 1975-76. This Chapter considers the overall task that resulted from the movement of all of the products combined.

TOTAL MOVEMENTS

The task of moving Australia's farm produce within the country in 1975-76 was quite significant. The aggregate totals for all of the 24 products combined amounted to 85 million tonnes consigned and involved the performance of 12 000 million tonne km. Total freight charges were $520 million. It is estimated that rural products accounted for about one-quarter of all long-distance freight movements in Australia in 1975-76 based on a comparison of figures from this study and a previously published BTE Information Bulletin (BTE 1978) (Table 3.1).

In terms of the total task, wheat was by far the most significant individual rural product transported, representing 27 to 28 per cent of total tonnes consigned, tonne km and freight charges. Cattle, perhaps the next most significant product if judged solely in terms of freight charges paid, made up 8 per cent of total tonnes consigned, 14 per cent of total tonne km, and 12 per cent of total freight charges.

In terms of tonnes consigned and tonne km, other products besides wheat were more significant than cattle. Sugar cane accounted for 25 per cent of total tonnes consigned but, as these movements tended to be over relatively short distances, this product contributed only 3 per cent of total tonne km and 5 per cent of total freight charges paid. In contrast, the task of shipping raw sugar around the coast from Qld ports to places as far away as Fremantle required hauls over long distances, with the result that raw sugar tonne km were 15 per cent of total tonne km. However, raw sugar accounted for only 4 per cent of total tonnes consigned and only 3 per cent of total freight charges.

TABLE 3.1 - ESTIMATES OF TOTAL MOVEMENTS OF PRINCIPAL RURAL PRODUCTS WITHIN AUSTRALIA, 1975-76

Product	Tonnes consigned		Tonne kilometres		Freight charges	
	'000	Per cent	Million	Per cent	$ million	Per cent
FARM PRODUCTS						
Sheep	3 000	4	550	5	29	6
Cattle	7 000	8	1 700	14	64	12
Pigs	300	..	56	..	2.4	..
Sugar cane	21 000	25	440	3	24	5
Wheat	23 000	28	3 300	27	150	28
Barley	5 600	7	770	6	31	6
Oats	1 100	1	180	2	7.5	1
Sorghum	2 000	2	360	3	15	3
Maize	160	..	45	..	1.4	..
Oilseeds	290	..	67	1	2.8	1
Paddy rice	840	1	23	..	1.9	..
Milk	6 400	8	400	3	48	9
Apples	300	..	110	1	4.1	1
Other fruit	1 500	2	510	4	20	4
Vegetables	2000	2	580	5	30	6
Wool	1 200	1	320	3	21	4
Cotton	30	..	24	..	0.6	..
Hay	450	1	83	1	6.0	1
Eggs	170	..	21	..	2.2	..
TOTAL	77 000	91	9 500	77	460	88
FACTORY PRODUCTS						
Meat	2 400	3	490	4	26	5
Raw sugar	3 600	4	1 900	15	17	3
Flour	1 600	2	210	2	12	2
Hides & skins	320	..	150	1	6.1	1
Milled rice	260	..	110	1	2.9	1
TOTAL	8 100	9	2 800	23	63	12
ALL PRINCIPAL RURAL PRODUCTS						
TOTAL	85 000	100	12 000	100	520	100

The 17 products which were despatched from farms involved a transport task in 1975-76 which included 77 million tonnes consigned and the performance of 9500 million tonne km. The associated freight charges were $460 million. The seven ex-factory rural products studied had consignments totalling 8.1 million tonnes and a performance task of 2800 million tonne km. Freight charges for carrying the ex-factory rural products amounted to $63 million.

INTRAREGIONAL AND INTERREGIONAL MOVEMENTS

Details of the intraregional and interregional transport tasks carried out in 1975-76 for each of the principal rural products are set out in Table 3.2.

For all principal rural products studied, the intraregional task measured in tonnes consigned (60 million) was 71 per cent of the total, but in terms of tonnes km performed (2200 million) the intraregional movements made up only 18 per cent of the total for all 24 rural products. As short haul movements are more costly per tonne km than longer haul movements (because loading and unloading charges are the same irrespective of distance), the freight charges for intraregional movements ($190 million) represented 37 per cent of the total freight charges.

In terms of all tonnes consigned within regions, the products in order of significance were sugar cane (21 million tonnes or 35 per cent), wheat (15 million tonnes or 25 per cent), milk (5 million tonnes), cattle (4 million tonnes) and barley (3.5 million tonnes). There was an alteration in this ranking of products when considered in terms of intraregional tonne km, as follows: wheat (730 million tonne km or 33 per cent), sugar cane (440 million tonne km or 20 per cent), barley (190 million tonne km), cattle (180 million tonne km) and milk (150 million tonne km). A ranking of these same products in terms of intraregional freight charges shows: wheat ($64 million or 34 per cent), milk ($35 million or 18 per cent), sugar cane ($24 million), barley ($13 million) and cattle ($9.9 million).

The interregional transport task for all principal rural products in 1975-76 made up 29 per cent of total tonnes consigned but, because interregional consignments moved much further than intraregional consignments, they made up 83 per cent of total tonne km and 63 per cent of total freight charges. In

TABLE 3.2 - ESTIMATES OF MOVEMENTS OF PRINCIPAL RURAL PRODUCTS WITHIN AUSTRALIA, 1975-76

Product	Tonnes consigned ('000)		Tonne kilometres (Million)		Freight charges ($ million)	
	Intra-regional	Inter-regional	Intra-regional	Inter-regional	Intra-regional	Inter-regional
FARM PRODUCTS						
Sheep	1 600	1 400	79	470	4.4	25
Cattle	4 000	2 900	180	1 400	9.9	54
Pigs	180	120	7	48	0.3	2.0
Sugar cane	21 000	..	440	..	24	..
Wheat	15 000	9 000	730	2 600	64	82
Barley	3 500	2 100	190	580	13	19
Oats	610	500	30	150	2.6	4.8
Sorghum	1 100	940	95	260	5.7	9.6
Maize	81	74	4	42	0.3	1.1
Oilseeds	150	140	11	55	0.9	1.8
Paddy rice	740	110	16	7	1.6	0.3
Milk	5 000	1 400	150	250	35	13
Apples	82	220	2	100	0.3	3.8
Other fruit	640	850	14	490	2.2	18
Vegetables	870	1 100	19	560	7.3	23
Wool	330	890	16	310	3.9	17
Cotton	..	30	..	24	..	0.6
Hay	310	140	13	71	2.8	3.1
Eggs	100	62	4	17	0.7	1.4
TOTAL	55 000	22 000	2 000	7 500	180	280
FACTORY PRODUCTS						
Meat	1 400	970	27	460	2.5	23
Raw sugar	2 800	740	120	1 700	6.6	9.9
Flour	1 100	460	26	180	6.0	5.7
Hides & skins	100	210	2	150	0.5	5.7
Milled rice	..	260	..	110	..	2.9
TOTAL	5 500	2 600	170	2 600	16	47
ALL PRINCIPAL RURAL PRODUCTS						
TOTAL	60 000	25 000	2 200	10 000	190	330

terms of all of the measures considered, wheat, undoubtedly, was the most significant product transported between regions in Australia, accounting for 36 per cent of total tonnes consigned, 26 per cent of total tonne km, and 25 per cent of total freight charges. In terms of tonnes consigned and freight charges, the next most significant rural product transported between regions in 1975-76 was cattle, with 11 per cent of total consignments, and 16 per cent of total freight charges.

STATE SHARES

Summary details of the State shares of the intraregional, interregional and total transport tasks for all of the 24 rural products combined are set out in Table 3.3.

With regard to total consignments by State of consignment, Qld was the State which recorded the most tonnes consigned and tonne km (31 million and 4000 million respectively). The Qld share was 36 per cent of the total tonnes consigned, 33 per cent of total tonne km, and 23 per cent of total freight charges. New South Wales, with 22 per cent of total tonnes consigned and 30 per cent of total tonne km, was the next most significant State in terms of transport activity. However, NSW freight charges, 29 per cent of the total, were the highest of any State.

A clearer picture of the transport task carried out in each State emerges when intraregional and interregional tasks are considered separately. For intraregional consignments, Qld was by far the most significant State with 27 million tonnes, or nearly half of the total intraregional consignments of 60 million tonnes. Queensland also recorded the most tonne km performed (820 million) and the largest freight bill ($54 million). For interregional movements of the principal rural products, NSW recorded the largest totals for each of these three variables (8.1 million tonnes, 3300 million tonne km and $110 million respectively).

The significance of individual products in the rural product transport tasks of the various States is set out below. The figures in brackets after the State name represent tonnes consigned, tonne km performed and the freight charges incurred, and refer to the size of the total rural product transport

TABLE 3.3 - ESTIMATES OF THE TASK OF TRANSPORTING ALL PRINCIPAL RURAL PRODUCTS(a) WITHIN AUSTRALIA, 1975-76

Type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000 tonnes)							
Intraregional	11 000	8 000	27 000	5 900	7 700	800	40	60 000
Interregional	8 100	5 500	4 000	2 200	4 500	310	43	25 000
All movements	19 000	13 000	31 000	8 100	12 000	1 100	83	85 000
	TONNE KILOMETRES (Million)							
Intraregional	370	210	820	310	450	13	7	2 200
Interregional	3 300	1 700	3 100	870	1 000	69	70	10 000
All movements	3 600	1 900	4 000	1 200	1 400	83	77	12 000
	FREIGHT CHARGES ($ million)							
Intraregional	39	36	54	22	39	3.4	0.4	190
Interregional	110	70	66	31	42	4.0	2.7	330
All movements	150	110	120	53	81	7.5	3.1	520

(a) See page 4 for a full list of the 24 principal rural products.

task for movements originating in the State concerned. Details of separate State figures for each of the 24 principal rural products are set out in Tables 3.4 to 3.6. Table 3.4 shows details of tonnes consigned, while Table 3.5 shows tonne km, and Table 3.6 shows freight charges.

New South Wales (19 million tonnes, 3600 million tonne km, $150 million)

By far the most significant rural product transported in NSW was wheat which accounted for 7.5 million tonnes consigned (39 per cent of the total), 1500 million tonne km (42 per cent of total) and freight charges of $56 million (37 per cent of total). Cattle made up 11 per cent of both tonnes consigned and tonne km (2 million tonnes and 410 million tonne km respectively) and 10 per cent of freight charges ($15 million).

Victoria (13 million tonnes, 1900 million tonne km, $110 million)

Wheat and milk were the two most significant products transported in Victoria in tonnage terms, and each contributed 3.3 million tonnes (25 per cent of the total). When the task is measured in tonne km, wheat accounted for 630 million (33 per cent of State total) and milk for 150 million (only 8 per cent of the total). Because milk is a perishable product, and therefore incurs higher freight charges per tonne km than grains, it recorded freight charges ($25 million) which were higher than for wheat ($23 million). Cattle contributed 2.2 million tonnes consigned (17 per cent of total), 410 million tonne km (22 per cent of total) and freight charges of $19 million (17 per cent of total).

Queensland (31 million tonnes, 4000 million tonne km, $120 million)

Sugar cane dominated Qld movements of rural products with 20 million tonnes, or 65 per cent of the State total. Raw sugar occupied a similar position in respect of tonne km (1800 million or 45 per cent). In terms of freight charges, sugar cane ($23 million) made up 19 per cent of the Qld total, while raw sugar and cattle each contributed 13 per cent ($15 million). Cattle accounted for 5 per cent of tonnes consigned and 12 per cent of tonne km performed.

TABLE 3.4 - ESTIMATES OF THE QUANTITIES OF PRINCIPAL RURAL PRODUCTS TRANSPORTED WITHIN AUSTRALIA, 1975-76

('000 tonnes)

Product	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
FARM PRODUCTS								
Sheep	910	690	100	400	810	64	..	3 000
Cattle	2 000	2 200	1 400	590	590	160	56	7 000
Pigs	95	71	48	43	35	7	1	300
Sugar cane	890	..	20 000	..	..	..	..	21 000
Wheat	7 500	3 300	1 500	3 200	8 000	2	..	23 000
Barley	860	930	750	2 200	860	23	..	5 600
Oats	200	310	25	94	480	..	..	1 100
Sorghum	620	..	1 400	..	..	..	..	2 000
Maize	50	3	100	..	..	..	..	160
Oilseeds	55	13	79	17	130	..	..	290
Paddy rice	830	..	11	..	..	..	..	840
Milk	1 400	3 300	640	370	240	450	..	6 400
Apples	55	63	25	20	62	79	..	300
Other fruit	450	290	290	390	51	11	2	1 500
Vegetables	350	660	340	250	200	150	12	2 000
Wool	370	290	100	120	300	32	..	1 200
Cotton	21	..	9	..	..	..	..	30
Hay	130	150	45	63	48	8	2	450
Eggs	70	38	19	21	13	3	1	170
TOTAL	17 000	12 000	27 000	7 700	12 000	990	74	77 000
FACTORY PRODUCTS								
Meat	990	630	350	120	200	79	9	2 400
Raw sugar	100	..	3 500	..	..	..	..	3 600
Flour	590	410	220	210	110	29	..	1 600
Hides & skins	97	59	84	23	38	14	..	320
Milled rice	180	74	..	..	..	..	..	260
TOTAL	2 000	1 200	4 100	350	340	120	9	8 100
ALL PRINCIPAL RURAL PRODUCTS								
TOTAL	19 000	13 000	31 000	8 100	12 000	1 100	83	85 000

TABLE 3.5 - ESTIMATES OF THE WORK DONE IN TRANSPORTING PRINCIPAL RURAL PRODUCTS WITHIN AUSTRALIA, 1975-76

(Million tonne kilometres)

Product	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
FARM PRODUCTS								
Sheep	170	87	53	120	120	5	..	550
Cattle	410	410	470	180	130	8	63	1 700
Pigs	18	8	9	16	5	-	-	56
Sugar cane	13	..	430	..	..	..	..	440
Wheat	1 500	630	150	230	730	-	..	3 300
Barley	230	160	74	210	83	3	..	770
Oats	59	60	3	19	44	..	..	180
Sorghum	140	..	220	..	..	..	..	360
Maize	18	-	26	..	..	..	..	45
Oilseeds	12	3	31	7	14	..	..	67
Paddy rice	22	..	-	..	..	..	..	23
Milk	140	150	48	36	20	8	..	400
Apples	17	14	18	14	31	12	..	110
Other fruit	160	44	150	130	18	2	3	510
Vegetables	67	200	120	100	57	19	11	580
Wool	110	49	40	39	78	6	..	320
Cotton	15		9	..	..	..	..	24
Hay	24	11	41	4	3	-	-	83
Eggs	11	2	4	2	1	-	-	21
TOTAL	3 200	1 800	1 900	1 100	1 300	63	77	9 500
FACTORY PRODUCTS								
Meat	210	42	120	31	63	15	-	490
Raw sugar	42	..	1 800	..	..	..	..	1 900
Flour	88	28	48	21	19	1	..	210
Hides & skins	40	4	69	11	24	4	..	150
Milled rice	90	20	..	..	..	..	..	110
TOTAL	470	94	2 100	62	110	20	-	2 800
ALL PRINCIPAL RURAL PRODUCTS								
TOTAL	3 600	1 900	4 000	1 200	1 400	83	77	12 000

TABLE 3.6 - ESTIMATES OF THE FREIGHT CHARGES PAID FOR TRANSPORTING PRINCIPAL RURAL PRODUCTS WITHIN AUSTPALIA, 1975-76

($ million)

Product	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
FARM PRODUCTS								
Sheep	10	5.1	2.3	5.6	5.8	0.6	..	29
Cattle	15	19	15	7.0	4.7	1.0	2.5	64
Pigs	0.7	0.4	0.4	0.7	0.2	-	-	2.4
Sugar cane	0.7	..	23	..	..	..	..	24
Wheat	56	23	9.6	13	44	-	..	150
Barley	7.7	5.9	4.7	8.7	4.4	0.1	..	31
Oats	1.9	2.2	0.2	0.7	2.5	..	..	7.5
Sorghum	4.8	..	11	..	..	..	..	15
Maize	0.5	-	0.8	..	..	..	..	1.4
Oilseeds	0.6	0.2	1.0	0.2	0.8	..	..	2.8
Paddy rice	1.8	..	-	..	..	..	..	1.9
Milk	8.4	25	7.3	2.9	2.7	2.0	..	48
Apples	0.7	0.7	0.7	0.5	1.0	0.6	..	4.1
Other fruit	5.8	3.1	6.2	4.1	0.8	0.1	0.1	20
Vegetables	3.7	12	6.4	3.7	3.0	1.2	0.4	30
Wool	6.2	3.2	3.0	2.0	5.6	0.9	..	21
Cotton	0.4	..	0.2	..	..	..	..	0.6
Hay	1.8	1.5	1.4	0.6	0.6	0.1	-	6.0
Eggs	0.8	0.4	0.6	0.3	0.2	-	-	2.2
TOTAL	130	100	93	50	76	6.7	3.1	460
FACTORY PRODUCTS								
Meat	12	2.2	7.3	1.2	2.3	0.5	-	26
Raw sugar	1.9	..	15	..	..	..	..	17
Flour	4.2	2.4	2.1	1.5	1.4	0.2	..	12
Hides & skins	1.9	0.5	2.6	0.3	0.6	0.1	..	6.1
Milled rice	2.3	0.6	..	..	..	..	..	2.9
TOTAL	22	5.7	27	3.0	4.3	0.8	-	63
ALL PRINCIPAL RURAL PRODUCTS								
TOTAL	150	110	120	53	81	7.5	3.1	520

South Australia (8.1 million tonnes, 1200 million tonne km, $53 million)

Grains were the most significant rural products transported in SA in tonnage terms. Wheat made up 40 per cent of total State consignments (3.2 million), 19 per cent of total tonne km (230 million) and 25 per cent of total freight charges ($13 million). Barley contributed 27 per cent of tonnes consigned (2.2 million), 18 per cent of total tonne km (210 million) and 16 per cent of total freight charges ($8.7 million).

Western Australia (12 million tonnes, 1400 million tonne km, $81 million)

Wheat dominated WA movements of the principal rural products with 67 per cent of total tonnes consigned (8 million), 52 per cent of total tonne km (730 million) and 54 per cent of freight charges ($44 million). Sheep and cattle were the next most significant rural products in tonnage terms, with values for all of these measures ranging between 5 and 9 per cent of the State total.

Tasmania (1.1 million tonnes, 83 million tonne km, $7.5 million)

Milk was the most significant Tasmanian rural product transported when measured in tonnes consigned and freight charges paid, the respective figures being 450 000 tonnes (41 per cent of State total) and $2.0 million (27 per cent of total). The task performed in milk cartage was 8 million tonne km. Vegetable consignments amounted to 150 000 tonnes (14 per cent of total) and involved the performance of 19 million tonne km (23 per cent of total); freight charges on vegetables were $1.2 million (16 per cent of total). Cattle consignments totalled 160 000 tonnes (15 per cent of total), the tonne km transport task was 8 million (10 per cent of total), and the freight charges were $1.0 million (13 per cent of total).

Northern Territory (83 000 tonnes, 77 million tonne km, $3.1 million)

Cattle movements dominated NT rural products transport, accounting for 67 per cent of total tonnes consigned (56 000), 82 per cent of tonne km performed (63 million) and 81 per cent of freight charges ($2.5 million).

MODAL SHARES

Summary details of State shares of the total principal rural product transport task by transport modes in 1975-76 are set out in Table 3.7.

Road transport carried 48 million tonnes of principal rural products in 1975-76, rail 37 million tonnes, and sea only 860 000 tonnes. However, because of the differences in average length of haul of the various modes, rail recorded 5900 million tonne km, road 4500 million tonne km and sea 1900 million tonne km. Total freight charges for rural products transported were road $310 million, rail $190 million, and sea $14 million.

Figures of their shares of the total Australian task show even more clearly the contributions of the various modes. Road contributed 56 per cent of total consignments, 38 per cent of total tonne km and 60 per cent of total freight charges. For rail the corresponding proportions were 44 per cent, 49 per cent and 37 per cent, and for sea, 1 per cent, 16 per cent and 3 per cent.

Some rearrangements of modal shares occur when consideration is given to the separate intraregional and interregional tasks. Road transport carried far more in terms of tonnes consigned than rail within regions (38 million compared to 23 million) but rail carried more tonnes between regions than road (14 million tonnes compared to 9.7 million tonnes). There were no recorded sea movements within regions (based on significance at the 1000 tonne level for 1975-76).

For all principal rural products, the average distance transported in 1975-76 was 140km (obtained by dividing tonne km by tonnes consigned). For intraregional movements the average distance was 36km and for interregional movements 410km. Road transport recorded an average haul distance of 35km for intraregional consignments and 330km for interregional consignments. Rail transport recorded average distances which were only slightly higher than those for road, namely, 38km for intraregional movements and 360km for interregional movements. A significant difference occurred in the case of sea transport, where the average haul distance was 2200km. This is in accord with its principal task of transporting raw sugar from Qld ports to refineries in other States.

TABLE 3.7 - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF ALL PRINCIPAL RURAL PRODUCTS(a) WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	TONNES CONSIGNED ('000 tonnes)							
Road -								
Intraregional	10 000	7 700	7 700	4 500	6 700	800	37	38 000
Interregional	3 100	2 600	1 400	1 400	960	220	32	9 700
Total	14 000	10 000	9 100	5 800	7 700	1 000	69	48 000
Rail -								
Intraregional	180	280	20 000	1 500	1 000	..	3	23 000
Interregional	4 900	2 900	1 900	730	3 500	15	11	14 000
Total	5 100	3 100	22 000	2 200	4 500	15	14	37 000
Sea -								
Interregional	74	38	640	38	..	75	..	860
TOTAL	19 000	13 000	31 000	8 100	12 000	1 100	83	85 000
	TONNE KILOMETRES (Million)							
Road -								
Intraregional	350	190	260	170	320	13	6	1 300
Interregional	1 000	680	630	480	270	24	50	3 200
Total	1 400	870	890	650	600	37	56	4 500
Rail -								
Intraregional	19	14	560	130	130	..	1	860
Interregional	2 200	1 000	810	330	730	3	20	5 100
Total	2 200	1 000	1 400	470	850	3	21	5 900
Sea -								
Interregional	50	23	1 700	52	..	42	..	1 900
TOTAL	3 600	1 900	4 000	1 200	1 400	83	77	12 000

(a) See page 4 for a full list of the 24 principal rural products.

TABLE 3.7 (CONT) - ESTIMATES OF THE TASK ASSOCIATED WITH THE TRANSPORT OF ALL PRINCIPAL RURAL PRODUCTS(a) WITHIN AUSTRALIA, 1975-76

Mode and type of movement	State of consignment							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
	FREIGHT CHARGES ($ million)							
Road -								
Intraregional	38	36	27	19	33	3.4	0.3	160
Interregional	49	39	30	20	14	2.3	2.2	160
Total	88	75	57	39	47	5.7	2.5	310
Rail -								
Intraregional	0.9	0.8	28	3.5	5.8	..	-	39
Interregional	59	31	27	8.7	28	0.2	0.6	150
Total	60	31	55	12	34	0.2	0.6	190
Sea -								
Interregional	2.1	0.7	8.0	1.6	..	1.6	..	14
TOTAL	150	110	120	53	81	7.5	3.1	520

(a) See page 4 for a full list of the 24 principal rural products.

On a State basis, the NT recorded the highest average transport distances because of its location in relation to southern markets and the large size of the two regions into which the NT was divided for the purposes of this study (see Map Fig. I.7). Average distances recorded for the transport of rural products in the NT were: road, intraregional 160km, interregional 1600km; rail, intraregional 330km, interregional 1800km. Other States recorded average distances closer to the average figures for Australia, with Qld having the highest average for interregional road movements (450km) and the lowest average for intraregional rail movements (28km)(1).

Details of the intraregional and interregional movements of each of the 24 principal rural products in 1975-76 carried by road, rail and sea transport are set out respectively in Tables 3.8, 3.9 and 3.10.

Road

Road transport recorded a tonnage figure for intraregional consignments which was nearly four times greater than for interregional consignments (38 million compared with 9.7 million). Wheat accounted for 13 million tonnes consigned or 34 per cent of the total tonnes consigned by road within regions. The next most significant products in tonnage terms were milk (5 million tonnes) and cattle (3.9 million tonnes). For interregional road tonnes consigned, 2.1 million tonnes (or 22 per cent of the total) were contributed by cattle. The next most significant rural products carried between regions by road were sheep (1.2 million tonnes) and milk (1.0 million tonnes).

Rail

Intraregional movements by rail were dominated by sugar cane with 18 million tonnes, or 78 per cent of total tonnes consigned. The next most significant products carried within regions were wheat (1.7 million tonnes) and raw sugar (1.5 million tonnes). Grains were the most significant products carried between regions by rail: wheat made up 8.3 million tonnes (or 59 per cent of the total) and barley 1.5 million tonnes (11 per cent).

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(1) Due mainly to sugar cane hauled short distances over cane tramways. These tramways exist only in Qld.

TABLE 3.8 - ESTIMATES OF MOVEMENTS OF PRINCIPAL RURAL PRODUCTS WITHIN AUSTRALIA BY ROAD TRANSPORT, 1975-76

Product	Tonnes consigned ('000)		Tonne kilometres (Million)		Freight charges ($ million)	
	Intra-regional	Inter-regional	Intra-regional	Inter-regional	Intra-regional	Inter-regional
FARM PRODUCTS						
Sheep	1 600	1 200	74	380	4.3	22
Cattle	3 900	2 100	160	870	9.1	38
Pigs	180	110	7	46	0.3	1.9
Sugar cane	3 400	..	54	..	3.5	..
Wheat	13 000	610	530	75	56	4.1
Barley	2 700	660	100	83	11	4.9
Oats	520	220	21	60	1.6	2.2
Sorghum	950	190	35	65	3.9	2.2
Maize	71	56	2	37	0.2	0.9
Oilseeds	100	120	6	46	0.7	1.6
Paddy rice	740	38	16	1	1.6	-
Milk	5 000	1 000	150	170	35	11
Apples	82	200	2	83	0.3	3.5
Other fruit	640	710	14	310	2.2	13
Vegetables	870	920	18	420	7.3	18
Wool	320	380	16	130	3.8	8.5
Cotton	..	26	..	22	..	0.5
Hay	310	83	12	27	2.8	1.9
Eggs	100	62	4	17	0.7	1.4
TOTAL	34 000	8 700	1 200	2 800	140	140
FACTORY PRODUCTS						
Meat	1 200	640	24	220	2.2	15
Raw sugar	1 400	42	44	5	2.7	0.3
Flour	1 000	100	23	29	5.7	1.7
Hides & skins	100	170	2	82	0.5	4.6
Milled rice	..	36	..	12	..	0.4
TOTAL	3 700	990	92	350	11	22
ALL PRINCIPAL RURAL PRODUCTS						
TOTAL	38 000	9 700	1 300	3 200	160	160

TABLE 3.9 - ESTIMATES OF MOVEMENTS OF PRINCIPAL RURAL PRODUCTS WITHIN AUSTRALIA BY RAIL TRANSPORT, 1975-76

Product	Tonnes consigned ('000)		Tonne kilometres (Million)		Freight charges ($ million)	
	Intra-regional	Inter-regional	Intra-regional	Inter-regional	Intra-regional	Inter-regional
FARM PRODUCTS						
Sheep	69	170	6	90	0.1	2.7
Cattle	140	840	24	630	0.8	16
Pigs	4	5	1	2	-	0.1
Sugar cane	18 000	..	390	..	20	..
Wheat	1 700	8 300	190	2 400	7.9	75
Barley	830	1 500	85	490	1.9	14
Oats	94	280	9	95	1.1	2.6
Sorghum	150	750	60	200	1.8	7.4
Maize	10	18	2	5	0.1	0.2
Oilseeds	45	25	5	9	0.3	0.2
Paddy rice	..	71	..	6	..	0.3
Milk	11	310	-	84	-	1.9
Apples	..	18	..	15	..	0.3
Other fruit	..	130	..	180	..	5.1
Vegetables	3	140	1	130	-	4.1
Wool	9	490	-	170	0.1	7.8
Cotton	..	4	..	2	..	0.1
Hay	3	58	1	43	-	1.3
Eggs	..	..	..	..	..	..
TOTAL	21 000	13 000	780	4 600	34	140
FACTORY PRODUCTS						
Meat	200	300	4	230	0.3	8.0
Raw sugar	1 500	..	75	..	3.9	..
Flour	79	350	3	150	0.4	4.0
Hides & skins	..	39	..	64	..	0.9
Milled rice	..	220	..	97	..	2.5
TOTAL	1 800	910	81	540	4.5	15
ALL PRINCIPAL RURAL PRODUCTS						
TOTAL	23 000	14 000	860	5 100	39	150

TABLE 3.10 - ESTIMATES OF MOVEMENTS OF PRINCIPAL RURAL PRODUCTS WITHIN AUSTRALIA BY SEA TRANSPORT, 1975-76

Product	Tonnes consigned ('000)		Tonne kilometres (Million)		Freight charges ($ million)	
	Intra-regional	Inter-regional	Intra-regional	Inter-regional	Intra-regional	Inter-regional
FARM PRODUCTS						
Sheep	..	2	..	1	..	0.1
Cattle	..	4	..	1	..	0.2
Pigs	..	..	..	..	..	..
Sugar cane	..	..	..	..	..	..
Wheat	..	77	..	84	..	2.6
Barley	..	..	..	..	..	..
Oats	..	..	..	..	..	..
Sorghum	..	..	..	..	..	..
Maize	..	..	..	..	..	..
Oilseeds	..	..	..	..	..	..
Paddy rice	..	..	..	..	..	..
Milk	..	..	..	..	..	..
Apples	..	7	..	7	..	0.1
Other fruit	..	10	..	4	..	0.1
Vegetables	..	23	..	14	..	0.3
Wool	..	10	..	4	..	0.6
Cotton	..	..	..	..	..	..
Hay	..	..	..	..	..	..
Eggs	..	..	..	..	..	..
TOTAL	..	130	..	120	..	4.0
FACTORY PRODUCTS						
Meat	..	25	..	13	..	0.3
Raw sugar	..	700	..	1 700	..	9.6
Flour	..	..	..	..	..	..
Hides & skins	..	6	..	4	..	0.1
Milled rice	..	..	..	..	..	..
TOTAL	..	730	..	1 700	..	10
ALL PRINCIPAL RURAL PRODUCTS						
TOTAL	..	860	..	1 900	..	14

Sea

Raw sugar shipments made up 700 000 tonnes, or 81 per cent of total tonnes of rural products consigned by sea. The only other products carried by sea were those which moved across Bass Strait. When the transport task is measured in tonne km, the raw sugar share rises to 89 per cent of the total. The freight charge for shipping raw sugar was $9.6 million.

INTERREGIONAL MOVEMENTS BY STATES OF ORIGIN AND DESTINATION

The quantities of each of the 24 principal rural products covered in this study which originated in each State and which were consigned between regions in 1975-76 are shown in Table 3.11. Corresponding figures for the quantities of the same interregional movements according to States of destination are set out in Table 3.12. It should be noted that a comparison of the figures in the two tables reveals only the net movement either into or out of a particular State.

In terms of rural products, NSW generated more interregional freight than any other State, with 8.1 million tonnes, followed by Vic with 6.1 million tonnes, WA with 4.5 million tonnes and Qld with 3.3 million tonnes. Because the great majority of rural produce is carried only within State borders, the relative significance of the States in terms of interregional tonnes received is the same as that shown above for consignments. New South Wales received 7.5 million tonnes, Vic 6.8 million tonnes, WA 4.5 million tonnes and Qld 3.5 million tonnes.

INTERSTATE MOVEMENTS

The proportion of rural products moved interstate is small in comparison with total interregional movements. In 1975-76, 3.6 million tonnes were consigned between States, some 15 per cent of the total tonnes moved between regions(1). Interstate movements involved a transport task of 3900 million tonne km, 39 per cent of the interregional total, and interstate freight

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(1) Interstate consignments are also included as interregional consignments.

TABLE 3.11 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF PRINCIPAL RURAL PRODUCTS BY STATE OF ORIGIN OF CONSIGNMENTS, 1975-76

('000 tonnes)

Product	State of origin							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
FARM PRODUCTS								
Sheep	380	280	50	240	370	34	..	1 400
Cattle	780	960	570	310	230	50	35	2 900
Pigs	36	17	21	26	17	..	..	120
Sugar cane	..	..	..	..	..	..	..	..
Wheat	3 400	1 700	620	300	2 900	..	..	9 000
Barley	620	480	370	450	210	13	..	2 100
Oats	130	150	20	44	150	..	..	500
Sorghum	340	..	600	..	..	..	..	940
Maize	37	1	36	..	..	..	..	74
Oilseeds	36	13	64	15	16	..	..	140
Paddy rice	110	..	..	..	..	..	..	110
Milk	420	610	90	120	87	32	..	1 400
Apples	41	34	23	13	45	66	..	220
Other fruit	190	170	210	240	24	8	2	850
Vegetables	160	480	160	160	92	39	6	1 100
Wool	280	240	63	100	170	24	..	890
Cotton	21	..	9	..	..	..	..	30
Hay	51	39	28	8	15	..	..	140
Eggs	31	8	12	9	2	..	..	62
TOTAL	7 100	5 200	2 900	2 000	4 400	2 270	43	22 000
FACTORY PRODUCTS								
Meat	470	95	270	37	64	28	..	970
Raw sugar	100	640	..	..	..	..	..	740
Flour	200	100	59	71	19	6	..	460
Hides & skins	79	16	81	16	16	6	..	210
Milled rice	180	74	..	..	..	..	..	260
TOTAL	1 000	930	410	120	99	40	..	2 600
ALL PRINCIPAL RURAL PRODUCTS								
TOTAL	8 100	6 100	3 300	2 200	4 500	310	43	25 000

TABLE 3.12 - ESTIMATES OF INTERREGIONAL MOVEMENTS OF PRINCIPAL RURAL PRODUCTS BY STATE OF DESTINATION OF CONSIGNMENTS, 1975-76
('000 tonnes)

Product	State of destination							Australia
	NSW	Vic	Qld	SA	WA	Tas	NT	
FARM PRODUCTS								
Sheep	280	430	58	190	370	32	..	1 400
Cattle	740	1 100	640	210	230	46	6	2 900
Pigs	23	39	27	11	17	..	..	120
Sugar cane	..	..	..	..	..	..	..	..
Wheat	3 100	1 900	730	260	2 900	77	..	9 000
Barley	420	630	420	450	210	13	..	2 100
Oats	120	170	21	40	150	..	..	500
Sorghum	350	25	560	..	..	..	..	940
Maize	47	7	16	4	..	..	..	74
Oilseeds	80	20	19	9	16	..	..	140
Paddy rice	38	71	..	..	..	..	..	110
Milk	400	630	90	120	87	32	..	1 400
Apples	54	31	29	10	38	59	1	220
Other fruit	190	200	200	200	43	18	5	850
Vegetables	330	410	120	110	89	16	14	1 100
Wool	230	310	64	96	170	18	..	890
Cotton	18	6	3	3	..	..	..	30
Hay	45	42	29	8	17	..	..	140
Eggs	31	8	12	9	2	..	..	62
TOTAL	6 500	6 000	3 000	1 700	4 400	310	26	22 000
FACTORY PRODUCTS								
Meat	410	160	320	23	57	3	..	970
Raw sugar	310	280	42	68	40	..	..	740
Flour	150	160	57	65	20	6	1	460
Hides & skins	64	72	63	5	10	..	..	210
Milled rice	83	170	..	..	..	..	..	260
TOTAL	1 000	840	480	160	130	9	1	2 600
ALL PRINCIPAL RURAL PRODUCTS								
TOTAL	7 500	6 800	3 500	1 900	4 500	320	27	25 000

charges were $82 million, 25 per cent of the interregional total. The lower interstate proportion of freight charges compared to tonne km performed possibly reflects the lower rates per tonne applicable to longer distance movements which would generally apply to interstate hauls (Table 3.13).

A range of rural products was carried interstate in 1975-76. Raw sugar was the product most significant in tonnage terms (680 000 tonnes, or 19 per cent of total), followed by cattle (620 000 tonnes), wheat (420 000 tonnes) and vegetables (360 000 tonnes). In terms of tonne km performed, raw sugar contributed 44 per cent of the interstate total due to the much longer distances that this product was carried by sea.

Unlike the situation pertaining to total interregional transport, where a greater tonnage was consigned by rail than by road, the quantity carried interstate by road (2 million tonnes) was more than twice as great as the quantity carried by rail (0.8 million tonnes). Road transport recorded corresponding increases over rail for interstate movements in terms of both tonne km performed (1200 million compared to 850 million) and freight charges ($49 million compared to $22 million). Sea transport, although loading only 0.8 million tonnes of interstate cargo, performed 1800 million tonne km, an amount greater than the effort performed by either road or rail transport on the interstate transport task.

TABLE 3.13 - ESTIMATES OF INTERSTATE MOVEMENTS OF PRINCIPAL RURAL PRODUCTS, 1975-76

Product	Tonnes consigned ('000)		Tonne kilometres (Million)		Freight charges ($ million)	
	Inter-State	Inter-regional(a)	Inter-State	Inter-regional(a)	Inter-State	Inter-regional(a)
FARM PRODUCTS						
Sheep	240	1 400	150	470	7.5	25
Cattle	620	2 900	560	1 400	21	54
Pigs	36	120	23	48	1.0	2.0
Sugar cane	..	..	..	..	..	..
Wheat	420	9 000	190	2 600	5.8	82
Barley	200	2 100	56	580	2.1	19
Oats	18	500	8	150	0.2	4.8
Sorghum	100	940	45	260	1.4	9.6
Maize	30	74	25	42	0.5	1.1
Oilseeds	52	140	31	55	0.9	1.8
Paddy rice	71	110	6	7	0.3	0.3
Milk	67	1 400	12	250	0.7	13.0
Apples	41	220	59	100	1.3	3.8
Other fruit	250	850	310	490	7.8	18
Vegetables	360	1 100	370	560	12	23
Wool	91	890	55	310	2.8	17
Cotton	12	30	15	24	0.3	0.6
Hay	8	140	3	71	0.1	3.1
Eggs		62		17		1.4
TOTAL	2 600	22 000	1 900	7 500	66	280
FACTORY PRODUCTS						
Meat	140	970	130	460	4.5	23
Raw sugar	680	740	1 700	1 700	8.3	9.9
Flour	61	460	32	180	1.1	5.7
Hides & skins	67	210	88	150	1.9	5.7
Milled rice	62	260	23	110	0.6	2.9
TOTAL	1 000	2 600	2 000	2 600	16	47
ALL PRINCIPAL RURAL PRODUCTS						
TOTAL	3 600	25 000	3 900	10 000	82	330

(a) Interstate and interregional within state borders.

CHAPTER 4 - SUMMARY OF SIGNIFICANT FEATURES

TONNES CONSIGNED

In 1975-76, a total of 85 million tonnes of the principal rural products were consigned within Australia, 60 million tonnes of which were intraregional (or over short distances) and 25 million tonnes interregional (or over long distances).

More wheat was consigned than any other product (23 million tonnes), followed by sugar cane (21 million tonnes), cattle (7 million tonnes), and milk (6.4 million tonnes). All sugar cane movements were intraregional, which made this product the most significant product that was carried within regions in tonnage terms. On the same basis of measurement, wheat was the next most significant product carried within regions with 15 million tonnes. For interregional movements, wheat was the most significant product with 9 million tonnes.

Queensland consigned more tonnes of rural products than any other State with 31 million tonnes, followed by NSW with 19 million tonnes and Vic with 13 million tonnes. Figures for intraregional consignments revealed the same order of States, with Qld consigning 27 million tonnes, NSW 11 million tonnes, and Vic 8 million tonnes. However, for interregional movements NSW recorded the most tonnes (8.1 million), followed by Vic 5.5 million and Qld 4 million.

More tonnes were consigned by road than rail (48 million compared to 37 million). Sea tonnes consigned were only 860 000. For intraregional movements, road recorded 38 million tonnes and rail 23 million. However, interregional rail movements were greater than those for road (14 million tonnes compared to 9.7 million). All sea movements were interregional.

TONNE KILOMETRES PERFORMED

The total transport task performed in 1975-76 was 12 000 million tonne kilometres, five-sixths of which was interregional (10 000 million tonne km). A total of 3900 million tonne km of the interregional total was contributed by interstate movements.

Wheat recorded more tonne km than any other product (3300 million), followed by raw sugar with 1900 million tonne km and cattle with 1700 million tonne km. In terms of intraregional movements, wheat again was the most significant product with 730 million tonne km, followed by sugar cane with 440 million tonne km, barley with 190 million tonne km and cattle with 180 million tonne km. Wheat, with 2600 million tonne km, was also the most significant product carried between regions. This was followed by raw sugar with 1700 million tonne km and cattle with 1400 million tonne km.

Queensland was the State which recorded the most tonne km (4000 million), followed by NSW with 3600 million. For intraregional movements, Qld retained first place with 820 million tonne km, followed by WA with 450 million. However, NSW was the most significant State in terms of interregional movements with 3300 million tonne km, followed closely by Qld with 3100 million tonne km.

Overall, the rail task exceeded the road task in tonne km terms (5900 million compared to 4500 million) but the situation in respect of short and long distance movements differed markedly. Intraregional road movements totalled 1300 million tonne km compared to rail's 860 million tonne km, but for interregional movements rail recorded 5100 million tonne km compared to 3200 million for road. Sea transport recorded 1900 million tonne km.

FREIGHT CHARGES

The total freight charges incurred in moving all the principal rural products in 1975-76 were $520 million, $190 million of which were for intraregional movements and $330 million for interregional movements.

Wheat was the most significant product with charges amounting to $150 million, followed by cattle with $64 million and milk with $48 million. Wheat recorded the highest totals of any product for both intraregional and interregional movements. For intraregional movements, wheat freight charges were $64 million followed by milk with $35 million; for interregional movements wheat recorded $82 million, followed by cattle with $54 million.

In total, NSW rural products incurred the highest freight charges ($150 million), with Qld next with $120 million. In terms of intraregional movements, Qld held first position with $54 million, followed by NSW and WA, both with $39 million. However, for interregional movements, NSW had the highest total with $110 million, followed by Vic with $70 million and Qld with $66 million.

Charges paid for road transport operations were $310 million, compared with charges paid to rail of $190 million and charged paid to sea of $14 million. For intraregional movements, the user-charges paid for transport of rural products by road within regions were more than four times larger than the corresponding charges for rail ($160 million compared with $39 million). However, for interregional movements, total charges paid for road transport were only slightly ahead of total charges paid for rail transport ($160 million compared with $150 million). It is interesting to note that road charges for intraregional movements were the same in total as for interregional movements ($160 million).

APPENDIX I - REGIONAL MAPS

The following maps included in this Appendix show the regions and selected centres in each State, as follows:

Figure I.1 New South Wales Regions (including ACT-Queanbeyan and Albury/Wodonga)

I.2 Victorian Regions

I.3 Queensland Regions

I.4 South Australian Regions

I.5 Western Australian Regions

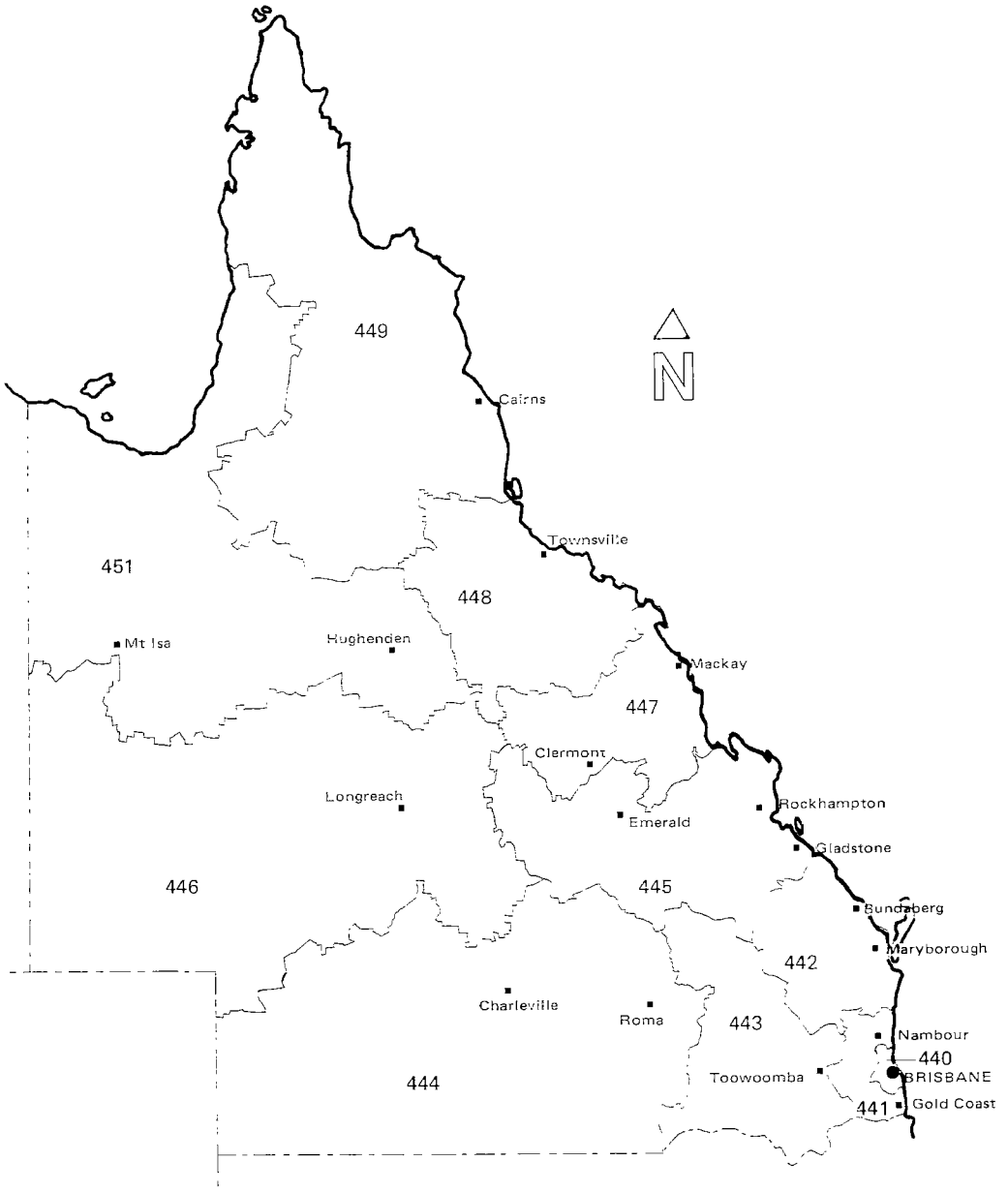
I.6 Tasmanian Regions

I.7 Northern Territory Regions

201 Sydney
202 Outer Sydney
203 Newcastle
204 Hunter (balance)
205 Wollongong
206 Illawarra (balance)
207 Richmond-Tweed
208 Clarence
209 Hastings
210 Northern Tablelands
211 Northern Slopes
212 North Central Plain
213 Central Macquarie
214 Macquarie-Barwon
215 Upper Darling
216 Central Tablelands
217 Lachlan
218 Lower South Coast
219 Snowy
220 Southern Tablelands
221 Central Murrumbidgee
222 Lower Murrumbidgee
223 Upper Murray
224 Central Murray
225 Murray-Darling
226 Far West
927 Albury-Wodonga
128 Canberra-Queanbeyan

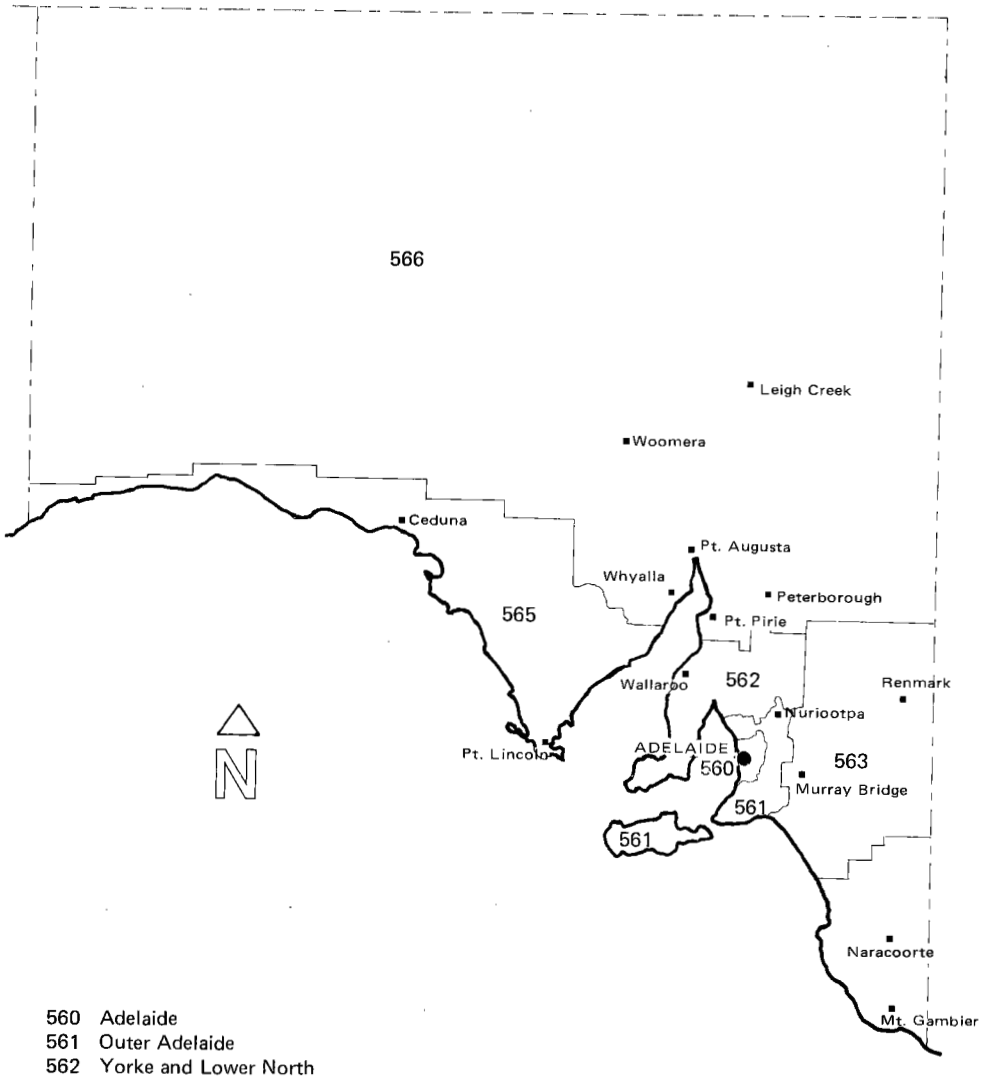
Figure I.1
New South Wales Regions

Figure I.2
Victorian Regions



440	Brisbane	446	Central West
441	Moreton	447	Mackay
442	Wide Bay-Burnett	448	Northern
443	Darling Downs	449	Far North
444	South West	451	North West
445	Fitzroy		

Figure I.3
Queensland Regions



560 Adelaide
561 Outer Adelaide
562 Yorke and Lower North
563 Murray Lands
564 South East
565 Eyre
566 Northern

Figure I.4
South Australia Regions

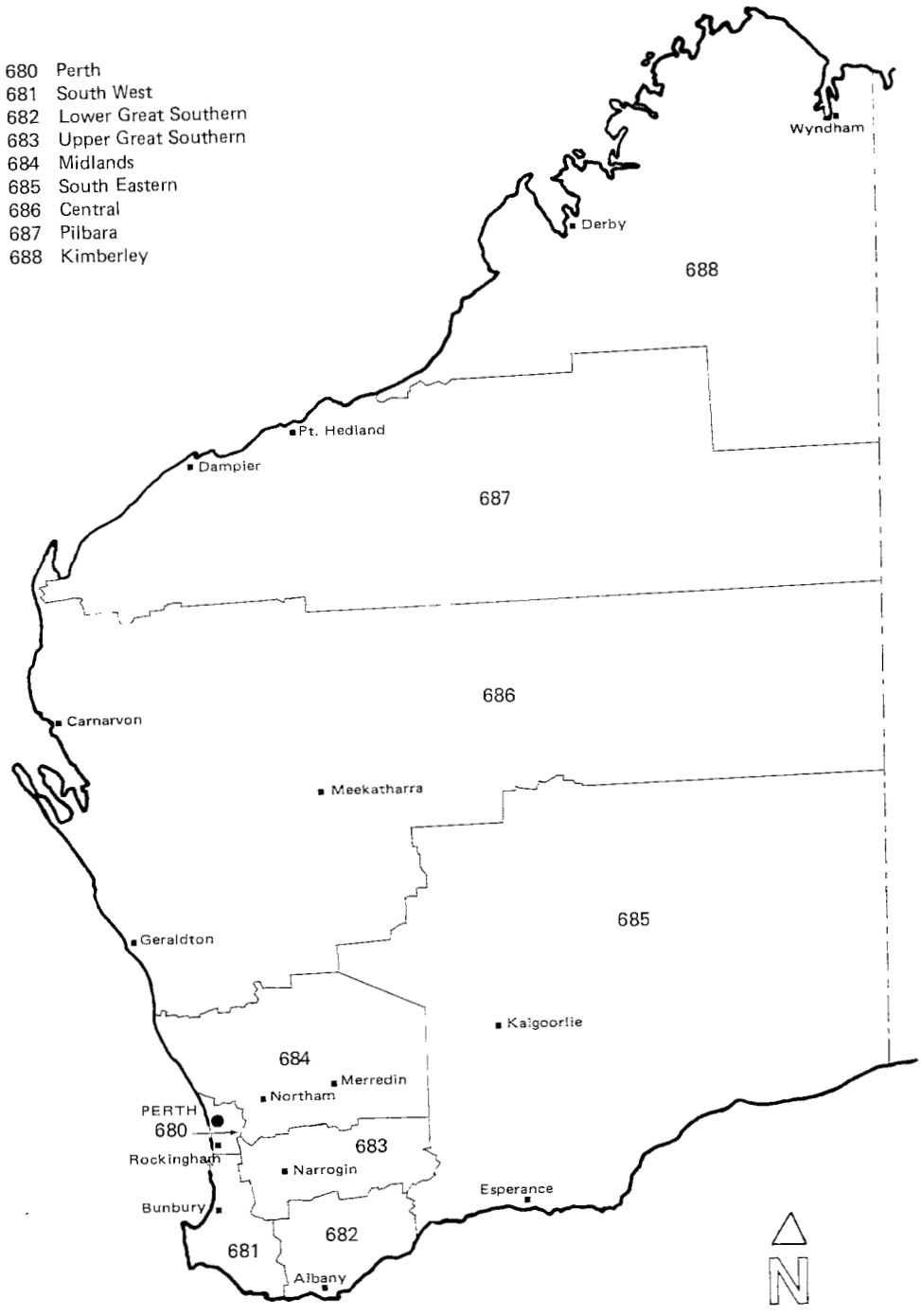
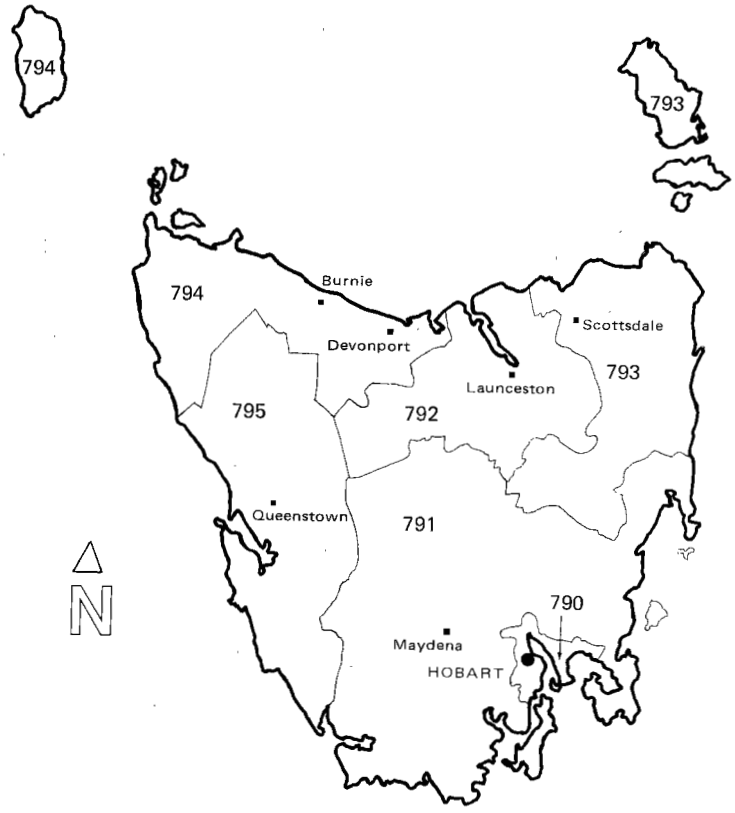


Figure I.5
Western Australian Regions



790 Hobart
791 Southern
792 Tamar
793 North Eastern
794 North Western
795 Western

Figure I.6
Tasmanian Regions

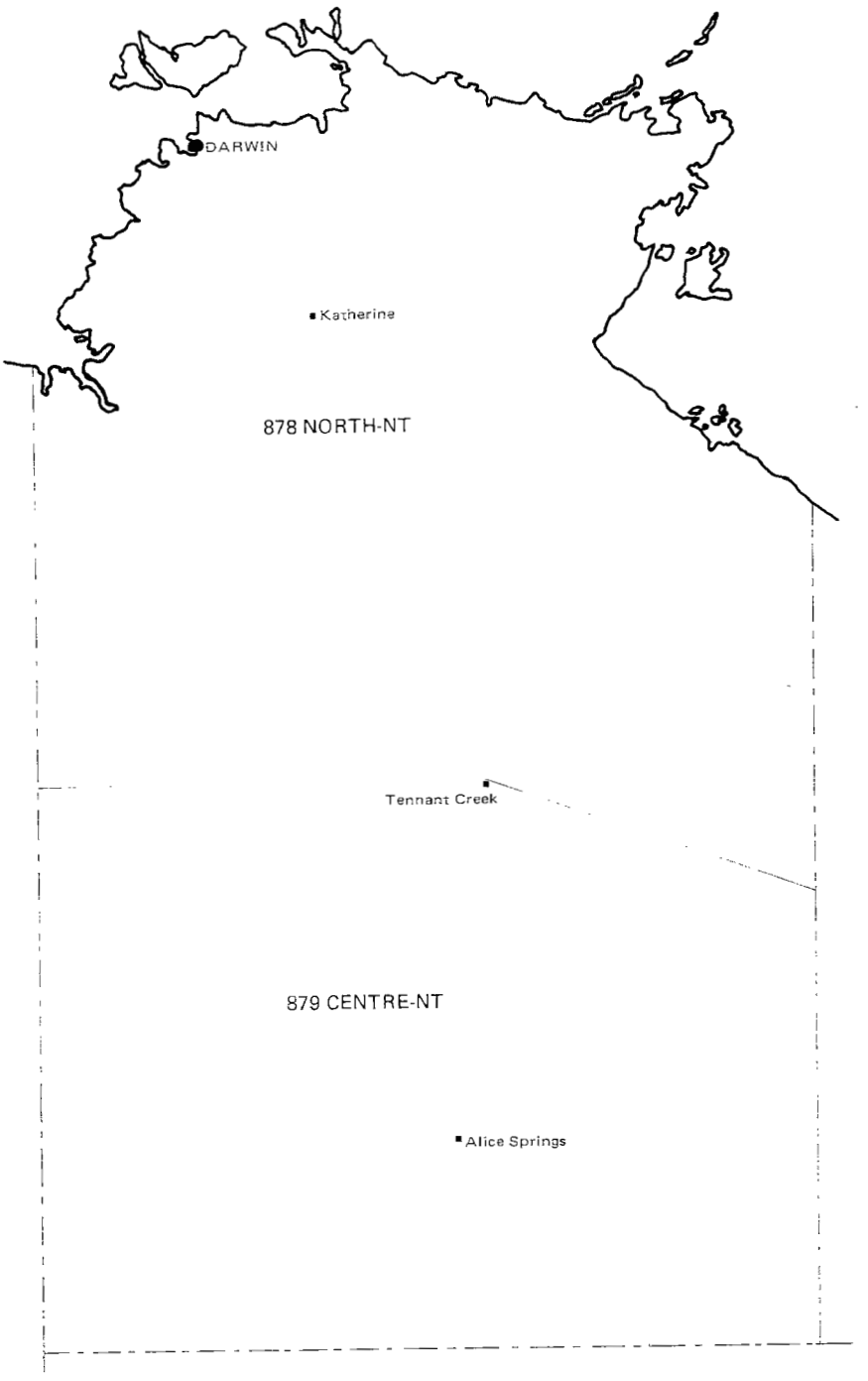


Figure I.7
Northern Territory Regions

APPENDIX II - FURTHER DETAILS OF STUDY METHODOLOGY

A general description of the methodology used in this study has already appeared in Chapter 1. This Appendix sets out a number of tables which give more detailed information on specific aspects of the work. The tables presented in this Appendix are as follows:

- Table II.1 shows the identified movements covered by this study and the origins and destinations which were taken into account.

- Table II.2 shows the conversion factors used to change expressed units to tonnes. Most factors were standard throughout Australia but separate State factors were used for hides and skins. Because of the great number of conversion factors used for individual types of fruit and vegetables, these are not shown in this table.

- Table II.3 lists the various regions used. These were the Statistical Divisions used by the Australian Bureau of Statistics in the 1976 Census of Population and Housing for Vic, Qld, SA and WA. For NSW and Tas, the Statistical Sub-divisions for the same census were used. The NT was divided into two large regions approximately equal in size, which can be considered as the 'North' and the 'Centre'. The boundary between these regions runs south of the Barkly Tablelands.

TABLE II.1 - COMMODITY MOVEMENTS INCLUDED IN THIS STUDY

Commodity	Identified movement	From	To
	FARM PRODUCTS		
Sheep) Cattle) Pigs)	Number of animals expressed as tonnes live weight	Farm	Saleyards, other farms, abattoirs, export
Sugar cane	Cut cane	Farm	Crushing mill
Wheat) Barley) Oats) Sorghum) Maize) Oilseeds)	Bulk grain unmilled	Farm	Storage, local processor, export
Paddy rice	Bulk grain unmilled	Farm	Storage, local processor
Milk	Fresh bulk milk	Farm	Factory, distribution centre
Apples) Other fruit) Vegetables)	Fresh or chilled	Farm	Storage, processing, local consumption, export
Wool	Greasy wool	Farm	Sale centre, local processor, export
Cotton	Bales	Gin	Local processor, export
Hay	Bales	Farm	Other farms, other domestic consumption
Eggs	Shell and liquid eggs	Farm/ Factory	Factory, local consumption, export
	FACTORY PRODUCTS		
Meat	Carcass and cartons	Abattoir	Local consumption, export
Raw sugar	Bulk	Mill	Storage, refinery, export
Flour	Ex-wheat, white plain and self-raising	Mill	Local consumption, export
Hides and skins	Bulk	Abattoir	Local processor, export
Milled rice	Milled grain	Mill	Local consumption, export

TABLE II.2 - CONVERSION FACTORS USED IN THIS STUDY

Commodity	Expressed unit	To convert to tonnes multiply by -
Sheep	Number	0.04
Cattle	Number	0.35
Pigs	Number	0.07
Milk	Litres	0.00103
Apples	Bushels	0.01905
Other fruit	Various units	(a)
Vegetables	Various units	(a)
Eggs	Dozens	0.00065
Hides and skins	Numbers	(b)

(a) Conversion factors vary according to the units used.
(b) Conversion factors vary for each State. The average weight of a hide was 20 kg and the average weight of a skin was 3.2 kg.

Source: Hassall and Associates, Goulburn NSW.

TABLE II.3 - REGIONS INDENTIFIED IN THIS STUDY

Region	Region name(a)	Region centre(b)
	AUSTRALIAN CAPITAL TERRITORY(c)	
128	Canberra - Queanbeyan	Canberra
	NEW SOUTH WALES	
201	Sydney	Sydney
202	Oucer Sydney	Gosford
203	Newcastle	Newcastle
204	Hunter (balance)	Muswellbrook
205	Wollongong	Wollongong
206	Illawarra (balance)	Bowral
207	Richmond-Tweed	Lismore
208	Clarence	Grafton
209	Hastings	Taree
210	Northern Tablelands	Armidale
211	Northern Slopes	Tamworth
212	North Central Slopes	Moree
213	Central Macquarie	Dubbo
214	Macquarie-Barwon	Nyngan
215	Upper Darling	Bourke
216	Central Tablelands	Bathurst
217	Lachlan	Parkes
218	Lower South Coast	Bega
219	Snowy	Cooma
220	Southern Tablelands	Goulburn
221	Central Murrumbidgee	Wagga
222	Lower Murrumbidgee	Griffith
223	Upper Murray	Holbrook
224	Central Murray	Deniliquin
225	Murray Darling	Balranald
226	Far West	Broken Hill
227	Albury/Wodonga	Albury/Wodonga

(a) Statistical Divisions in all States except NSW and Tas where Statistical Sub-Divisions are shown.
(b) In the context of this study these represent accepted centres of production for the purposes of determining distances between regions.
(c) Included with NSW for the purposes of this study.

TABLE I.3 (CONT) - REGIONS IDENTIFIED IN THIS STUDY

Region	Region name(a)	Region centre(b)
	VICTORIA(c)	
330	Melbourne	Melbourne
331	Barwon	Geelong
332	South Western	Portland
333	Central Highlands	Ballarat
334	Wimmera	Horsham
335	Northern Mallee	Ouyen
336	Loddon-Campaspe	Bendigo
337	Goulburn	Shepparton
338	North Eastern(c)	Wangaratta
339	East Gippsland	Bairnsdale
340	Central Gippsland	Moe-Yallourn
341	East Central	Pakenham
	QUEENSLAND	
440	Brisbane	Brisbane
441	Moreton	Nambour
442	Wide Bay-Burnett	Bundaberg
443	Darling Downs	Toowoomba
444	South West	Roma
445	Fitzroy	Rockhampton
446	Central West	Longreach
447	Mackay	Mackay
448	Northern	Townsville
449	Far North	Cairns
451	North West	Mt Isa
	SOUTH AUSTRALIA	
560	Adelaide	Adelaide
561	Outer Adelaide	Nuriootpa
562	Yorke and Lower North	Wallaroo
563	Murray Lands	Renmark
564	South East	Mt Gambier
565	Eyre	Ceduna
566	Northern	Pt Pirie

(a) Statistical Divisions in all States except NSW and Tas where Statistical Sub-Divisions are shown.
(b) In the context of this study these represent accepted centres of production for the purposes of determining distances between regions.
(c) Excludes Wodonga which is included with NSW (Region 227).

TABLE I.3 (CONT) - REGIONS IDENTIFIED IN THIS STUDY

Region	Region name(a)	Region centre(b)
	WESTERN AUSTRALIA	
680	Perth	Perth
681	South West	Bunbury
682	Lower Great Southern	Albany
683	Upper Great Southern	Narrogin
684	Midlands	Northam
685	South Eastern	Kalgoorlie
686	Central	Geraldton
687	Pilbara	Pt Hedland
688	Kimberley	Derby
	TASMANIA	
790	Hobart	Hobart
791	Southern	Maydena
792	Tamar	Launceston
793	North Eastern	Scottsdale
794	North Western	Devonport
795	Western	Queenstown
	NORTHERN TERRITORY	
878	North NT	Darwin
879	Centre NT	Alice Springs

(a) Statistical Divisions in all States except NSW and Tas where Statistical Sub-Divisions are shown.
(b) In the context of this study these represent accepted centres of production for the purposes of determining distances between regions.

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