Commodity outlook and financial performance of key agricultural industries in the Kimberley

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This paper presents the current commodity outlook and the recent financial performance of some key agricultural industries in Western Australia, highlighting the performance of broadacre and beef industry farms at the state and national levels, and the performance of beef cattle properties in the Kimberley region. A summary of agricultural production and the outlook for existing and prospective crops in the Ord River Irrigation Area (ORIA) is also included.

The Kimberley region covered in this paper contains the regional centres of Broome, Derby, Halls Creek, Kununurra and Wyndham (map 1).

In dollar value terms, beef cattle are the most significant agricultural product in the Kimberley region, accounting for 62 per cent, or nearly $86 million of the $139 million total value of agricultural production for the region in 2006-07. This is the latest year for which Australian Bureau of Statistics data are available on a regional basis (figure a).
Value of agricultural production, Kimberley, 2006-07

Vegetables accounted for a further 24 per cent ($33 million) of the Kimberley total value of agricultural production in 2006-07, with watermelons, pumpkins and squash varieties accounting for the majority of vegetable production. Fruit accounted for around 4 per cent ($6.2 million) of the total value of agricultural production, of which more than 70 per cent was for mangoes and around 20 per cent for bananas.

Number and type of farms

Australian Bureau of Statistics data indicate that in 2006-07 there were 185 farms in the Kimberley region with an estimated value of agricultural operations of more than $5000 (table 1).

Number of farms, by industry classification, 2006-07

<table>
<thead>
<tr>
<th>Industry Classification</th>
<th>Kimberley no.</th>
<th>Kimberley %</th>
<th>Western Australia no.</th>
<th>Western Australia %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit and tree nut growing</td>
<td>48</td>
<td>34</td>
<td>1 168</td>
<td>10</td>
</tr>
<tr>
<td>Beef cattle farming (specialised)</td>
<td>43</td>
<td>30</td>
<td>2 545</td>
<td>21</td>
</tr>
<tr>
<td>Vegetable growing</td>
<td>23</td>
<td>16</td>
<td>476</td>
<td>4</td>
</tr>
<tr>
<td>Nurseries, cut flowers, and cultivated turf</td>
<td>13</td>
<td>9</td>
<td>219</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>11</td>
<td>7 628</td>
<td>63</td>
</tr>
<tr>
<td>All agricultural industries</td>
<td>143</td>
<td>100</td>
<td>12 035</td>
<td>100</td>
</tr>
</tbody>
</table>

*Where the estimated value of agricultural operations is more than $5000.

Source: Australian Bureau of Statistics.

Farms are classified in table 1 according to the activities which generate most of their value of production. In the Kimberley, around 34 per cent of farms operated fruit and tree nut growing enterprises, compared with only 10 per cent at the state level. Beef cattle farms were the second most common farm type in 2006-07, accounting for around 30 per cent of farms, followed by vegetable farms which accounted for around 16 per cent of all farms in the region.

As in most parts of Australia, the share of farms with a low value of agricultural operations (EVAO) is relatively high. Around 28 per cent of farms in the Kimberley had a total value of agricultural operations of less than
$50 000 and a further 23 per cent of farms had a value between $50 000 and $200 000 in 2006-07 (figure b). However, a relatively large proportion of farms (15 per cent) in the Kimberley had an estimated value of agricultural operations of more than $2 million in 2006-07, compared with just 1.6 per cent of farms across Western Australia.

### Employment in the Kimberley

Australian Bureau of Statistics data from the 2006 Census of population and housing show that around 12 800 people were employed in the Kimberley region, with the healthcare and social assistance industry employing the largest number of people, accounting for approximately 15 per cent (1924 people) of the total labour force (figure c). Public administration and safety industries accounted for a further 13 per cent (1729 people) and the education and training industry 9 per cent (1135 people). The agriculture, forestry and fishing industries were the seventh largest employer with 5 per cent (666 people) of the Kimberley labour force working in this industry in 2006.
Live cattle industry

Northern Australia accounts for the majority of Australia’s exports of live cattle. In recent years, more than 80 per cent of total live cattle exports, including most slaughter and feeder cattle, have been sourced from northern Australia (figure d). Live cattle exports out of Western Australia account for a significant proportion of these exports. Over the past 10 years, between 30 per cent and 50 per cent of Australian live cattle exports were out of Western Australia. In 2007-08, Western Australia exported around 248 000 live cattle for slaughter, which was valued at nearly $150 million. Australian live cattle exports are estimated to fall by 3 per cent in 2009-10, to around 760 000 head, as a result of a weakening in demand for beef in Indonesia and other South-East Asian countries.

South-East Asian and Middle Eastern markets remain the main destinations for Australian live cattle exports, with Indonesia being the largest market (figure e). Live cattle exports from Western Australia to Indonesia have increased over the past 10 years, while exports to other countries have fallen.

Even though Indonesia has been the largest market for live cattle from Western Australia in recent years, the Middle Eastern markets remain more important for Western Australian live exports than for other states. In 2007-08, only 59 per cent of cattle exported from Western Australia went to Indonesia, compared with 82 per cent of cattle exported from other Australian states. Other markets important for Western Australian live cattle exports include Israel, Malaysia, Libya and Saudi Arabia.

Broadacre farm performance – Australia and Western Australia

Farm financial performance of Australian broadacre farms is projected to strengthen in 2008-09, adding to the improvement in farm financial performance recorded in 2007-08. Increased grain production, combined with favorable prices for livestock, and reductions in fodder prices and interest rates, are projected to result in farm cash incomes on broadacre farms rising, to average around $80 000 a farm in 2008-09 (figure f and table 2).

Average farm business profit of Australian broadacre farms is projected to recover more strongly than the increase in farm cash income in 2008-09 (table 2). This largely reflects a small buildup in the value of trading stocks as a result of producers increasing cattle numbers in northern Australia and increasing on-farm inventories of fodder and grain.

Western Australian broadacre farms are projected to record a larger increase in average farm cash income (in absolute terms) compared with the increase nationally (figure f and table 2). Following the sharp rise in farm cash income in 2007-08, largely because of record winter grain prices received, average farm cash income of Western Australian broadacre farms is projected to increase by nearly 19 per cent in 2008-09. Increases in winter crop production, particularly in the northern and central wheat belt, are projected to offset falls in some grain
prices and a substantial increase in farm cash costs. Despite a small increase in lambs expected to be marked in 2008-09, sheep numbers are projected to continue to fall as farmers further expand grain growing.

Despite a projected increase in livestock inventories on Western Australian broadacre farms in 2008-09, a much smaller increase in grain stocks on-farm compared with increases in 2007-08 is projected to lead to a smaller buildup in trading stocks. Subsequently, average farm business profit is projected to increase by a smaller amount than farm cash income in 2008-09 (figure g).

### Financial performance, broadacre industry

<table>
<thead>
<tr>
<th>Western Australia</th>
<th>2006-07</th>
<th>2007-08 p</th>
<th>2008-09 s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total crops</td>
<td>$229,870</td>
<td>477,900</td>
<td>557,000</td>
</tr>
<tr>
<td>Beef cattle</td>
<td>$53,700</td>
<td>49,800</td>
<td>82,000</td>
</tr>
<tr>
<td>Sheep and lambs</td>
<td>$66,640</td>
<td>68,500</td>
<td>71,000</td>
</tr>
<tr>
<td>Wool</td>
<td>$66,000</td>
<td>69,200</td>
<td>60,000</td>
</tr>
<tr>
<td>Total cash receipts</td>
<td>$519,590</td>
<td>739,600</td>
<td>827,000</td>
</tr>
</tbody>
</table>

### Receipts

- **Total crops**: $229,870, 477,900, 557,000
- **Beef cattle**: $53,700, 49,800, 82,000
- **Sheep and lambs**: $66,640, 68,500, 71,000
- **Wool**: $66,000, 69,200, 60,000
- **Total cash receipts**: $519,590, 739,600, 827,000

### Costs

- **Beef cattle purchases**: $9,770, 14,500, 18,000
- **Fodder**: $13,280, 14,800, 7,000
- **Fertilizer**: $74,250, 131,800, 157,000
- **Sprays**: $39,220, 61,100, 62,000
- **Fuel, oil and lubricants**: $37,070, 49,400, 61,000
- **Repairs and maintenance**: $36,020, 43,400, 45,000
- **Interest payments**: $70,720, 70,600, 50,000
- **Total cash costs**: $448,860, 607,600, 670,000

### Financial performance

- **Farm cash income**: $70,730, 132,000, 157,000
- **Farms with negative farm cash income**: 43, 39, 26
- **Farm business profit**: $–61,430, 26,000, 33,000
- **Farms with negative farm business profit**: 73, 57, 52
- **Farm capital, debt and equity**:
  - **Farm capital at 30 June**: $5,168,860, 5,486,400, na
  - **Farm debt at 30 June**: $874,700, 867,600, 790,000
  - **Equity ratio at 30 June**: 83, 84, na

### Rate of return

- Excluding capital appreciation: 0.5, 2.3, 1.8
- Including capital appreciation: 9.5, 5.3, 7.7

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*Excludes leased plant and equipment. b Average per responding farm. c Harvest loans are not included in farm debt. d Equity expressed as a percentage of farm capital. e Rate of return to farm capital at 1 July calculated as farm business profit plus interest paid expressed as a percentage of total farm capital. Preliminary estimates. s Provisional estimates. na Not Available.

*Note: Figures in parentheses are standard errors expressed as a percentage of the estimate provided.*
Over the past 20 years, beef industry farms (defined as farms with the majority of their income derived from beef cattle sales) in Western Australia have generated a similar average farm cash income to beef farms nationally (figure h). However, in recent years Western Australian beef farms have had greater variation in average farm cash income, partly because of variable seasonal conditions and major herd rebuilding in the north of the state.

Nationally, reduced beef cattle turn-off and lower beef cattle prices resulted in a large fall in total cash receipts in 2007-08 as herd rebuilding occurred. Average total cash costs were also lower with the biggest cut-back in spending coming from reduced beef cattle purchases. Western Australian beef industry farms rebuilt beef cattle numbers on a large scale in 2007-08 largely through reduced beef cattle turn-off (which reduced total cash receipts). This, combined with higher total cash costs, resulted in Western Australian beef industry farms recording a sharp reduction in average farm cash income per farm (figure h).

In 2008-09, higher beef cattle prices combined with a projected increase in beef cattle turn-off, particularly in the northern and south-west regions of Western Australia, are projected to result in beef cattle receipts"
increasing by a larger amount in Western Australia than across Australia. Total cash costs at both the state and national levels are projected to rise in 2008-09, with increased beef cattle purchases in areas where seasonal conditions have improved and higher fertiliser costs more than offsetting reduced fodder expenditure and interest paid. With total cash receipts rising more than total cash costs, average farm cash income is projected to rise to around $102,000 in Western Australia and to around $32,000 nationally (figure h).

**Beef industry – Kimberley**

Over the past 20 years, the financial performance of beef cattle properties in the Western Australian Kimberley region has risen (figure i). This has coincided with a rising trend in beef cattle turn-off rates, partly as a consequence of increased herd productivity and partly because of the development of the live-cattle export trade.

In the three years to 2008-09, very good seasonal conditions in the Kimberley region enabled beef cattle properties to substantially increase beef cattle numbers. This was achieved through a combination of improved calving rates and increased beef cattle transfers-in (box 2), particularly in 2007-08.

In 2007-08, the increase in beef cattle transfers-in resulted in a sharp rise in total cash costs and a subsequent large reduction in average farm cash income per farm in the region (table 3). However, the boost to beef cattle inventories increased the value of farm trading stocks leading to higher farm business profits and rates of return excluding capital appreciation, on average (figures i and j). In 2008-09, increased beef cattle sales are projected to lead to a large improvement in the average farm financial performance of those in the Kimberley region.

Historically, rates of return in the Kimberley region have generally been high over time. However, in recent years increased land values and higher farm cash costs (particularly for freight) have put downward pressure on rates of return excluding capital appreciation (figure j).

**Outlook for selected broadacre commodities**

ABARE’s assessment of the outlook for world economic growth is provided in its quarterly publication, *Australian commodities*, which also includes market forecasts and detailed discussions of major Australian agricultural, mineral and energy commodities. The forecast summaries presented here for a number of the commodities important in this region are based on information in the March 2009 issue of *Australian commodities*. The next issue of *Australian commodities* will be released on 23 June 2009.
Outlook for beef and veal

Stronger restocker demand, the depreciation of the Australian dollar and continued low cattle turn-off are expected to support saleyard cattle prices in 2009-10. The Australian weighted average saleyard price of cattle is forecast to rise by around 2 per cent in 2009-10 to 305 cents a kilogram.

The combination of favourable cattle prices and an expected improvement in pasture conditions in parts of northern Australia is forecast to increase the incentive for herd rebuilding in 2009-10, which will place upward pressure on saleyard prices. An assumed lower Australian dollar in 2009-10 will increase the competitiveness of Australian beef in many export markets, providing further support for prices. However, lower export demand for Australian beef in some markets as a result of the global financial crisis is expected to limit the rise in Australian saleyard prices.

Beef cattle numbers are forecast to increase by 2 per cent in 2009-10 to 25.9 million. The proportion of females in the beef cattle herd is the highest in the past 20 years, which should enable a quicker recovery in herd numbers.

Slaughterings are forecast to increase by 1 per cent in 2009-10 to 8.8 million, despite producers rebuilding herds. This increase from 2008-09 reflects the expectation that there will be more young cattle available for slaughter, particularly toward the latter half of the year. Higher slaughterings will translate into higher beef and veal production, which is also forecast to rise by around 1 per cent in 2009-10.

Australian beef exports are forecast to fall slightly in 2009-10 to 920 000 tonnes, as a result of lower demand in export markets. Increased competition from US beef in the Korean market, and to a lesser extent the Japanese market, is expected to reduce the demand for Australian beef in 2009-10, although the adverse effect on earnings is expected to be largely mitigated by the assumed depreciation of the Australian exchange rate against the US dollar.

Australian beef exports to the United States, largely comprised of low-quality manufacturing beef, are forecast to rise in 2009-10 as consumer demand moves away from more high value cuts. This will partially offset lower export volumes to other markets in the short term.
Outlook for live cattle exports

Australian live cattle exports are estimated to fall by 3 per cent in 2009-10, to around 760 000 head, as a result of demand for beef in Indonesia and other South-East Asian countries weakening, in line with sharply lower economic growth.

The demand for beef in Indonesia is expected to recover from 2010 onwards in line with an assumed improvement in economic growth. Australia is geographically well placed to export live cattle to Indonesia to be finished in feedlots to meet this demand. As a result, Australian live cattle exports are projected to increase over the medium term.

Outlook for cotton

There has been a strong downward trend in the world cotton indicator price (the Cotlook A index) in constant dollar terms, reflecting ongoing productivity improvements. However, there are signs in recent years that this trend is levelling out as competition increases for land and water resources in most of the world’s major cotton producing regions.

World cotton prices declined sharply in late 2008, as the world financial crisis gathered pace. ABARE projects that world cotton prices will recover steadily over the next two years, in response to restricted world cotton supplies and a rebound in world cotton demand. The cotton indicator price is projected to average US67 cents a pound in constant (2008-09) dollar terms in the period to 2013-14.

The average return to Australian cotton growers for cotton lint is projected to average $427 a bale in constant (2008-09) dollar terms (net of ginning costs) over the five year period to 2013-14. The value of the cottonseed associated with a bale of lint production is projected to average $72 in constant dollar terms over the same period.

Ord River Irrigation Area (ORIA)

The current utilisation of land in the ORIA for crops and forestry is shown in figure k. At various times, the commercial cotton, rice and sugar industries reached significant sizes in the ORIA but proved not to be viable. The value of irrigated farm activity in the ORIA in the 2007-08 wet season and 2008 dry season is estimated to have been nearly $96 million (Western Australia Department of Agriculture and Food, 2009, pers. comm., March).

The bulk of the plantation tropical forestry in the ORIA is sandalwood trees, virtually all which are the Indian sandalwood variety *Santalum album*.

The second stage of development of the ORIA will allow irrigation of a further 14 000 hectares of land. This opens up the possibility of expansion of crop and plantation forest types already produced and the introduction of new types. Changed circumstances with some of the crops already tried in the ORIA may allow them to be successfully re-introduced in the future. This is particularly the case with cotton, where genetic modification to enable in-plant insect resistance appears to have overcome one of the key agronomic problems with the cotton industry which operated in the ORIA until 1975.
Main existing industries

Sandalwood

Sandalwood products have been traded for thousands of years. The oil from sandalwood is used in perfumes, cosmetics and therapeutic goods, while the wood has a variety of uses including incense, furniture and turned or carved woodworks.

There are various forms of sandalwood tree which produce sandalwood oil. The main form is Santalum album which is believed to have originated in Indonesia and is also grown in India (the main producer of sandalwood and, until recently, the main exporter of sandalwood oil), China, East Timor and the Philippines. The sandalwood tree is parasitic on other trees. The main species of sandalwood native to Australia is Santalum spicatum. There is also an African tree (Osyris lanceolata), native to Tanzania, the wood and oil of which is often traded as sandalwood in world markets.

Sandalwood has been over exploited in India and Indonesia. In India, the government has responded by limiting exports of sandalwood and sandalwood oil to an annual quota. These restrictions and limited supplies of sandalwood elsewhere in the world have resulted in strong increases in world prices for sandalwood oil in the 2000s.

There is little time series information available on prices for sandalwood products. The information that is available suggests that world prices for sandalwood oil are highly responsive to changes in availabilities. For example, it can be seen that there is a strong inverse relationship between prices and the volume of US imports of sandalwood (figure I).

The existing industry in Australia, based on sustainable wild harvesting of native sandalwood, appears to supply around 40 per cent of world sandalwood exports. Indonesia, East Timor and India are the other main sandalwood exporters. The United States and France are the main importers of sandalwood oil. There is also demand for both oil and wood from Asia and the Middle East. The main importers of sandalwood are Chinese Taipei, China and India.

The US import price for oil from Indian sandalwood is projected to remain high to around 2012, because of limited world supplies. However, from 2012 the import price is projected to decline as new production from the ORIA and other producing regions comes onto the world market.

Horticulture

Producers of fruit and vegetables in Australia are benefiting from a growing demand for fruit and vegetables, particularly fresh produce, because of consumers’ growing incomes and health consciousness. In the 10 years to 2008-09, the value of Australian fruit and nut production in constant dollar (2008-09) terms grew at a trend rate of 4.2 per cent a year, while the value of Australian vegetable production grew at the slightly slower rate of 3.2 per cent a year.

Horticultural products from the ORIA are largely sold on the Australian market. Horticultural producers in the ORIA are benefiting from price premiums for some produce through being able to deliver fresh produce during...
seasonal supply lows. Recent trends in price premiums for the key ORIA horticultural products in the Perth market are shown in figure m. The risk with the expansion in the ORIA is that increased production of existing horticultural products could see downward pressure on existing seasonal price premiums.

However, there appear to growing opportunities in world export markets for fruit and vegetables, particularly with fresh produce. The value of world trade in fresh fruit and vegetables in constant dollar terms has increased rapidly in the 2000s as world incomes increased (figure n).

Emerging and prospective crops

High value crops are required in the ORIA to overcome the high freight costs to markets. Emerging crops include chia (Salvia hispanica), a crop attracting renewed consumer interest because of the healthy oil profile of its seed. Around 1500 hectares of chia was planted in the ORIA in 2009, following 750 hectares in 2008. Most of the crop is exported to the United States at a price to growers of around $2400 a tonne.

The main prospective irrigated crop in the ORIA appears to be cotton. Other crops, particularly rice, are also likely to come under renewed consideration, given recent increases in prices for world food crops.

The yield performances from field trials of GM cotton in the ORIA generally compare favourably with existing cotton producing regions in Australia and the rest of the world. However, the quality of the cotton produced on the ORIA in these GM trials generally has been poor in terms of fibre length and micronaire, though there has been some improvement in recent trials in response to breeding and improved crop management.

A key factor with the failure of both the rice and sugar industries in the ORIA was that throughput was not large enough to ensure the viability of processing plants. With sugar, for example, an annual throughput of 1 million tonnes of cane was required while only around 500 000 tonnes of cane was produced. The provision of cotton ginning facilities, particularly during the development stages of a new cotton industry, will be crucial.

A range of other crop types which are emerging as industries in other tropical parts of Australia are also candidates for introduction in an expanded ORIA. These include exotic tropical fruit such as durians, mangosteens and jackfruit or native foods such as Kakadu plums. More details on the nature of these industries are provided in the publication *Emerging animal and plant industries: Their value to Australia*, second edition, RIRDC report no. 09/004, Canberra.