
Australasian Agribusiness Perspectives

2023, Volume 26, Paper 13

ISSN: 2209-6612

The Australia to India Almond Trade

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Abstract

India is a major destination for Australian almonds, even though this trade has long been restricted through tariff barriers. These tariffs have meant that only 'in-shell' almonds are a viable import option. However, in December 2022, Australia and India struck a new trade agreement that resulted in a 50 per cent tariff reduction on Australian almonds, giving a significant trade advantage over California. The Australian almond industry was set to benefit from this before the Indian tariff on United States almonds was also reduced in June 2023. In this paper the Australian almond industry export value chain to India and the interrelation with Californian almond industry exports is analysed. The aim is to gauge how the new trade arrangements will impact this export supply chain as the world's almond growers grapple with low sale prices and rising input costs. While the international almond sales environment remains a buyer's market, industry stakeholders believe India offers significant opportunity to aid in returning profitability and supply chain surplus to all participants.

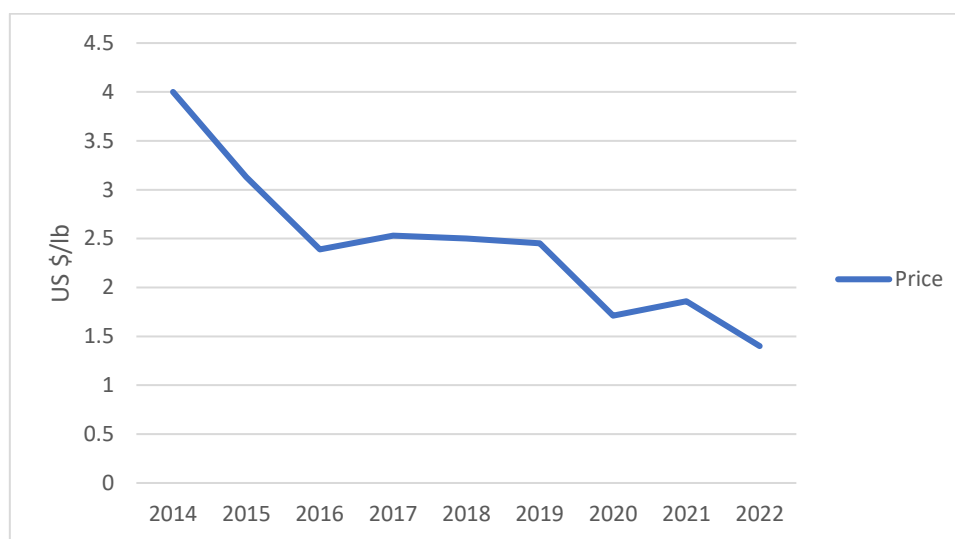
Key words: value chain, almonds, India, tariffs, United States, exports.

The Australian Almond Industry

The Australian almond industry has experienced rapid expansion over the past 20 years, from a mere 3,546 hectares in the year 2000 to more than 60,000 hectares planted today and shows little sign of slowing down (Almond Board of Australia, 2023c). The industry now injects more than \$1.6 billion into the Australian economy annually and is directly responsible for employing over 10,000 people across four states (Almond Board of Australia, 2021).

Planting almonds in Australia has been an attractive investment to a suite of businesses and groups, from family farms to domestic and foreign corporate entities. Almonds have yielded strong grower returns while offering a fully-mechanised production system and a healthy, versatile product. However, the world price has more than halved in the past decade, seeing grower returns slump, as the global supply surges (see Figure 1) (USDA, 2023).

As plantings in Australia continue and new trees come into production, the volume of almonds to be sold increases. In 2022 the industry grew a record crop of 140,963 tonnes, placing Australia as the second largest producer in the world (Almond Board of Australia, 2023c). However, this only represents 8 per cent of the world supply, with production dominated by California in the United States which grows 78 per cent of the world's supply (Almond Board of Australia, 2023c).

Figure 1. Average global almond prices (US \$/lb) from 2014 to 2022

Source: (USDA, 2023)

The current Australian consumption of almonds is one of the highest in the world with an average of 1.24kg consumed per capita per annum (Almond Board of Australia, 2021). However, this consumption rate is not sufficient to absorb all the domestic production; therefore, Australian almonds are largely exported to offshore destinations. For example, in 2022, 140,963 tonnes of almonds were produced, of which, 105,263 tonnes (75 per cent) were exported (Almond Board of Australia, 2023c). This trend continues today with key export destinations being China, India, the Middle East and Europe (Almond Board of Australia, 2023c).

In the current market, there is low demand for almonds both domestically and internationally relative to supply. Consequently, almond prices have remained low as the effects of Covid-19 continue to influence global trade. Throughout the pandemic, there was turmoil amongst global logistics with sea freight being impacted significantly. As almonds are largely an export crop, this impacted supply all around the world. Compounding this, in 2020 California grew a record crop of 1.4 million tonnes (Almond Board of California, 2021). This surge in almond supply and a restricted ability to export the product resulted in an almond supply surplus. Consequently, almonds are now trading for less than \$US2/lb (see Figure 1 and Figure 5) (Almond Board of Australia, 2023a).

In response to low prices and high supply, participants in the global almond market need to look for alternative solutions to build both demand and price for almonds. Coincidentally, the alleviation of trade barriers between Australia and India has exposed a significant opportunity to better access a large population. Analysing this export value chain more closely would be useful to understand where the key opportunities are and how to capitalise on the population size and health food demands of the Indian market.

The Indian Almond Market

The Indian almond market has always been seen as having huge potential, with a rapidly growing population of more than 1.4 billion people (United States Census Bureau, 2023) in a country that does not produce any almonds. However, it has long imposed trade barriers which have restricted the volume of Australian almonds imported. The almonds imported are sold as 'in-shell' (Table 1) which are subject to smaller tariffs (see Table 2). However, in-shell almonds require higher quality, meaning not all almonds will meet the specification.

In December 2022, Australia and India struck a new trade agreement that would see almond tariffs cut by 50 per cent immediately and an import quota of 34,000 tonnes be established (Beaton, 2023). The quota is well above the current import volumes. This was welcome news to the Australian almond industry who now had a significant trade advantage over the United States (Beaton, 2023).

Table 1. Volume and value of Australian almond exports to India in the 2021/22 sales year

In-shell (t)	In-shell value (\$m)	Shelled Kernel (t)	Shelled Kernel value (\$m)	Total Kernel Weight (t)	Total (\$m)
23,369	122.0	352	2.4	16,711	124.5

Source: (Almond Board of Australia, 2023b)

Table 2. Australian almond trade tariffs in India before and after the new trade agreement

Year	In-shell	Shelled Kernel
2022	35 Rs / kg	100 Rs / kg
2023	17 Rs / kg	50 Rs / kg
2023: Quota: 34,000 tonnes		

Source: (Beaton, 2023)

Table 3. United States almond trade tariffs in India before and after the new trade agreement

Year	In-shell	Shelled Kernel
2022	40 Rs / kg	120 Rs / kg
2023 (June)	35 Rs / kg	100 Rs / kg
Quota: N/A		

Source: (Beaton, 2023)

This trade advantage obtained by Australia means that selling shelled kernel into India is now a viable option as it only incurs a tariff of 50Rs / kg (see Table 2). The results of this agreement were almost immediate with the Almond Board of Australia (2023b) reporting that exports to India were up 63 per cent overall with nearly all the gains being made in shelled kernel exports (see Table 4).

Table 4. Australian almond exports to India from March to May in 2022 vs 2023

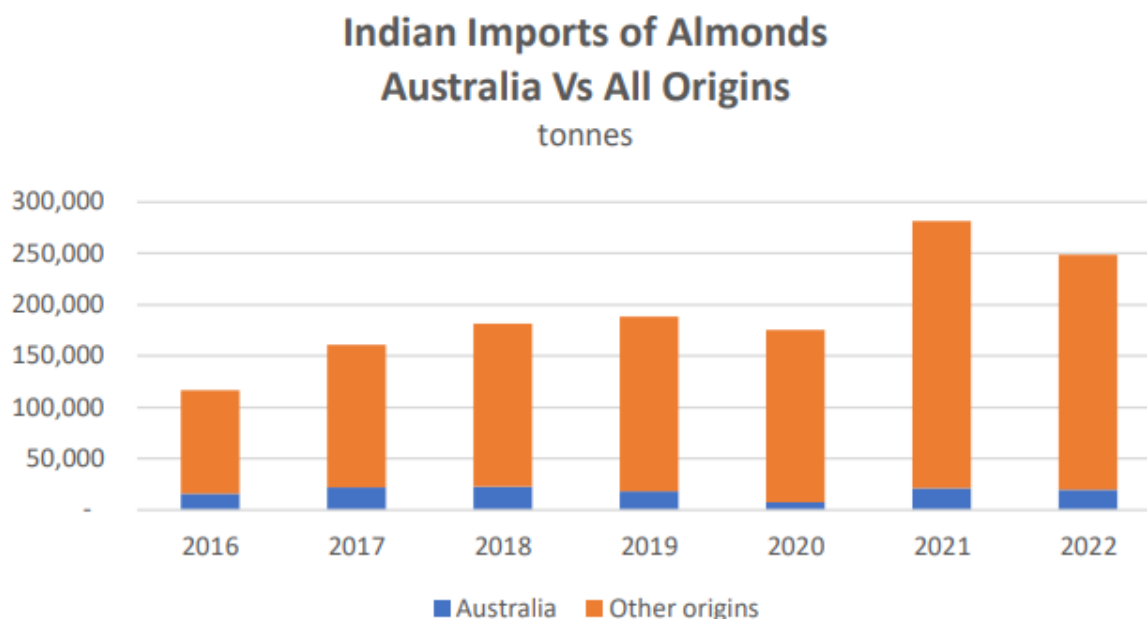
Year	Inshell (t)	Shelled Kernel (t)	Total Kernel Weight (t)	% Change
2022	3,113	36	2,215	+63
2023	3,123	1,427	3,613	

Source: (Almond Board of Australia, 2023b)

The Australian exporters enjoyed a significant trade advantage over California until India then agreed to remove their retaliatory tariff, against the United States (see Table 3), which included Californian almonds. This tariff was imposed in 2018 under Section 232 of the Trade Expansion Act after the United States imposed import tariffs on India's steel and aluminum products of 70 per cent and 80 per cent respectively (Goyal, 2023). Although Australia still has a current tariff advantage, the United States is now more competitive. Further, regardless of the tariff, India need Californian almonds to meet their demands as the Australian volume does not satisfy their requirements. India is currently California's largest export destination with 163,000 tonnes being sold there annually, which is more

than 10 times the size of Australian exports to India and more than the entire Australian crop (see Figure 2).

Figure 2. Global almond imports (tonnes) to India



Source: (Beaton, 2023)

Due to the significant volume of almonds produced in California, their promotion and marketing budgets significantly exceed that of Australia. For example, in the 2018/19 financial year the Almond Board of California invested over \$US58 million in global market development (Almond Board of California, 2019), versus the Almond Board of Australia's \$1.8 million investment (Almond Board of Australia, 2019).

The Californian almond industry currently has active promotions in India which focus on the beauty and cosmetic industry and the health and well-being industry. The promotions are made through social media platforms such as Facebook, Instagram, and YouTube. The marketing campaigns and content are tailored to the diverse demographics of Indian consumers, from religious beliefs to health requirements. For example, India is the diabetes capital of the world, with 18 per cent of the population effected (Pandey and Sharma, 2018). In response, promotional campaigns highlight research which shows consuming almonds daily for 12 weeks will lower cholesterol levels and aid in alleviating the prognosis of diabetes (Almond Board of California, 2021).

This promotional effort should boost overall demand for almonds, enabling Australia to leverage the marketing investments made by the United States to build consumption in India to increase demand. Heightened demand from India will stimulate the world market and should assist in driving prices higher and perhaps into more profitable territory to benefit the whole value chain.

Value Chain Map and Financial Flow

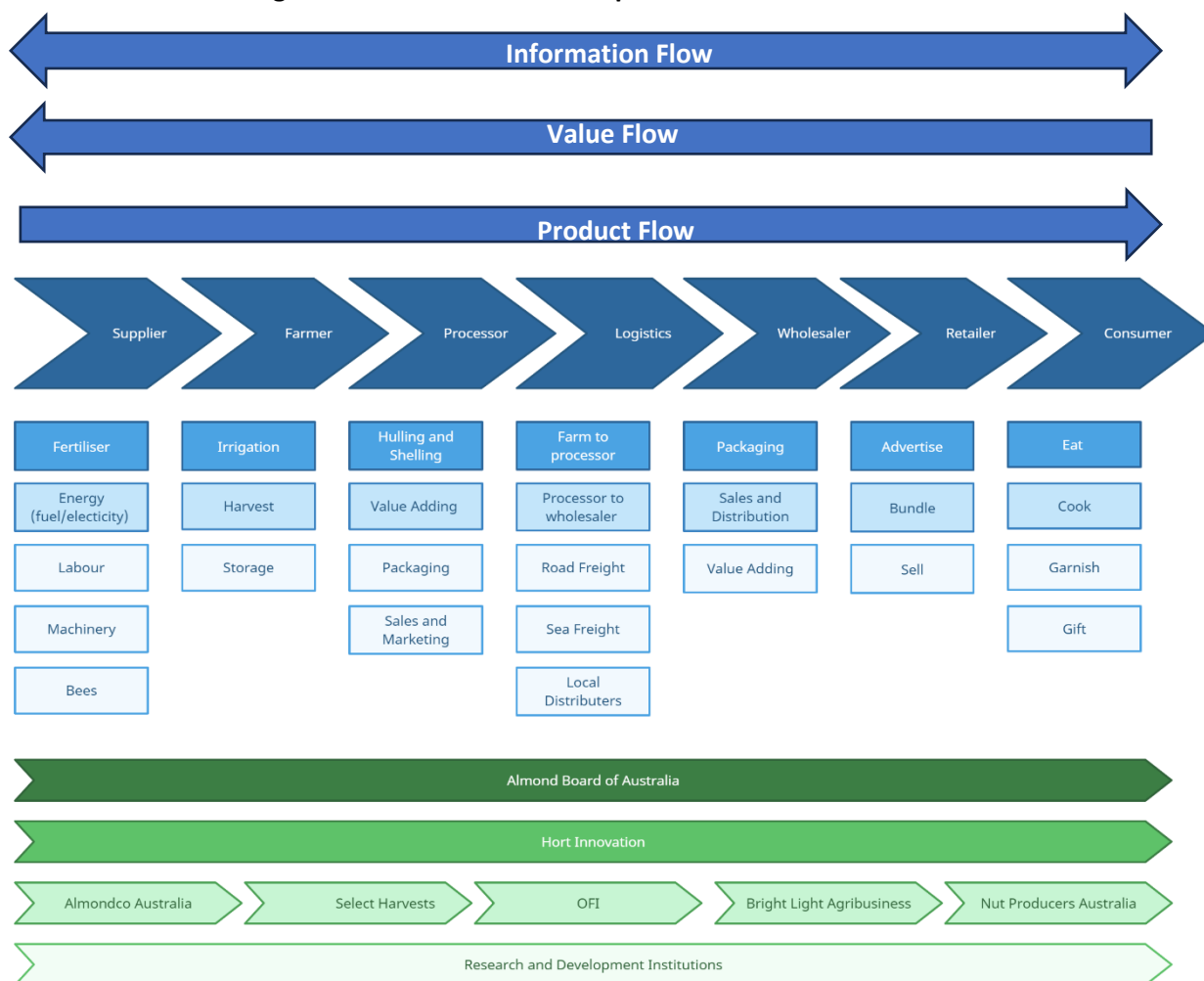
The Australian almond industry has been fortunate in that all exported almonds are sold as 'Australian Almonds' meaning that the five major Australian exporters are able to work collaboratively together in international markets. As seen in Figure 3, these five exporters are Almondco Australia, Select Harvests, OFI (OLAM Food Ingredients), Bright Light Agribusiness and Nut Producers Australia

(Australian Almonds, 2021). All exporters operate on a business-to-business model, meaning none of them have a retail brand and hence all processors sell direct to bulk wholesalers. This is no different in the Indian market with all exports being ocean freighted to wholesalers for secondary distribution (Australian Almonds, 2021).

The Australian almond value chain, like all agricultural sectors, bears significant supply risk due to environmental factors. As shown in Figure 3, key inputs such as energy, water and bees are subject to market volatility based on the season. For example, in drought conditions growers are relying solely on irrigation water to meet the crop’s high water demands with little substitute rainfall. This incurs significant energy costs, which unfortunately, are on the rise nationwide.

In addition, there is a growing supply risk of honeybee pollination services. As the almond industry has expanded, the number of hives available for almond pollination has not followed suit, creating an imbalance in supply and demand. Compounding this issue is their susceptibility to cold and wet conditions, which will see low bee flight hours occur during the flowering period, resulting in an unsuccessful pollination service. In addition, the recent incursion of a parasitic honeybee pest, Varroa Mite, has restricted the movement of beehives in Australia, further challenging the availability of hives. This was evident in 2022, when poor weather conditions and a lack of hive availability during pollination contributed to a 30 per cent decrease in yields, industry wide (Almond Board of Australia, 2023c).

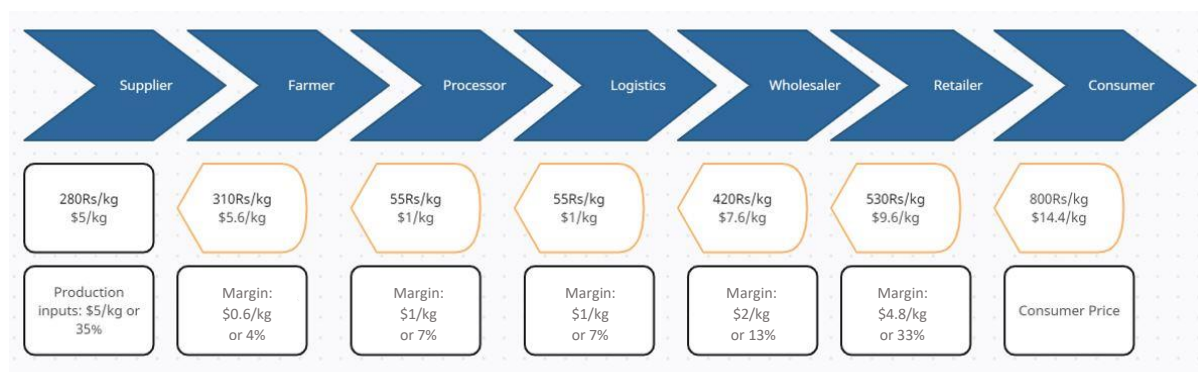
Figure 3. Australian almond exports to India value chain



Source: author’s compilation from industry sources

Finally, Australian almond production relies heavily on the Murray Darling Basin and its ability to deliver water for irrigation purposes. During times of drought or low water availability, this reliance strengthens. Providing insufficient irrigation will lead to lower yield and subsequent income. Therefore, although there is risk associated with all agricultural supply chains, the almond industry specifically, can be highly exposed.

Figure 4. Financial flow of the Australian and India almond value chain



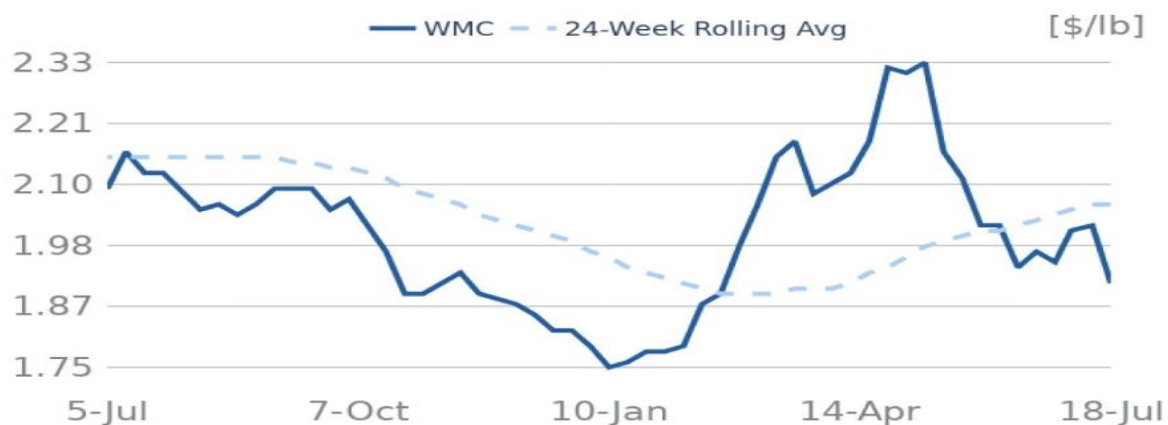
Source: author’s compilation from industry sources

The overall financial flows are displayed in Figure 4. This diagram shows the retailer is taking the largest revenue share of 33 per cent with an average sale price of 800Rs/kg or AUD \$14.4/kg (Indiamart, 2023). The almond grower is making the smallest margin of just 4 per cent or \$0.6/kg.

As shown in Figure 5, the Stratamarket Almond Index shows almonds in mid-2023 were trading for an average of \$US1.9/lb which equates to a sale price of AUD \$6/kg at an exchange rate of \$0.67 (Almond Board of Australia, 2023a). However, this is a wholesale price, so all processing and marketing costs will need to be deducted before the grower receives their portion of the sale. If the total Australian crop was to be sold during this period, even the return of AUD \$5.6 / kg and margin of AUD \$0.6 / kg would not be possible. Therefore, the Australian almond suppliers prefer to be active earlier in the year, leveraging the counter-seasonal opportunity between Australia and California. This enables Australia to offer new season crop at a premium price over California’s supply.

Figure 5. Average global almond pricing July 2022 – July 2023, represented in US \$/lb

STRATAMARKETS ALMOND INDEX | FAS CA



Source: (Almond Board of Australia, 2023a)

The overall strategic fit of the value chain is unique in that pricing is largely driven by the Californian almond industry as they represent 78 per cent of the world supply and 60 per cent of India's supply (Almond Board of California, 2021). Therefore, to maximise Australia's profitability in the Indian market, differentiation is required. Chopra and Meindl (2016) suggest an inverse relationship between value chain efficiency and responsiveness. This relationship is dictated by both logistical and cross-functional drivers which are all interrelated to create the overall strategic fit.

When examining ways of improving this value chain, it is difficult to develop competitive advantages through the logistical drivers. Australia provides a small portion of the total almond imports to India due to its supply capacity. Therefore, maintaining inventory, building facilities and managing freight is an unlikely area to build value into the product. In addition, due to almonds being transported via sea freight to local Indian wholesalers and traders, responsiveness is not a key profit driver for this market. Therefore, value is built into the product through efficiency and the cross-functional drivers.

As India traditionally imports only in-shell almonds from Australia, this creates a high degree of implied supply uncertainty. In-shell almonds require optimal growing conditions with low/zero rainfall at harvest, as moisture will result in shell and kernel staining, which ultimately puts the product out of the desired specification. Therefore, the sourcing of the almonds needs to be carefully considered, as specific growing regions are more likely to experience these conditions. These preferred conditions are characteristic of the Riverland in South Australia, which has an average rainfall of 260mm/year, and Sunraysia, Victoria, with an average rainfall of 280mm/year which traditionally occurs during the winter months (Bureau of Meteorology, 2023). In order to capitalise on these favourable growing conditions, the Australian almond processors and exporters have invested in in-shell packing technology to maximise their supply capacity from these regions.

The pricing component of the Indian market is heavily influenced by the sale price of Californian almonds. In recent years this has been favourable for the Australian value chain as all almonds are traded in \$US, meaning Australia gets stronger returns under a weaker Australian dollar. The average exchange rate is currently (August 2023) AUD \$0.67, which has provided the Australian industry with stronger returns, albeit at the low sale prices (Exchange Rates, 2023).

The information component of the Chopra and Meindl (2016) set of drivers is likely going to be the largest factor in successfully targeting the Indian market. A population of more than 1.4 billion people, alleviated trade restrictions and a health super food that reduces cholesterol in a country with some of the highest rates of diabetes is arguably the 'perfect storm'. However, the right information needs to reach consumers through persistent and tailored marketing campaigns. Through the reduction of the shelled kernel tariff to 50Rs/kg, Australia's exports have risen dramatically, and this will likely continue, enabling higher volumes to be exported with less concern about meeting the tighter in-shell specification. Fortunately, as noted earlier, Australia will be a beneficiary of the reduced tariffs on the Californian industry, as they invest heavily into the marketing program in India to drive consumption.

As displayed in Figure 4, almond growers are earning the smallest margin at 4 per cent or AUD \$0.6/kg. There is anecdotal evidence to support an average production cost of AUD \$5 to \$6/kg (Select Harvests, 2022), depending on factors such as level of debt, orchard age and orchard size. This figure has risen in recent years with extreme price rises of 100 to 500 per cent in key inputs such as fertiliser, labour, fuel and energy (Austrade, 2022). Although growers can make efforts to reduce inputs, this typically comes at the cost of yield and quality, both of which impact on profit.

To improve grower returns, more value needs to be provided to the consumer to increase their willingness to pay. This will enable suppliers to increase their price, along with the retailers. To achieve

this, the retailer needs to be shown how this will both benefit almond sales as well as their store returns through higher foot traffic and greater turnover.

To see more value built into the whole supply chain, the wholesalers and retailers in India need to be educated on the benefits of purchasing shelled kernel. Currently, the in-shell product is received in India to later be shelled at their own expense. Therefore, purchasing shelled kernel will reduce their operating expenses, which could be a strong ploy to drive up the value of Australian almonds as it creates a ready-to-eat product with little processing required before reaching the end consumer. In addition, Australia can now offer value-add products such as blanched, sliced, or slivered almonds and almond meal. This expansion of offerings would seem to present a good opportunity, as store buyers can deal with fewer suppliers and receive the same products, making their operation more efficient.

This value chain analysis shows that the Australian industry is currently surviving due to reduced tariffs in the Indian export market and a positive exchange rate. However, to build the profitability back to all value chain participants, the product needs to be differentiated away from the commodity product it is today and repositioned as an Australian, high value super food to the end consumer. The information component will be a key driver in educating consumers on the benefits of eating Australian almonds which, in turn, can be leveraged to increase demand and stimulate sale prices.

Discussion and Conclusion

The largest constraint in the almond value chain is the tariff that remains active between Australia and India. A free trade agreement between Australia and India would increase considerably the profitability of this market and allow it to become one of Australia's largest almond export destinations. This would assist in absorbing the expanding Australian crop while putting pressure on supply to other countries. The prospect of such an agreement occurring seems high as India do not produce any almonds meaning that they are not protecting any local providers. Domestic industry stakeholders are of the view that the tariff should have been removed totally (Beaton, 2023). It is not clear why this did not occur.

Selling a commodity product results in exposure to low levels of loyalty and customer reliability. Therefore, building long-standing relationships can be difficult as the buyers will quickly change supplier if the product is offered elsewhere at a better rate. To establish reliable buyers, the suppliers need to become more valuable by providing a portfolio of products that others cannot supply. This will assist in stabilising the customer base and enable time to be spent forging a long-term arrangement that benefits the whole value chain.

To see greater returns provided to the whole value chain, the product needs to move away from being sold purely as a commodity. The Australian almond suppliers need to invest time in establishing contracts to key Indian retailers to stock only Australian almonds in their stores. From here, the industry can invest in targeted marketing campaigns through these retail stores which not only promote the benefits and attributes of Australian almonds but bring customers through the door. This approach would enable a commodity product to be differentiated in the market and fetch premium prices, as consumers are made familiar with the Australian products at specific retailers. In addition, the tariff reductions mean Australia can also provide value-add products, therefore, offering a larger portfolio of goods.

Australian almond suppliers currently sell all their supply via the business-to-business model. The arrangement of selling product into India is typically via traders and wholesalers who then distribute to the retailers. Although this method works well currently, getting closer to the end consumer and selling direct to the retailers will incur lower supply chain costs, enabling more revenue to be

apportioned to the whole value chain. However, the challenges associated with establishing a new value chain that excludes the wholesalers cannot be underestimated. There is risk incurred by both parties, where the retailer would lose their diversification of supply and the almond supplier would need to deal with multiple Indian customers at once. A detailed feasibility study would need to be undertaken prior to this suggestion being pursued further.

India is positioned to absorb a significantly higher volume of almonds based on their population size, health concerns and lower trade restrictions from both Australia and the United States. Although India will continue to purchase almonds at the market price, an increase in sales will put supply pressure on existing markets, stimulating the world price. India is the key to distributing the high global supply of almonds and re-building value chain surplus to all participants.

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