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Algeria - New Zealand: Nations turning liquid commodities into economic prosperity

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Executive Summary

This report comprehensively analyses Algeria's dairy market and its significance as a major importer of New Zealand's dairy products, particularly Whole Milk Powder (WMP). Algeria purchased NZ$1,053,749,827 worth of New Zealand dairy products, in the year ending March 2024, positioning it as New Zealand's second-largest buyer, of dairy products globally after China. Algeria's demand for WMP, highlights its status as the second largest importer of this product globally. Algeria relies on milk powder imports to meet 45% of its domestic demand, due to limitations in domestic production capacity.

Algeria, the largest country in North Africa, gained independence from France in 1962, and boasts rich hydrocarbon resources, constituting 93% of its export earnings. Algeria has a population of 44-47 million, with 50% under the age of 30, underscores a youthful demographic, that drives consumption patterns and economic dynamics.

This report aims to assess New Zealand's potential to enhance its dairy exports to Algeria, and identify opportunities for value-addition in the export process.

Methodology
A literature review was conducted to understand the Algerian dairy market. Supplemented by seven semi-structured interviews, with key stakeholders in New Zealand's dairy industry participants, involved in trade with Algeria.

Analysis
The Algerian market relies heavily on imported dairy products, primarily whole milk powder reconstituted into milk, and other consumer-ready products. Importers operate under government quotas, issued by the Algerian Dairy Buying Agency, known as 'Office National Interprofessional du Lait et de Produits Laitiers' (ONIL), facilitating global tenders, including bids from New Zealand companies.

Key Findings
Algeria purchased NZ$1,053,749,827 of New Zealand dairy products year ending March 2024. Making Algeria, New Zealand's second-largest buyer of dairy products.
Algeria is the second largest importer of Whole Milk Powder globally, importing 45% of its domestic demand due to limited local production capabilities.
Algerians consume 201kg of dairy per capita annually, significantly higher than the global average of 90kg.

Recommendations
- Establish a local presence in Algeria through an agent to facilitate business engagements and navigate regulatory frameworks effectively.
- Explore opportunities for value-addition beyond commodity exports by leveraging New Zealand's expertise in Agri-tech services and food processing to provide integrated services via expertise in irrigation, genetics, milk processing, agri-tech software, et cetera.
- Build strategic initiatives to enhance market presence and explore value-added services can further strengthen New Zealand's position in Algeria's dairy sector.

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1.0 Introduction

New Zealand's dairy industry is in a unique position. New Zealand has a climate that works in New Zealand's favour to provide a seasonal milk supply. Consistent conversations in the dairy industry, around the topic of 'adding-value'. Uniquely, Algeria, a country New Zealand dairy farmers do not know much about, is New Zealand's 2nd largest buyer of Whole Milk Powder (WMP), and 2nd Largest buyer globally.

This report highlights that Algeria has a lot of economic potential. Algeria, a North African nation on the Mediterranean coast, lending itself as a gateway to Africa, Europe and Middle East, sharing its borders with six countries.

Algeria gained independence from French colonial rule in 1962. Despite its proximity to Europe, Algeria has seen slower economic growth and has been slower to capitalize on its economic potential, despite a larger land area and access to oil and gas. Resulting in a comparatively lower GDP and standard of living. Unlike its country neighbours, who have used export services such as tourism to bring wealth to the population.

Algeria reached national independence from the French in 1962. Similar to Morocco, which is important to note that the trajectory of Morrocco, has seen stronger economic outcomes, through more progressive policies for foreign investment, tourism and overall economic growth. Algeria's access to natural resources such as oil, gas and other mineral reserves, has enabled a rich economy. However, a growing population, currently 47 million (CIA, 2024), and warmer climate, impacts Algeria's food security. Increasing Algeria's reliance on food imports. The Algerian government has implemented various ways, to strategically implement capitalism and foreign investment to keep consumer prices low.

Algeria, a country with a population between 44-47million (World Bank, n.d.c, FAOSTAT, n.d., CIA, 2024), can only produce 55% of its domestic consumption (USDA, 2022) with a reported average of 201kg of dairy per capita (Winston, 2023). 50% of the population is under the age of 30 (Ghanem-Yazbeck, 2018; Serres, 2022), and 30% are under the age of 15 (CIA, 2024). Bringing energy and desire for higher living standards to be addressed by political representatives.

Recently the Algerian government signed a US$ 3.5 billion deal with Qatari owned business Baladna. The deal is to build the world's largest dairy farm in the South West Sahara, so that Algeria can become self-sufficient in milk production, and export the surplus(Algerie Eco, 2024; Baladna, 2024; Lamine, 2024). This puts Algeria at risk of losing their status as second largest buyer, of New Zealand's whole milk powder. New Zealand would need to source alternative markets, to redirect current whole milk powder exports.

Recent progressive law changes have opened Algeria to new growth potential. Mostly of a construction/ infrastructure nature, to improve housing and transport capabilities (Molnár, 2023). The recent approval for Baladna-(Qatari business) to invest US$3.5 billion, to build the world's largest dairy farm in the Southwest of Algeria, are examples of the ambitious goals, that Algeria's government has set, to improve domestic food security, and reduce unemployment (Algerie Eco, 2024; Baladna, 2024; Lamine, 2024).

Algeria's government, through the Algerian Dairy Buying Agency known as the 'Office National Interprofessional du Lait et de Produits Laitiers' (ONIL), facilitates global dairy trade, by issuing international tenders for dairy companies. Private processors in Algeria receive purchasing quotas from the government, to buy milk powder for reconstitution into various dairy products. The government aims to ensure affordable food access for Algerian consumers, who rely on dairy, as a food staple. Both government and private sectors compete to source cost-effective milk, focusing less on highly differentiated consumer-ready products. New Zealand exporters must continue to innovate to add value within Algeria's regulatory framework and market demands.

Algeria continues to import dairy products from New Zealand, because New Zealand dairy products are price competitive compared to markets closer to Algeria, such as Europe. New Zealand has high-quality milk characteristics due to the cows being grass fed, which produces fats that have a higher melting point, ideal for processing purposes in food manufacturing.

Figure 1 shows the value captured via the different dairy products New Zealand exports. Whole Milk powder(WMP) is a significant component of New Zealand's export value within the dairy sector, approximately NZ$27 million.

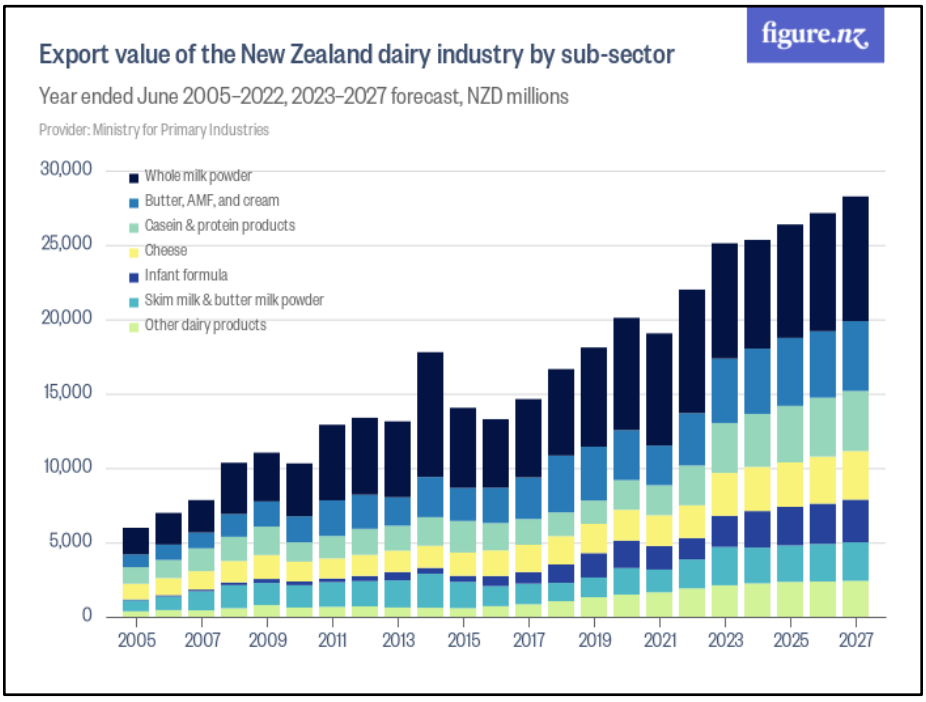


Figure 1 Export value of the New Zealand dairy Industry by sub-sector. (Source: MPI, 2023)

In the year ended March 2024, New Zealand exported NZ$1.06 billion of total goods and services to Algeria, and NZ$797,988 worth of services from Algreria through tourism. Algeria ranked 19 out of 242 countries for the highest export value, and 28 out of 244 for the highest total trade value (StatsNZ).

The value of New Zealand dairy exports has risen $NZ 7.9bilion in 5 years. New Zealand dairy exports valued at $NZ 25.7 billion, year ending April 2023 (DairyNZ, 2023). Despite the national dairy herd peaking at 5 million in 2015. The average production per cow (kilograms of milk solids), has been increasing 2.4%/ cow.

Algeria's proximity to Africa and Europe offers future economic opportunities. Algeria's currently sources dairy from the following nations, as per the table 2 below; NZ (41%), EU-28 (45%), and the US (1%), In the following with categories; Whole Milk Powder, Skim Milk Powder, Cheese, Butter, Whey, WPI, Lactose and casein. Most categories have grown in import volumes in the last 12 months ago.

	NZ	EU-28	US	AU
Source of Imports (12 Month Rolling)	41%	45%	1%	0%

Metric Tons	WMP	SMP	Cheese	Butter
12 Mo. Rolling Total	215,613	174,930	17,169	1,117
(% Change Prev. Yr.)	25.1%	90.7%	-9.5%	96.2%

	Whey/WPC	WPI	Lactose	Casein
12 Mo. Rolling Total	2,950	30	1,572	1,922
(% Change Prev. Yr.)	154.5%	-87.7%	-10.2%	498.0%

Source: GTT, StoneX Calculations

Figure 2 Algeria's country suppliers of dairy. (Source: Winston, 2024)

The main challenges identified in the seven interviews with key stakeholders, three of whom recently visited Algeria, underscore the risks inherent in expanding New Zealand's trade into Algeria. It is strongly recommended that businesses employ local agents to navigate business negotiations, language barriers—most Algerians speak Arabic or French—and the country's traditional business culture. Understanding social cues is crucial for achieving favourable outcomes.

Algeria's distribution of tenders, quotas and short fulfilment window of 6 months, puts pressure on New Zealand exporters to meet the unique trade criteria with Algeria. Along with the challenge that Algeria's population relies on cheaper milk imports to strengthen food security, due to a lower, domestic dairy production and lower consumer buying power.

Despite these factors, Algeria remains a significant market for New Zealand. Algeria plays a pivotal role in the dairy market, mitigating fluctuations when China (New Zealand's largest dairy importer), reduces import volumes.

Maintaining a neutral trade reputation is essential for New Zealand to sustain broad market access, and shield its economy from the volatility inherent in the global dairy market. Only 7% of global dairy production is traded internationally (OECD/FAO, 2021).

The volatility in the global dairy trade, can be challenging for New Zealand. New Zealand relies heavily on dairy exports, to support New Zealand's economic prosperity, standard of living, and the ability to import goods.

By New Zealand enhancing the value of exports to Algeria and other markets, New Zealand can diversify its economic risk, should certain product categories, like dairy exports to Algeria, become less viable due to developments such as, Algeria meeting its own dairy demands through large-scale farming initiatives.

New Zealand can still add value. The focus on creating value is moving closer to the beginning (upstream) of the supply chain. Production and processing efficiency should be highlighted as the largest opportunity to increase the value of New Zealand dairy through improving profit margins for New Zealand farmers and processors. Through the use of more automated technology, and New Zealand's intellectual property to turn grass-fed milk into powder of varying specifications.

New Zealand's focus is strong in exportable goods. This report aims to switch New Zealand's attention to exportable services, to monetise agri-tech such as precision-irrigation, genetics, milk processing and agricultural software as possible examples of exportable services to countries like Algeria. As well as considering Algeria as a gateway to Africa.

2.0 Aim and Objectives

The aim of this report is to explore and provide insight into the Algerian dairy market, assessing the demand for dairy product imports in Algeria. Examining the potential for adding value to New Zealand's export of services to Algeria.

Users of this report can identify areas where collaboration would be best served in Algeria, and its geographical location to Africa, the Mediterranean and the Middle East.

The objectives of this report are to

- Identify New Zealand's current dairy exports to Algeria.
- Identify the current characteristics of the population and the political and economical influence.
- Identify the of cultural aspects and influences of the Algerian population.
- Identify the geographical significant aspects of Algeria, and resource limitations that influence food insecurity in Algeria
- Analyse Algeria's demand for dairy.
- Analyse the political landscape in Algeria, and the influence on the value of New Zealand exports.
- Propose recommendations and opportunities for New Zealand to add value to exports into Algeria.

The outcome of this research will offer insights into the reality of the Algerian dairy market and identify the value of New Zealand's dairy industry in accessing future growth opportunities for its exports. The research can be used to provide strategic

growth opportunities as well as cultural awareness of the Algerian consumer and business relationships.

3.0 Methodology

An exploratory research method was conducted. The report method uses analytical techniques that are qualitative in theory, and cross-sectional due to the time constraints (Saunders et al., 2016). Techniques used include, literature review, semi-structured and thematic analysis, to understand the research question, "Can New Zealand add value to its current dairy exports to Algeria?". The research was collected, processed and presented within a 6-month window.

Keywords: Algeria, NZ Dairy exports, Value-add, International Trade.

3.1. Literature Review

As part of gathering further knowledge and research, a literature review has been used to collect and critically assess current information (Saunders et al., 2016) to help identify and test theories and ideas in a deductive approach. An extensive selection of primary, secondary and tertiary sources such as articles from journals, financial reports, government publications, news reports and national data have been used to gather new knowledge, and assist formulating interview questions for interviews.

3.2 Semi-structured Interviews

The interview questions (Appendix 28) have been developed to provide further knowledge from industry professionals, in answering whether added value can be applied to New Zealand dairy exports to Algeria.

The sampling method was a non-probability self-selection sampling, due to the fact that only a few professionals were available, to discuss the research topic (Saunders, et al., 2016). Interviewees who participated were selected based on their knowledge of trade within Algeria, and the New Zealand dairy export sector. The data collected from the semi-structured interviews, has been formulated to fill in knowledge gaps, and provide an opportunity to discuss the research question.

Seven semi-structured interviews were facilitated. The participants were mainly New Zealand based. Interviews were held with 1 NZTE representative of the North African and Middle East Market, 2 New Zealand government officials, 1 Dairy consultant/ geneticist, 2 Middle Eastern and North African traders/ Market managers in dairy, 1 marketing manager within horticulture, and 1 food and beverage technologist.

Sourcing interviewees with current knowledge of New Zealand's dairy trade in Algeria was a significant challenge. Due to the transactional nature of trade, and in some cases a risk of exposing commercially sensitive information. Agencies contacted to source interviewees include MFAT NZ, DCANZ, MPI, HortNZ, Algerian Embassies, a variety of dairy genetic companies, ExportNZ, MIA, and a variety of dairy companies (international and domestic), international business councils and past/present New Zealand dignitaries.

The knowledge, expertise and experience of the interviewees have been tabulated below.

It is important to note that three out of the seven participants have travelled to Algeria, with two interviewees, most recently travelling to Algeria in 2024. Providing further support for information collected through the literature review.

Table 1 Interviewee Categories

Stakeholder	NZTE	Government Official	Dairy Consultant	Trader/Market Manager	Marketing Manager	Food Technologist
Region	Africa	New Zealand	EU/ME/NA	ME/NA	New Zealand	New Zealand
Industry	Trade	Trade/Economist	Dairy	Dairy	Horticulture	Food & Beverage
Number of Interviewees	1	2	1	2	1	1

3.3 Thematic Analysis

Thematic analysis has been used to process data from semi-structured interviews. An accessible and theoretical approach for analysing qualitative information(Braun & Clarke 2006).

3.4 AI/Chat GPT

Chat GPT has been used to gather further insights and help organise ideas which have been developed through research that has been collected via the Literature review. The implication of minimal digital cash facilities. The implications of a young population on the socio-cultural dynamics and understanding the importance of service industries in an emerging/developed economy. CHAT GPT version 3.5 was used and accessed in 2024, June 24 & 30.

4.0 Limitations

Limitations were present during the data collection process and should be considered when reviewing the data and information presented. Sourcing interviewees with current knowledge of New Zealand's dairy trade within Algeria was a significant challenge. Due to the transactional nature of trade between New Zealand and Algeria. As discussed in the methodology section. A low response rate to accessing potential interviewees was also present.

Accurate country information on Algeria was also limited due to Algeria last carrying out a census in 2018, use of well-regarded agencies and institutions have been used to support information collected.

4.1 Interview response rate:
Whilst attempts were made to engage a wide range of relevant stakeholders. The subjectively low response rate was overcome by directly conversing with relevant participants actively involved in the North African/ Algerian market.

The topic covered confidential and sensitive information, which added further barriers. The responses provided supportive commentary reflecting much of the information gathered in the extensive literature review.

4.2 Data Integrity
To ensure data integrity respondents have given informed consent to participate in the semi-structured interview. Sensitive information and participant identity have been withheld to protect relevant information collected.

The research collected has been critically analysed as a literature review to reduce the threat of collecting unreliable information.

Gaining further information on the consumer dairy market was limited, partly due to how New Zealand participates in the market and the language barrier. Arabic and French are the main languages; gathering information on consumer attitudes and the reality of other dairy users was impossible without being physically present in the market.

4.3 Time limitation
Further research in the form of market analysis would be beneficial. The research could extend to understanding how pathways can be facilitated to various market sectors within Algeria, such as service exports and building diplomatic relationships.

5.0 Situational Analysis

This section frames the key factors that influence the dynamics of Algeria's economy. The population, Geography, political landscape, economy, and Algeria's dairy sector are important factors to understand the positon Algeria holds and why Algeria is the 2nd largest global importer of Milk powder, and the potential significance of Algeria's ambition to build, the worlds largest dairy farm, to improve food security and reduce food imports. Understanding these key factors, enables New Zealand to identify innovative ways, to add value to support New Zealand's dairy industry and economy.

5.1 Population
Algeria is experiencing significant demographic shifts characterised by rapid urbanisation, a youthful population profile, and regional concentration of population in the Northern Algeria.

90% of the Algerian population lives in the fertile coastal regions on about 12% of the country's total land (Bachir, et al., 2023). These trends pose challenges and opportunities for the country's social, economic, and environmental development in the coming decades.

The main challenge relates to an increasing need for essential infrastructure, such as housing demand in an area that has very fertile soil. The geographical spread of the population is illustrated below in Figure 3 below. Showing a sparse population in the remaining 10% of Algeria's population. specifically, the Sahara.

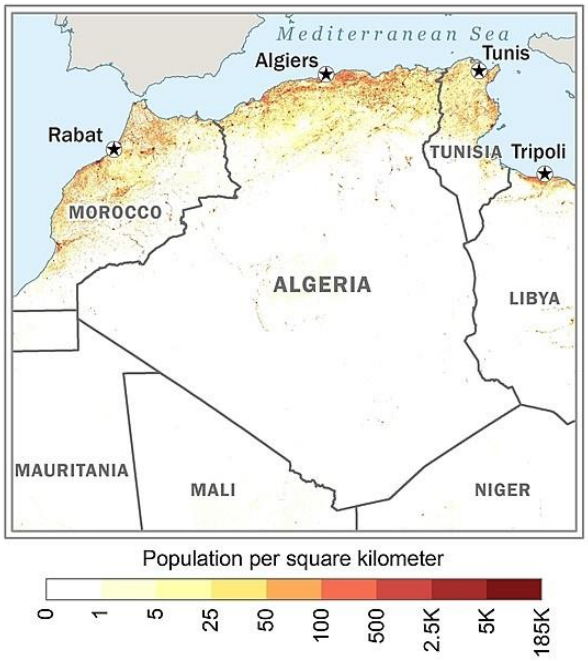


Figure 3 Population Density Map (Source: CIA, 2024)

According to recent sources (World Bank, United Nations, CIA), Algeria's population is estimated to be between 44 million and 47 million. Projections indicate Algeria's population could reach 63.5 million by 2060 (FAOSTAT, 2021).

The population growth rate is 1.7%, higher than neighbouring countries like Morocco and Tunisia (The World Bank, 2023). As depicted in Figure 4, Morocco and Tunisia have smaller land areas and reached independence from the French at the same time in 1962. However, Algeria's total population growth surpassed Morrocco's by approximately 1985.

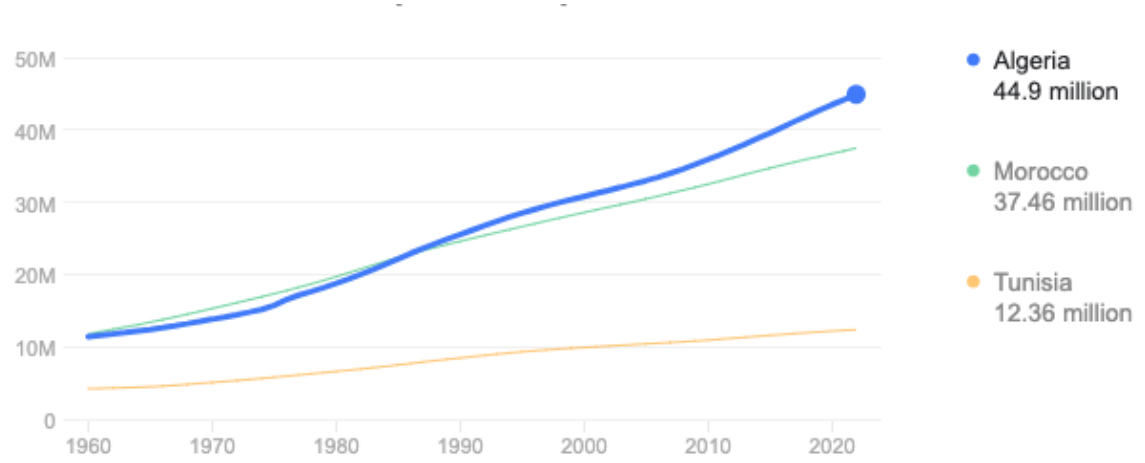


Figure 4 Population trend comparison to Morocco & Tunisia (Source: World Bank Data n.d.b)

Currently, 73% of Algeria's population resides in urban areas. This figure is expected to reach 85% by 2050 (Fertas et al., 2024). Urbanisation has led to conflicts over peri-urban land ownership (Maachou, 2012).

The majority (87%) of Algeria's population is concentrated in the northern part of the country (Mansour et al., 2023). There is a noticeable trend of rural depopulation, with rural areas experiencing a decline of approximately -0.4% per year (Bessauoud, 2019; Mansour et al., 2023).

Opportunities for education and employment in urban centres, drive the urbanisation trend. The high marriage rate (7.79%) reflects ongoing population growth, and demographic trends (The World Bank, 2023). Food security remains a concern due to the inability of current local production, to sustain the growing population.

In Figure 5, the projections for Algeria's population growth are estimated to reach 60 million by 2050, which poses a greater concern for Algeria's food security.

Approximately 50% of Algeria's population is under the age of 30, indicating a youthful demographic profile (Ghanem-Yazbeck, 2018; Serres, 2022). In Figure 5, the age bracket 15 years and under is a significant age bracket.

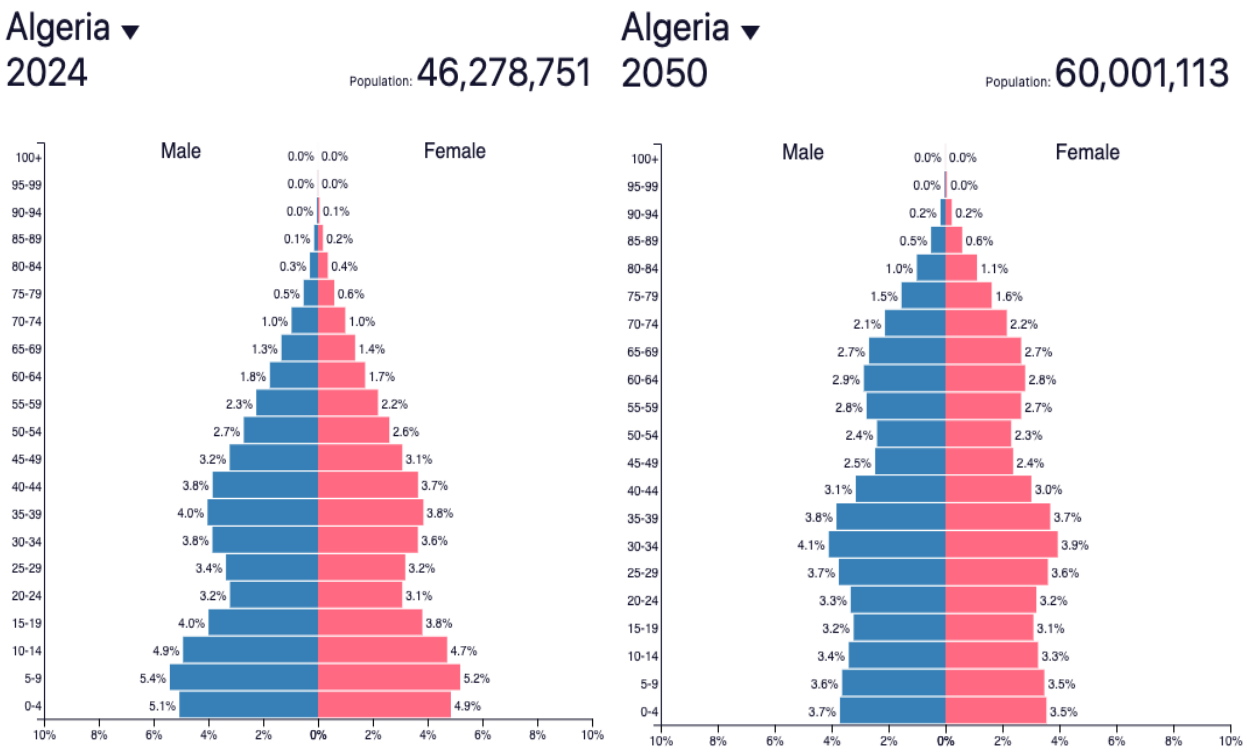


Figure 5 Population spread of Algeria 2024 vs 2050 (Source: Data from United Nations Department of Economic and Social Affairs, 2024)

Accurate data is variable, as the last census was completed in 2018. The population pyramid has collated data from the United Nations Department of Economic and Social Affairs, 2015, 2019 and 2022 revisions.

Algeria's population is growing, and the evolution of generations indicates a growing youth. Each new generation entering early adult life will seek new frontiers, highlighting the continued future growth of Algeria, and the reliance on food imports to improve food security, as local production cannot sustain the current population.

30% of the population is under the age of 15 (CIA, 2024). and 50% under the age of 30 (Ghanem-Yazbeck, 2018; Serres, 2022). This is likely to have significant implications for political regime in Algeria.

The potential impacts of a youthful population for the current political regime in Algeria relate to:

1. Youthful Energy and Activism: A large proportion of young people means a substantial demographic is more likely to be energetic, idealistic, and eager for change. This demographic can be a catalyst for political activism and social movements, pushing for reforms and challenging established political norms.
For example in Algeria, KFC was opened in Algiers, the following day shut due to protest. KFC is an American brand with pro-Israeli ties (Zbeedat, 2024). The US involvement in the Middle East does not align itself well with the Algerian population, of which 99% are of Muslim faith (CIA, 2024). By association a failure in public relations, and rejection of Western businesses.

The youth of the Algerian population is important for New Zealand to understand the moral and cultural issues that a population may oppose and how New Zealand aligns itself with global issues and maintain long term trading relationships.

2. Demands for Representation: Younger populations often demand greater representation in political decision-making processes. They may seek more inclusive governance structures that reflect their interests and concerns, including issues related to education, employment opportunities, and social equality.

3. Challenges to Established Power: A youthful demographic may challenge the status quo in countries where political regimes have been stable for extended periods. They may be less inclined to support long-standing political figures or parties and could seek alternatives that promise more responsive governance.

4. Impact on Policy Priorities: Governments may need to prioritize policies that cater to the needs and aspirations of younger demographics, such as education reform, job creation, affordable housing, and environmental sustainability. Failure to address these priorities could lead to social unrest or political instability.

5. Technological Influence: Younger populations are typically more tech-savvy and connected through social media and digital platforms. Through fast communication, technology can amplify young Algerian's ability to mobilize and organise collective action, shaping public discourse and political narratives.

6. Economic Impact: A youthful population can drive economic growth through increased productivity and innovation. However, this depends on whether the economy can absorb the influx of young workers and provide them with meaningful employment opportunities.

While a youthful demographic can bring dynamism and innovation to society, it also challenges established political regimes that may need to adapt, to meet younger generations evolving expectations, and demands. Balancing these dynamics is crucial for maintaining political stability and fostering inclusive governance in countries like Algeria.

5.2 Geography

Algeria is one of the largest countries in North Africa, Algeria is a North African country bordering the Mediterranean Sea.

Algeria is located between Tunisia and Morrocco. Sharing borders with 6 other countries. Tunisia, Libya, Niger, Mali, Mauritania and Morocco (CIA, 2024). Including the autonomous territory of Western Sahara, A key gate way for Africa to Europe and to the Middle East.

There are 4 major cities (>600,000 people), Algiers, Boumerdès, Oran and Tebessa. Rapid growth in urbanisation has increased the demand for food products. The significant impact of this is the impact on agricultural spaces that have become urbanised has been the overexploitation of groundwater (Fertas et al., 2024).

Rapid urbanisation in Algeria has significantly increased the demand for food products. This urban expansion has encroached upon agricultural spaces, leading to overexploitation of groundwater resources (Fertas et al., 2024).

The balance between urban growth and agricultural sustainability is critical for Algeria, particularly in managing its natural resources amidst increasing urban demands. with a surface area of 2,381,741 km2 (Ariom, 2022; Debabeche, 2021). The steppe occupies 8.5% of the total area, the coastal fringe (mountains and plains) 7.5%, and the Sahara 84% (Debabeche et al., 2021).

The implications of this geographic distribution, coupled with the findings on Algeria's population (as detailed in Section 5.1), are significant. Approximately 90% of Algeria's population resides along the coastal regions, which constitute only 7.5% of the country's total land area. In contrast, the vast desert expanses, comprising 84% of Algeria's land area, are sparsely populated. This distribution poses challenges for Algeria in securing suitable land to sustain its growing population, and meet current demands on food imports, thereby reinforcing the country's food security concerns.

Algeria's vast geographical expanse, dominated by the Sahara Desert, contrasts sharply with its densely populated urban centres along the Mediterranean coast. Balancing urban development with environmental sustainability, and agricultural productivity remains a key challenge for the country's future development strategies. Understandably, the most populated areas are the most fertile, impacting the availability of food-producing areas.

5.3 Algeria's Political Environment

Algeria's political landscape is marked by a history of independence from colonial rule. A diverse party system, cautious economic policies, and active engagement in international diplomacy with both Western and non-Western nations. These factors shape Algeria's domestic governance and its role in global affairs.

5.3.1 Political History

Algeria is run by the People's Democratic Republic of Algeria, after independence from France on July 5, 1962, and after the National Liberation Front (FLN) revolted in what has been described as a guerrilla war (Ghanem-Yazbeck, 2018). Till 1989, the government went through many referendums and removed the armed forces, which had run the government since independence, from a designated role in the government. The other main political party, despite perceived democratic rule, is the militant Islamic Salvation Front (FIS) (Serres, 2022). A cancelled election in 1992 saw the development of the Armed Islamic Group (GIA), and The Salafist Group for Preaching and Combat (GSPC). Elections in 1995 excluded the FIS group. To bring political stability in 1997, the National Democratic Rally (RND) was formed by a progressive group of FLN members. The RND and FLN parties backed Bouteflika. In 2004, Bouteflika was re-elected as president of Algeria. The president's role is to appoint the prime minister, including the nation's council. The hierarchy continues: the National People's Assembly (APN) elected by regional and municipal authorities below the prime minister. (Ghanem-Yazbeck, 2018; Serres, 2022)

Algeria's republic began in 1963. Previously Algeria was a French colony. Since independence, The political orientation has remained steady, covering 48 states/ provinces (USDS, 2007).

Abdelmadjid Tebbounehas has been Algeria's president since December 2019, The 'Ballot in September will allow for a second and final 5-year term' (Associated Press, 2024).

The government oversees the economic activity that occurs within the country to manage privatisation. Historically, privatisation has been viewed as a direct threat to employment (Kichou, 2011).

Algeria has made overtures to the BRICS bloc of nations (Karam, 2023). New Zealand is a member of the United Nations (UN), which removes New Zealand's ability to challenge trade disagreements. Currently, the UN cannot perform as a key dispute negotiator for member countries because the UN Security Council has yet to receive a unanimous vote from member countries. As a result, trade disagreements cannot be held, reducing protection to trading countries.

Alegria is a member of the Arab League and the African Union. A strong relationship with Russia, Iran and Mainland China (Fitch Solutions Group Limited, 2024). It is possible this alliance could concern some exporters and the unknown of how other countries might oppose New Zealand's trading relationship with Algeria.

Figure 6 provides a general analysis of the current strengths, weaknesses, opportunities and threats (SWOT), politically for Algeria. This is important for future investors and

exporters to understand and navigate doing business in Algeria. Algeria's political stability and consolidation of power is still considered a strength, which is crucial for maintaining continuity in Algeria.

In contrast, political weakness highlights Algeria's youthful demographic and high unemployment, which pose a risk of social unrest. Algeria maintains substantial subsidies and price controls on essential goods, leading to national food shortages and threatening social stability.

Political opportunities come from elevated oil prices, which enables the Algerian government to maintain subsidies on essential goods, without facing severe economic strain, reducing social instability. Leading to the potential for Algeria to leverage favourable economic conditions, particularly from oil revenues, to sustain social stability and manage public expectations regarding subsidy programs.

However, political threats stem from the lack of structural economic reform, to address Algeria's high youth unemployment, and the economic dependency on oil. Further threat of mass protests in the event Algeria's economic conditions were to decline.

Political SWOT

Strengths	Weaknesses
• President Abdelmadjid Tebboune has the backing of the military, the most powerful stakeholder in Algeria's political scene, which bodes well for policy continuity. • Tebboune reinforced his grip on power since the 2019-2021 wave of protests, limiting risks to regime stability and policy enforcement.	• The country has a youthful demographic profile, with nearly half of the population younger than 25. Given high youth unemployment, this increases the risk of social unrest. • Algeria's large subsidy bill and price controls have been causing shortages in certain goods, posing a risk to social stability.
Opportunities	**Threats**
• Elevated oil prices will reduce pressure on Algerian authorities to phase out subsidies, thus decreasing the possibility of public backlash in the short-to-medium term.	• A lack of structural economic reform to the economy will contribute to increasing political challenges over the long term. • Although currently unlikely, there is still scope for further mass protests as the ruling elite retains its grip on power, similar to the 2019-2021 wave of protests.

Figure 6 Political SWOT analysis. (Source: Fitch Solutions Group Limited, 2024)

5.4 Algeria's Economy

Algeria's economy is anchored by its significant hydrocarbon resources, which contribute substantially to GDP, export revenues, and government finances. The country's economic policies and exchange controls, alongside its position in Africa's economic landscape, underscore its strategic importance in regional and global contexts.

5.4.1 Economy

Algeria ranks 4th among African nations in terms of Gross National Income (GNI) based on purchasing power parity (PPP), with an estimated USD 528 billion for the period between 2011 to 2022 (World Bank). GNI Per Capita: Algeria ranks 8th in Africa for GNI per capita, at approximately USD 12.95 (World Bank).

Algeria's economy is significantly influenced by its high-energy resources, primarily hydrocarbons (oil and gas), which play a crucial role in economic stability and revenue generation (Karam, 2023). Non-Hydrocarbon Exports, in addition to hydrocarbons, Algeria exports non-hydrocarbon products such as phosphate, iron, zinc, mercury, salt, marble, and industrial equipment (Embassy of Algeria).

Algeria is identified as one of the top growing economies in Africa until 2030, alongside Egypt, Nigeria, and South Africa (IMF, Ndege, 2024). This growth potential underscores its economic significance in the region.

An opportunity for New Zealand to consider as a value-add partner country. Algerias geographical location lends itself to being an economic gateway to Aftrica, (Asharq Al Awsat, 2023)

The financial sector in Algeria is characterized by six state-owned banks that dominate 90% of the commercial market. The government maintains tight controls on foreign exchange, which influences Algeria's economic landscape towards a cash-based society.

Hydrocarbons represent a substantial portion of Algeria's economy, constituting 19% of GDP, 93% of product exports, and 38% of budget revenues between 2016 and 2021 (World Bank, 2023). This dependency on hydrocarbons has historically supported financial stability, and debt clearance efforts.

Despite its dependency on hydrocarbons, Algeria's economy shows growth potential, especially as wealth per capita increases. This growth can enhance purchasing power and create opportunities for higher-value imports from countries like New Zealand, where GDP per capita is significantly higher (Embassy of Algeria).

There is still economic growth potential within the economy. Algerians' per capita GDP is US$4,342, compared to NZ's GDP per capita of US$48,428, based on 2022 World Bank data. As wealth per capita increases, Algerian citizens' purchasing potential will likely increase, allowing for higher-value New Zealand export goods.

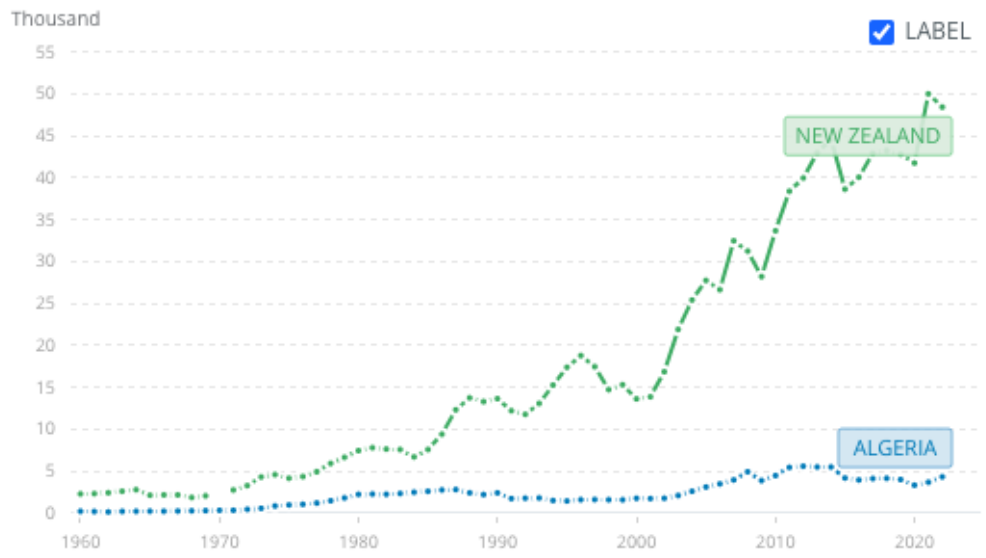


Figure 7 GDP per capita NZ and Algeria USD. (Source: World Bank Data, n.d.a)

5.4.2 Oil Gas & Minerals

Before Algeria's independence in 1962, the potential wealth from the Sahara region, included resources like coal fields, manganese, iron ore, uranium, and precious metals, was recognized (Soustelle, 1959).

Algeria's status as a rentier state, where a significant portion of government revenue comes from external rents, derived from natural resources rather than domestic taxation (Shabafrouz, 2010; Ariom et al., 2022). Heavily reliant on hydrocarbon exports, shapes its economic policies, political stability, and international financial interactions. The significant contribution of hydrocarbons to GDP, exports, and government revenues underscores their central role in Algeria's economy, and governance structures.

Hydrocarbons, including oil, natural gas, and petroleum products, are pivotal to Algeria's economy. They contribute approximately 19% to the country's GDP, constitute around 93% of its total exports, and provide 38% of budget revenues (World Bank, 2023). Hydrocarbon exports also contribute significantly to government finances, making up 38% of budget revenues between 2016 and 2021 (World Bank, 2023).

The dominance of the hydrocarbon sector has implications for political stability and leadership. The reliance on hydrocarbon revenues provides a strong incentive for maintaining the status quo in leadership, as stability is closely tied to the management and revenue generation from these resources (Kichou, 2011).

5.4.3 Economic SWOT

Algeria's economy relies heavily on hydrocarbon exports, which drive its economic performance and shape its political landscape and governance strategies. High unemployment and inflation challenges underscore Algeria's complexities in managing its economy amidst its hydrocarbon dependence.

Algeria faces challenges such as high unemployment rates. According to World Bank data, in 2021, the unemployment rate was 12.7% of the total labour force and 31.9% among Algeria's population aged 15 to 24 (World Bank, 2023).

Figure 8 shows highlights Algeria's current strengths, weaknesses, opportunities, and threats in its economic and fiscal landscape, providing insights into potential strategic considerations for policymakers and stakeholders. Algeria currently maintains a low level of external debt, and benefits from a growing population enabling high tax revenues from consumer spending, for the Algerian government. However, economic weaknesses/ threats, come from Algeria's dependence on hydrocarbon exports, susceptable to fluctuations in global energy prices, influencing Algeria's GDP.

Economic opportunities are potential investment law reform, making foreign direct investment to build important infrastructure within Algeria.

A growing population and a reduction in GDP could cause a fragile economy, affecting how much food is imported to Algeria (Fitch Group Limited, 2024). This impacts Algeria's ability to continue importing food like New Zealand whole milk powder. Impacting Algeria's position of 2nd largest buyer of New Zealand whole milk powder exports.

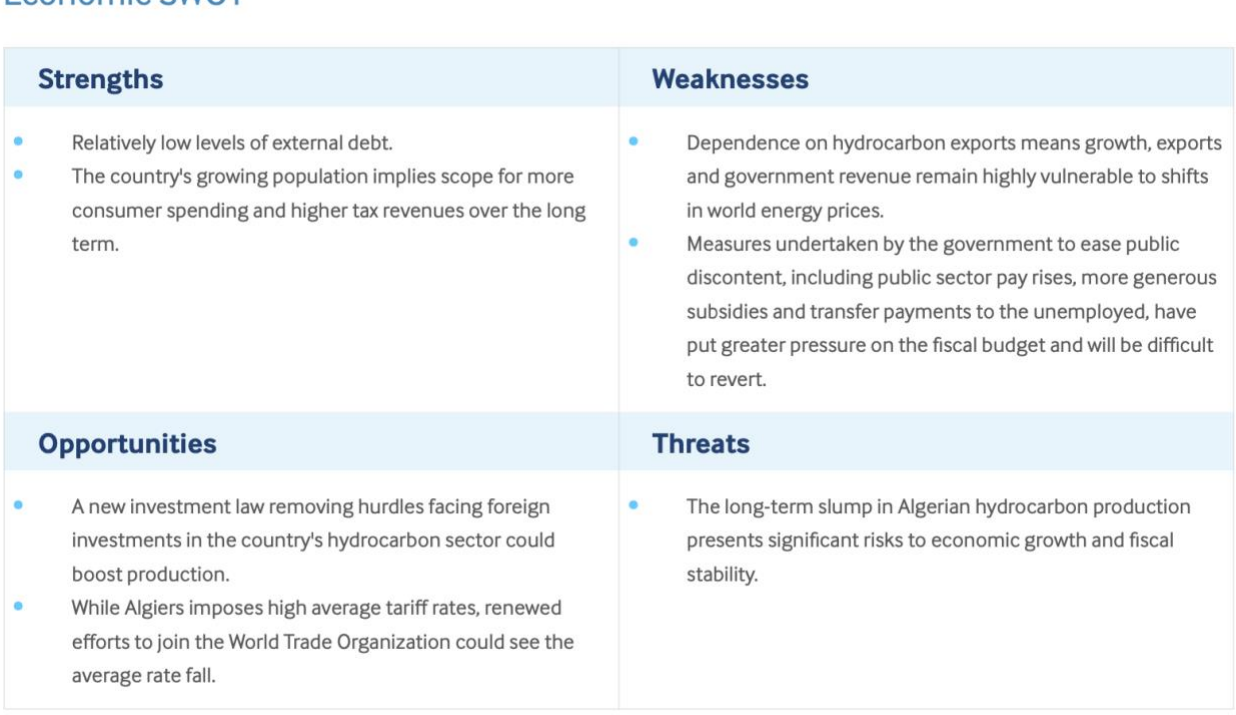


Figure 8 Algeria's Economic SWOT analysis. (Source: Fitch Solutions Group Limited 2024)

The economic Strengths, weaknesses, Opportunities, and Threats (SWOT) provide a general overview of the Algerian economy. Furthermore, the symbiotic relationship between population, economy, and politics influences the outcome of policy. It explains why some economic strategies driven by political stability may be seen as beneficial /non-beneficial to the nation of Algeria.

Figure 9 shows, through various periods from 2010 to 2022, the variation of the components that make up Algeria's Real GDP. Algeria's real GDP growth shows the breakdown of influencing components. Private consumption has remained steady, implying that domestic purchasing capacity per capita has stayed the same. This shows that economic growth is influenced by net exports, which supports investment within Algeria.

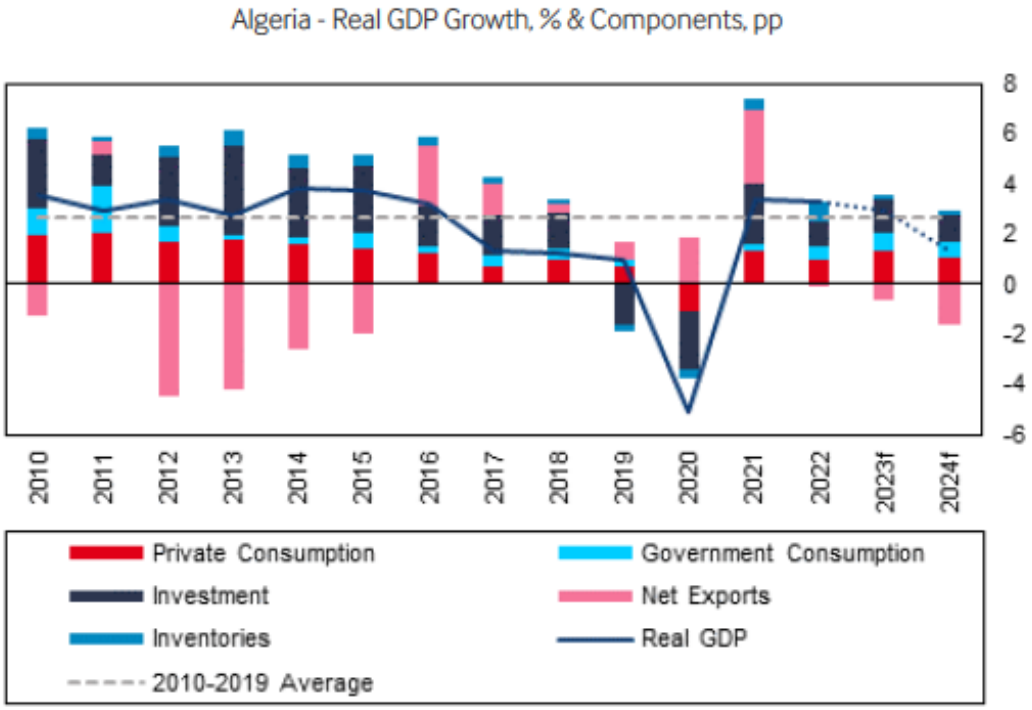


Figure 9 Algeria's Real GDP Growth. (Source: Fitch Solutions Group Limited, 2024)

Algeria faces challenges such as high unemployment rates, (approximately 10% according to World Bank data) and inflation, partly due to subsidies supporting the economy but contributing to inflationary pressures.

There are concerns about Algeria's economic resilience, especially regarding potential downward shifts in real GDP, anticipated due to volatility in hydrocarbon prices (Fitch Group Limited, 2024).

Algeria's economy relies heavily on hydrocarbon exports, which drives Algeria's economic performance and shape the political landscape and governance strategies. High unemployment and inflation challenges underscore Algeria's complexities in managing its economy amidst its hydrocarbon dependence.

5.4.4 Foreign Direct Investment

Introducing foreign funds to build capital to enhance future economic growth is an important strategy economies use to reduce unemployment, increase efficiencies within industries and, overall, the economy., Bringing future economic potential.

Traditionally, Algeria kept foreign direct investment at 51% Algerian to 49% foreign ownership, to keep economic prosperity within Algeria.

Algeria repealed the 51/49 foreign investment law, requiring Algerian nationals to hold at least 51% of shares in joint ventures with foreign investors. This move aims to liberalise the investment environment and encourage more foreign participation in the Algerian economy (Algeria Embassy Canberra, n.d.). Repealing the 51/49 law and introducing Law 22-18 are expected to boost foreign direct investment by providing international investors with a more favourable regulatory environment.

On July 24, 2022, Algeria enacted Law 22-18, which replaced the 51/49 law. The new law is designed to attract foreign investment, promote economic growth, reduce unemployment, and enhance food security within the country (Algeria Embassy Canberra, n.d.). Most recently, the US$3.5 billion investment with Baladna to build the world's largest dairy farm (Algerie Eco, 2024; Baladna, 2024; Lamine, 2024). With ambitions to exceed domestic demand and export surplus dairy produced.

These reforms and investments signal Algeria's commitment to attracting foreign capital, fostering economic growth, and addressing key developmental challenges such as unemployment and food security. The shift towards more open investment policies is a strategic move to diversify the economy and reduce dependence on hydrocarbons, potentially transforming Algeria into a more competitive market for international business ventures.

Conservative foreign investment policies are difficult to let go of, as depicted in Figure 10. Government leaders tightly hold income gains, leaving little opportunity for entrepreneurship. Cultivating a prosperous economy risks economic leaders being outperformed by new entrants. However, this requires progressive policy reforms, which economic leaders may not favour.

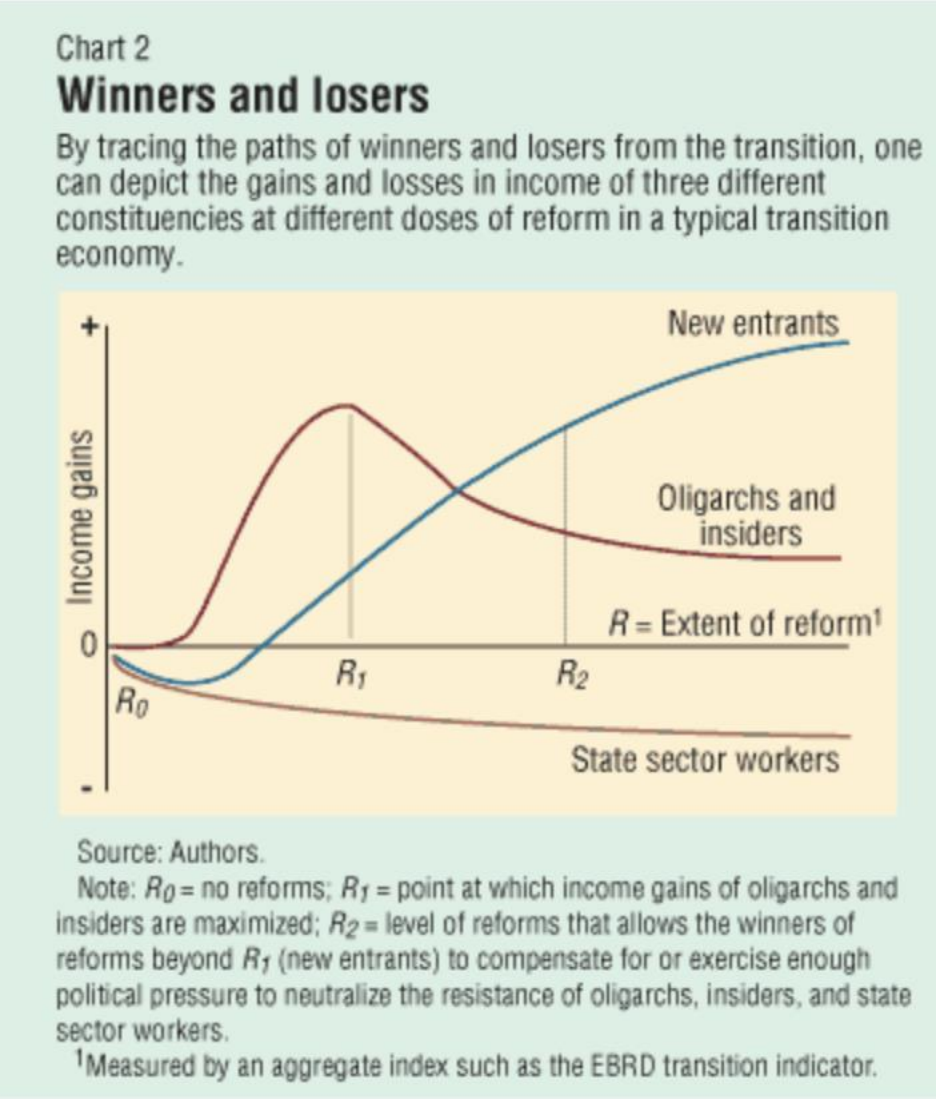


Figure 10 Theoretical analysis of income winners and losers. (Source: Mitra, 2002)

5.5 Food Security & Agriculture

Food security is an important aspect of both political stability and economic prosperity. 44-47 Million Algerians rely on the agricultural supply chain. Algeria's domestic food supply chain

Algeria's food spending is growth of 12.2% y-o-y (Fitch Solutions Group, 2024), 'Algeria's dairy market is forecast to be one of the fastest-growing sub-sectors over our forecast period, with annual growth averaging 17.5% in 2027', Due to restricted incomes and limited access to cold storage we expect households to substitute fresh dairy products, which requires faster consumption, for powdered milk which is cheaper and can be stored and consumed over longer periods"

Local reports say that queues have become commonplace in Algerian cities to receive rationed and subsidised powder-based milk. Many Algerians have protested on social

media about waiting hours to pick up milk (Karam, 2022., Blinda,2023., North Africa Post, 2024).

Food security is a significant challenge in Algeria as the population grows and becomes more urbanised.

5.6 Dairy Growth

2019, the Algerian Dairy Buying Agency (ONIL) estimated the national annual consumption of milk at 145 litres per capita, which is 55 litres per year more than the world average of 90 litres per year per capita as estimated by the Food and Agriculture Organization (USDA, 2022). StoneX has reported that, as per Figure 21, domestic consumption is as much as 201 litres per year per capita. The demand for dairy by Algerians is high. The issue likely to be faced is meeting the demand with current domestic production, global imports, and an increasing global population.

Algeria's dairy cattle herd produces 2.5 million metric tons (MMT) of fluid milk annually, while market needs are estimated at 4.5 MMT. However, only 55% comes from domestic production. Three years ago, the Algerian Dairy Buying Agency (ONIL) estimated the national annual consumption of milk at 145 litres per capita, which is 55 litres per year more than the world average of 90 litres per year per capita as estimated by the Food and Agriculture Organization Dairy Industries. (n.d.). Since 2019, Algeria (up $594.9m).

FIGURE 25: TOP 10 DAIRY EXPORT MARKETS, YEAR TO APRIL 2023

Source: Statistics New Zealand, Sense Partners

Figure 11 Top 10 NZ Dairy Export Markets (Source: DairyNZ, 2023)

In pursuit of increasing agricultural production, water technology has been utilised and expanded, the concern of groundwater security in the oasis-like Timimoun in the Algerian Sahara (Martínez-Valderrama, 2023; Remini et al., 2011). Timimoun is an area in

the Adrar province where Baladna and the Algerian government intend to set up the world's largest dairy farm (Chikhi, 2024).

Some studies have reported a future decrease in total annual rainfall by 15–30% (Ariom, et al., 2022)

Biskra is ranked as South East Algeria's largest irrigation water consumer, with 42% of annual consumption. Irrigation is inevitable under this region's arid climatic conditions. The majority of irrigation water comes from groundwater.

It is challenging to capture a true picture of Algeria's freshwater resources. Concerns about the quality of groundwater affected by salinity require further investment in desalination plants and further research. The arid climate and the desire to become self-sufficient highlight the growing importance of irrigation knowledge and infrastructure for precision agriculture.

5.7 Dairy Trade

The challenge for Algerian businesses is the Algerian government's rules and regulations. Algerian companies importing more than US$40,000 worth of goods, Algerian importers must pay foreign suppliers by letter of credit (US Department of Commerce, n.d.). Exceptions apply for "Algerian buying agency, Office National Interprofessional du Lait et de Produits Laitiers (ONIL), puts up tenders and are used as a key indicator for international demand, as Algeria is one of the largest consumers of dry milk powder worldwide. (ONIL), (Moris, 2023)" Private companies also import Milk powder for the purpose of re-manufacturing ready for the consumer market i.e. supermarkets. However this can be only done when the government provides Sanitary derogation permits. If not enough quotas have been given for demand, price is driven up, and the government releases global tenders to reduce domestic prices. The variable issue of sanitary derogation permits creates a challenging business environment to establish long-term purchasing behaviour.

New Zealand's dairy imports into Algeria are exposed to tariffs for commodity items, which are 5% ,whereas consumer ready products receive a 30% tariff MFAT (n.d.).

Algeria's location makes access to European and African markets favourable. – Agriculture and industrial activities are typically concentrated in the Northern part, Whilst the Sahara region is rich in natural resources and hydrocarbons (Embassy of Algeria, n.d.)

5.8 Dairy Investment into Algeria

Algeria has closer diplomatic ties with Qatar. Qatar's investment in Algeria has seen foreign direct investment in steel production and the recent announcement of the world's largest dairy farm (Malka 2018).

Baladna is a Qatar-based business. Their credentials in this space show rapid development for their Qatar-based farm. The first contract was signed in 2017 and was fully operational in 2021 (GEA, n.d.). The intensity of this development was driven by an embargo imposed by Saudi Arabia at the time (GEA, n.d.).

The recent agreement signed by the Algerian State and Baladna is expected to cover 117,000 hectares, milk 270,000 cows and produce 1.7 billion litres of milk or 194,000 tonnes of milk powder annually. Ownership is held 51% by Baladna and 49% by the Algerian State through the national investment fund (Baladna, 2024). Although reports suggest, output will come online in 2026 (Lamine, 2024). The project has been supported to fulfil "50% of Algeria's national milk powder needs" (Algerie Eco, a &b , 2024). The 'Framework Agreement' has been approved. With several other agreements concerning partnership statutes, Shareholders agreements, and ensuring a concession for 117,000ha of land is available.

The implication is that it is possible to alter the dairy export market, by Algeria no longer participating as a key buyer of global dairy exports, specifically New Zealand's WMP.

6.0 New Zealand's Dairy Trade

It is important to understand New Zealand's dairy sector and the economic prosperity it brings to the New Zealand economy. Identifying New Zealand's key dairy buyers and how Algeria is important in purchasing New Zealand exports. While New Zealand's dairy sector faces challenges in navigating global market dynamics and securing stable trade relationships, Algeria represents a key market with growing demand potential. Strategic initiatives in product diversification and efficiency improvements are crucial for maximizing opportunities and sustaining long-term growth in this vital export sector.

Key players in New Zealand's dairy industry push for value-added. Understanding what this means helps clarify the conversation.

6.1 Current Situation

New Zealand agriculture income is significantly driven by our ability to access markets. New Zealand is a significant global dairy exporter and a minimal producer.

Dairy accounted for $11.3 billion1 (3.2%) of GDP in the year to March 2023. Of this, dairy farming contributes $8 billion (2.2% of GDP) and dairy processing contributes $3.4bn (0.9%) (DairyNZ, 2023).

Figure 13 shows China's import demand for dairy and its variation year ending 2022-24. Shows WMP demand fluctuates, highlighting the greater importance that Algeria play in supporting demand for WMP in the global dairy export market

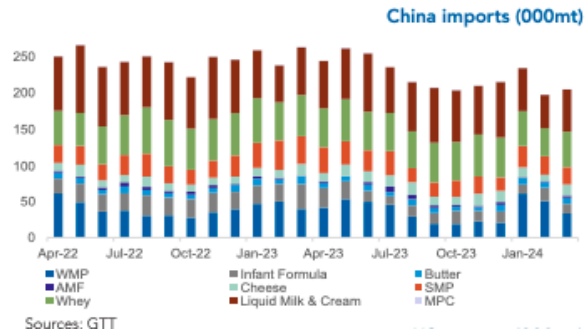


Figure 12 China's global import of dairy products (Source: NZX, 2024, a.)

New Zealand remains the largest exporter of Whole milk powder as depicted by the above graph.

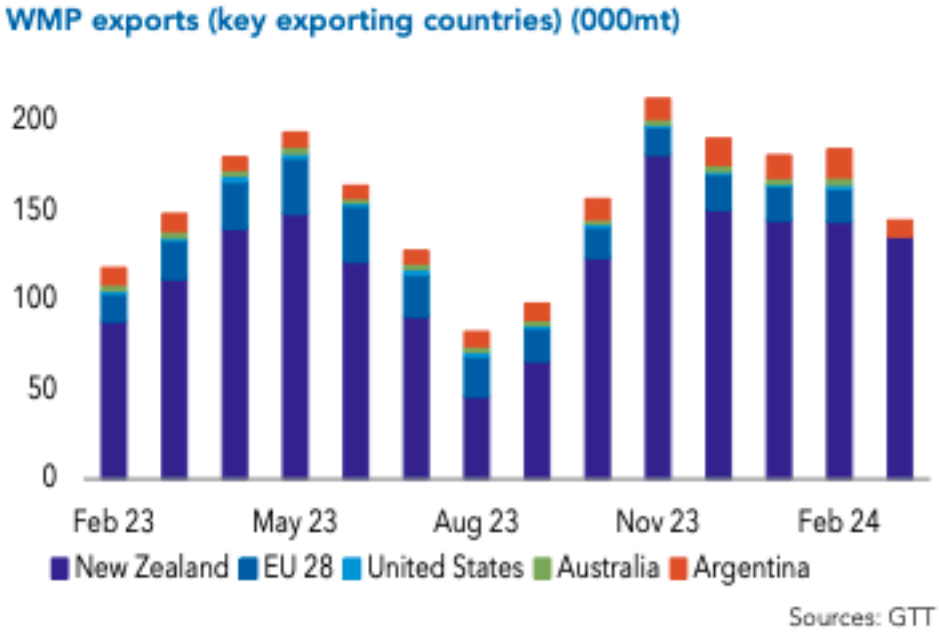


Figure 13 Global Whole Milk Powder Exporting Countries (Source: NZX, 2024, a.)

New Zealand's agricultural income is significantly driven by its ability to access markets. While we are a significant global dairy exporter, we account for only 3% of global production (DCANZ, n.d.).

Constrained global supply and increasing global demand are expected to keep prices high, supporting export revenue and the terms of trade. Despite the support of higher prices, dairy export revenue growth is expected to slow (Treasury, 2022).

For March 2024, New Zealand's dairy exports increased in volume for the third month in a row. However, they decreased in value. Total dairy export volumes were up 7.1% YoY

and 13.1% YTD with 324,638mt exported. Increases in export volumes were driven by increases for whole milk powder (WMP), whey, anhydrous milkfat (AMF) and milk protein concentrate (MPC). From a value perspective, total dairy exports were down -3.1% for the 2024 YTD. New Zealand whole milk powder (WMP) exports increased in March, up 21% from last year, bringing the YTD figure to a 32% increase. These volume increases were predominantly driven by increased demand from the Middle East and Asia (excl. China) which saw 121% and 30% respective volume increases. There was also increased demand from North America, with WMP volumes exported increasing 587% YoY to 2,198mt.

Figure 14 shows a steady trend in whole milk powder export volumes since 2008. There has been an overall increasing trend in the value of NZ milk powder. New Zealand export volumes of Milk Powder, show steady consistency. The value of Milk powder export value huge variability. It also shows that despite environmental land use changes in New Zealand and reducing cow numbers, the volumes exported are somewhat steady.

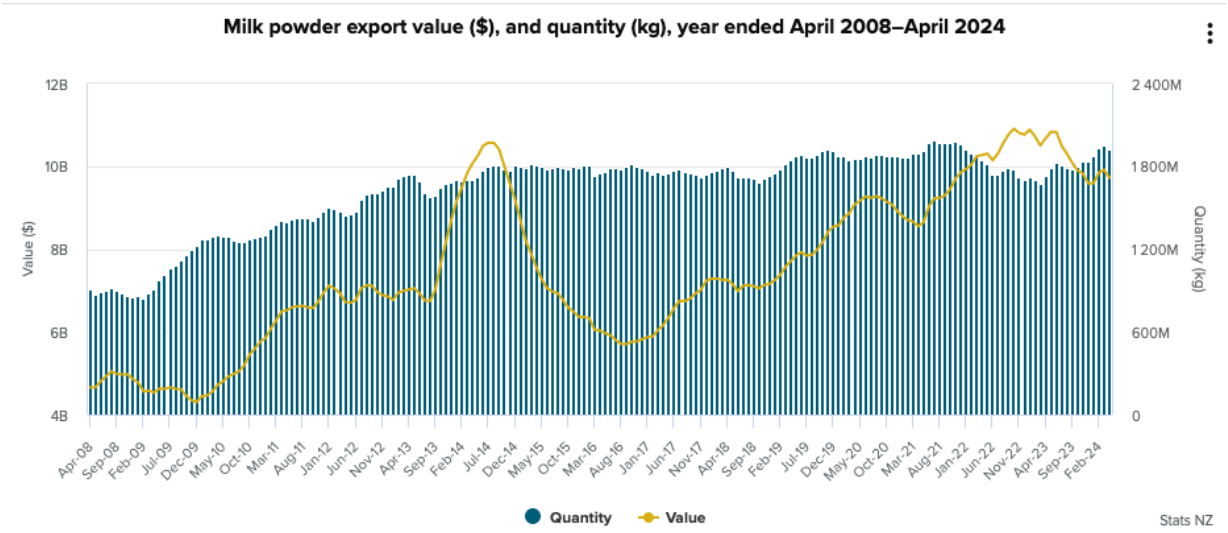


Figure 14 Milk powder export value (NZD) and quantity (kg), year ended April 2008-April 2024. (Source: StatsNZ, 2024)

Year ending April 2024 data shows. China is New Zealand's largest buyer of Whole milk powder, NZ$2,901,504,974 with Algeria in second rank at NZ$974,747,323.

Table 2 below shows the main milk powder export destinations with data from April 2008 to April 2024. Despite the variability in purchasing habits year-on-year. Algeria is still positioned as New Zealand's second-largest buyer of whole milk powder. This compares with 2008 where Algeria was 6th largest buyer of whole milk powder from New Zealand.

Table 2 New Zealand's main milk powder export destinations. (Source: StatsNZ, 2024)

	April 2008 ($ million)	April 2024 ($ million)	Change ($ million)	Change (percent)
Total milk powder	**4,656**	**9,721**	**5,065**	**109**
China	267	2,901	2,635	987
Algeria	242	975	733	303
Indonesia	267	654	387	145
United Arab Emirates	49	539	489	991
Malaysia	338	510	172	51
Thailand	193	475	282	146
Saudi Arabia	336	411	75	22
Bangladesh	26	406	381	1488
Singapore	158	351	193	122
Sri Lanka	278	325	47	17
Taiwan	102	322	220	215
Australia	57	287	231	406
Viet Nam	179	245	66	37
Nigeria	96	142	47	49
Philippines	364	135	-229	-63
Oman	56	102	46	81

Algeria's dairy consumption has grown on average 4% per year. (Winton, 2024). Algerian's per capita dairy consumption has been reported as high as 201kg (Winton, 2024). Compared to the Chinese population (New Zealands largest buyer of milk powder), consumimg 35kg of dairy per capita annually (Fox, 2024).

Algeria's purchasing mix of NZ agricultural food products is mainly dairy, with 97% of exports to Algeria being Whole milk powder with some cheese (0.4%) and butter (2.09%) for the year ending April 2024 exports

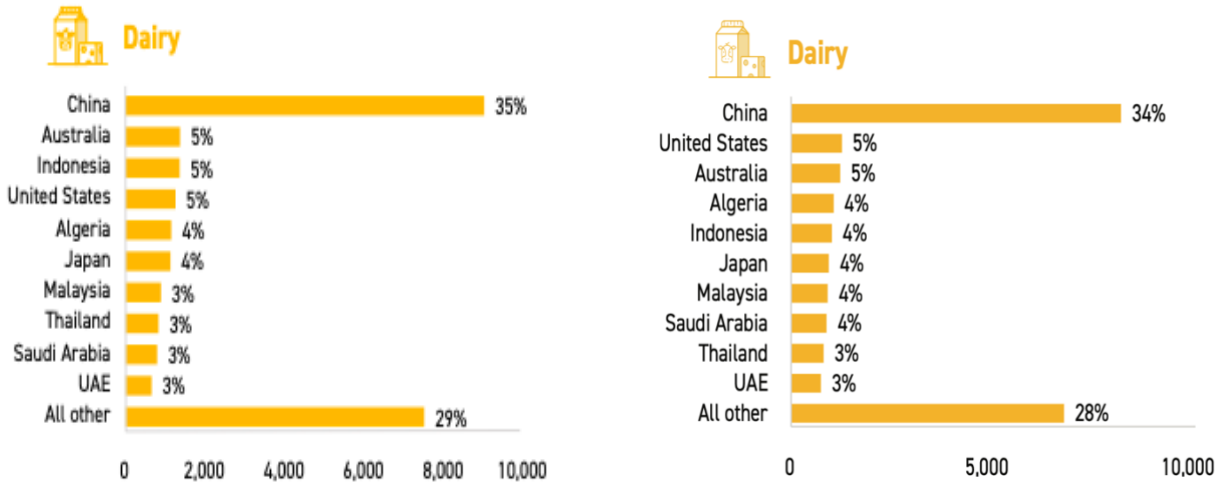


Figure 15 NZ Top Export Markets, Year to June 30 2023, NZ$ million. (Source: MPI, 2023) vs year to March 31 2024 (Source: MPI, 2024)

Figure 16 echoes the unpredictable purchasing decisions of Algeria. The 6-month 'order to supply' window makes it hard for New Zealand exporters to forecast the future participation in the market.

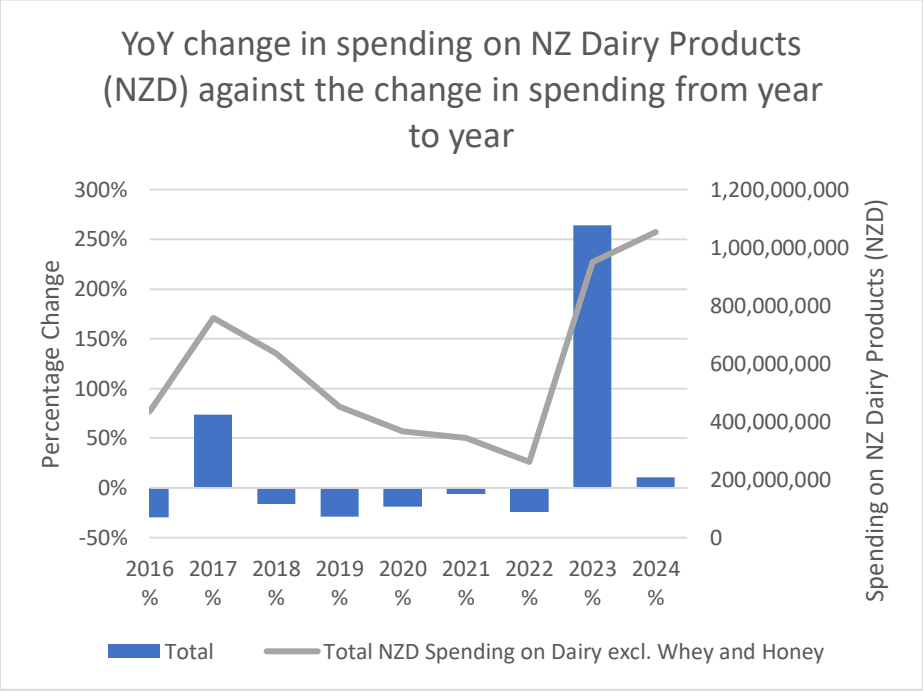


Figure 16 Year-on-year change in Algeria's spending on NZ dairy products ($NZD). (Source: S&P data, 2024)

Table 3 shows the different product codes, and what Algeria has imported since 2015. The data indicates that since 2015, 'Dairy Cheese', 'Dairy Fats' and 'Dairy Milk & Cream' are the main products purchased. The quantities are varied. It remains unknown specifically why the a reduction in Dairy Cheese and Fats. It does imply that

there is a market for these products. Algeria sees our dairy milk and cream- exported as milk powder to be a better fit for their purchasing decisions.

Table 3 NZ dairy exports to Algeria under different product categories (Source: S&P data, 2024)

Row Labels	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	2022 %	2023 %	2024 %
Dairy Cheese	100.00%	4.54%	2.14%	3.92%	4.23%	1.31%	3.37%	4.19%	0.66%	0.40%
Dairy Fats	100.00%	10.38%	6.60%	10.52%	12.19%	10.27%	5.94%	7.29%	1.78%	2.09%
Dairy Milk & Cream	100.00%	85.05%	91.26%	85.56%	83.58%	88.41%	90.68%	88.52%	97.56%	97.52%
Dairy Milk Constituents & Whey		0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Honey		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**

Algeria's purchasing trends can appear unpredictable, but this is not due to a lack of interest. Algerian business conditions rely on government quotas for privatised businesses, and government tenders with short trade windows (6 months). A 'start-stop' style of transaction.
Highlighted by the year-on-year spending lifting 264% in the year 2023. Off the back of declining value.

Figure 17 below shows the trend of Algeria's total spend for goods and services
Year on year for consumption overall from 2019-2024, not increasing, except in 2021.
Even in 2022, during covid, a massive drop in spending. Their consumption was up 9% but was down 24% on New Zealand dairy products.

Figure 17 Value of NZ exports of goods and services to Algeria 2008-2024. (Source: StatsNZ, 2024).

Strong purchasing behaviour Algeria in 2017 was demonstrated. However, a decrease in spending on NZ products, was evident until 2023. However, during that time

consumption of dairy has increased year on year. New Zealand dairy exports to Algeira reached NZ$1.06 billion year ended March 2024 (StatsNZ, 2024). Services to Algeria provided were directly from the use of tourism services. It is unknown if this was a result of diplomatic travel.

Figure 18 displays New Zealand's trade of total goods and services. Highlighting the volatility and dependence of New Zealand's goods exported globally, in all exportable product categories. It would be positive to see a stronger response to New Zealand strategies to build service exports, to match New Zealand's total goods exported, in areas such as agri-tech.

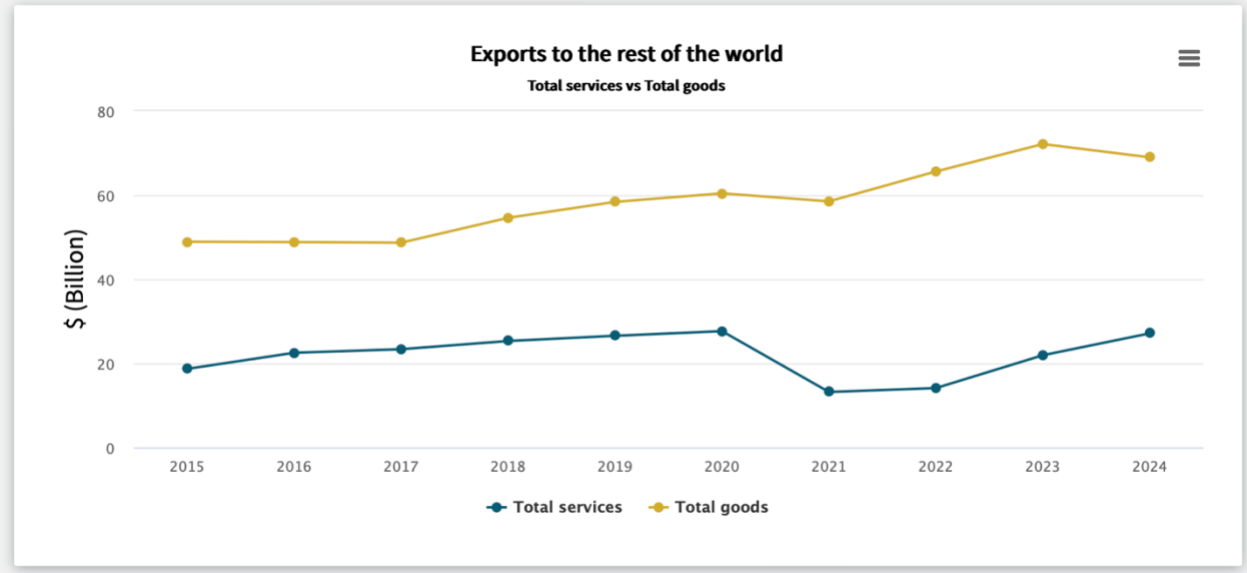


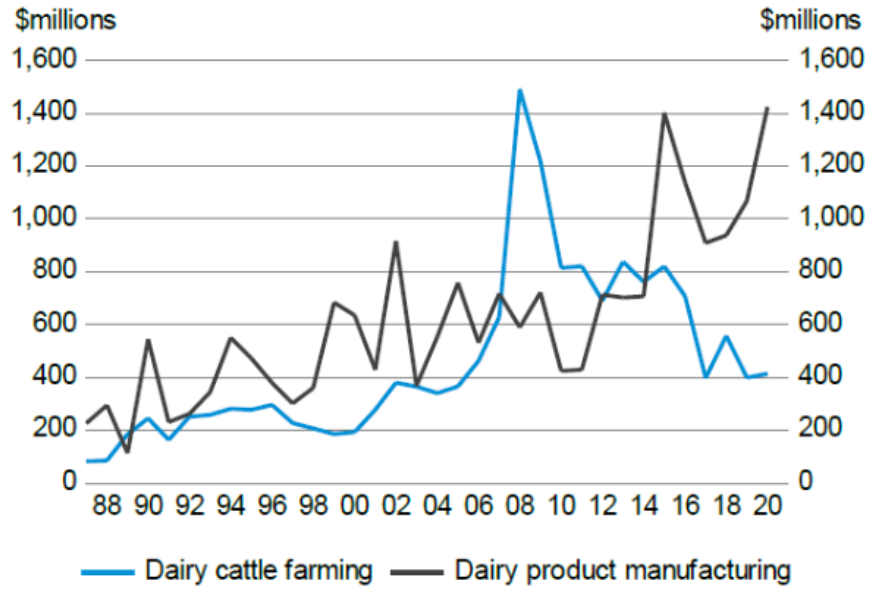
Figure 18 New Zealand's total exports of goods and services. (Source: StatsNZ, 2024).

6.2 Creating value

Continued reliance on milk powder production does not restrict opportunities for increasing the value-add of dairy exports, with new product development, improved efficiency of processing and increased sustainability, key opportunities for further improvement.

There has been a shift from on-farm investment to investment in dairy-product manufacturing following the slowdown in milk production growth (Treasury, 2022). Bringing further focus on production efficiency, to reduce costs of production on-farm and manufacturers. Figure 19 below demonstrates that the volatility in the value of dairy exports, makes it challenging for New Zealand dairy exporters to guarantee future revenue for goods exported. This trend implies that despite the number of dairy-

producing cattle trending downwards, New Zealand's dairy farmers are focused on improving per-cow production.



Source: Stats NZ/Tatauranga Aotearoa

Figure 19 NZ Dairy herd vs. NZ dairy production efficiency. (Source: Treasury, 2022

7.0 New Zealand's Exportable Services

Previously mentioned is Algeria's desire to reduce reliance on food imports, by signing a deal with Baladna, to build the world's largest dairy farm. If Algeria meets the production targets to become self-sufficient in dairy production. New Zealand's dairy exports would no longer be required by Algeria. Potentially through New Zealand's agri-tech sector, it is possible a trading relationship could be maintained, presenting an opportunity to add value.

New Zealand Agri-tech sector has ambitions to lift value from its current NZ$2 billion dollar value by 2030, (AgriTech, n.d.). The industry transformation plan (ITP), was launched in July 2020. In 2023 the biggest 22 firms exported $814.9 million of services (MBIE, 2023).

in 2015 Animal health products, medicines and preventative treatments for on-farm use were the largest export earners at $311 million. This category was closely followed by fencing supplies and equipment, and machinery and systems, each with $307 million in export sales (Beehive, 2015).

Areas such as animal monitoring, Automatic milking systems, traceability software, Genetics (heat resistant cattle genetics), and genomics of livestock, crops, farm management software, drones, and irrigation (AgriTech, 2021, NZTE, 2023., Treasury,

2020), would be of particular value to the Algerian dairy market to meet its domestic dairy production goals.

Trending technologies in agriculture include data management, machine learning, artificial intelligence, automation, and drone-based applications small-scale solar PV to solar powered irrigation systems and energy storage and technology liscenses (Carroll, 2022 & MFAT, 2023).

These are examples where New Zealand has potential to expand its trading relationship with Algeria and add value to exports into Algeria.

8.0 Findings and Discussion

During the literature review process, it was difficult gaining a clear picture of the key players' interactions within the Algerian dairy industry, without actually being there. The additional information provided through semi-structured interviews added weight to the findings in the literature. Specifically, three interviewees had first-hand experience visiting Algerian processors and farms within the last 12 – 24 months.

The mind map identifies themes during the thematic analysis from the information and knowledge gathered during the literature review and semi- structured interviews.

The implications of the literature review and the interviews highlighted the value of New Zealand's exports into Algeria is driven by governments goal to provide low cost dairy to the population of Algeria to supplement the shortage in domestic dairy production, and the populations growing demand for dairy as a food staple. The purchasing power of Algerian consumers is limited to a much lower GDP per capita. The infrusturucture to lift domestic production is not yet in place to become independent in supplying the domestic market with dairy

The factors of population growth, population density, climatic limitations, economic drivers, political drivers and limitations of Algeria's dairy is important to understand. As each factor is inter related.

It is also important to understand the implications of the performance of the Algerian dairy sector, and why food security is of significant importance to Algeria, The drivers to ensure Algerians have access to milk at an accessible price point. The diet of Algerians and the higher than global average milk consumption per capita, need to be understood to evaluate where value can be added in a price sensitive market.

The population make up, and economic situation also leads to further discussions of the political influence, including the purchasing patterns of tenders for food security. It is important to understand the historical influence of Algeria as a French colony to understand Algeria's government and its position not just on a leadership level but a cultural level.

8.1 Algeria's economic significance

Algeria's economy is heavily centred around the export of oil and gas. A reliance on continuing investment in this sector is of a strong focus, maintaining the status quo.

The Nord Stream pipeline destruction has led to a shift in the European energy landscape, with the Middle East emerging as a key player in oil and gas exports (Chronis, et al., 2023). Which has resulted in growing export revenue for Algeria, improving their nations position to import food as part of their food security strategy, (Fitch Solutions Group, 2024).

A cash based society protected by a secure financial policy to reduce the vulnerability of the Algerian Dinar (Dollar). The potential for Algeria's economy to grow in hydrocarbon-based investments holds a reasonably conservative approach.

Alternative opportunites of generating wealth, and reducing unemployment for Algeria would be in sectors such as manufacturing and tourism. Like its neighbours (Morrocco and Egypt), a progressive tourism policy and the infrastructure that complements this sector, would see Algeria's economic potential lift.

The most recent 2022 World Bank data showed NZ had a GDP per capita of USD$48,418.59, whereas Algeria was USD$4,342.60 (World Bank, n.d.b), shown in Figure 20. It would be natural to assume that New Zealand has a better economic outcome. Economically, however, this is marginal.

Table 4 shows the national GDP difference between Algeria and New Zealand at $US 13.5 million (World Bank, n.d.c).

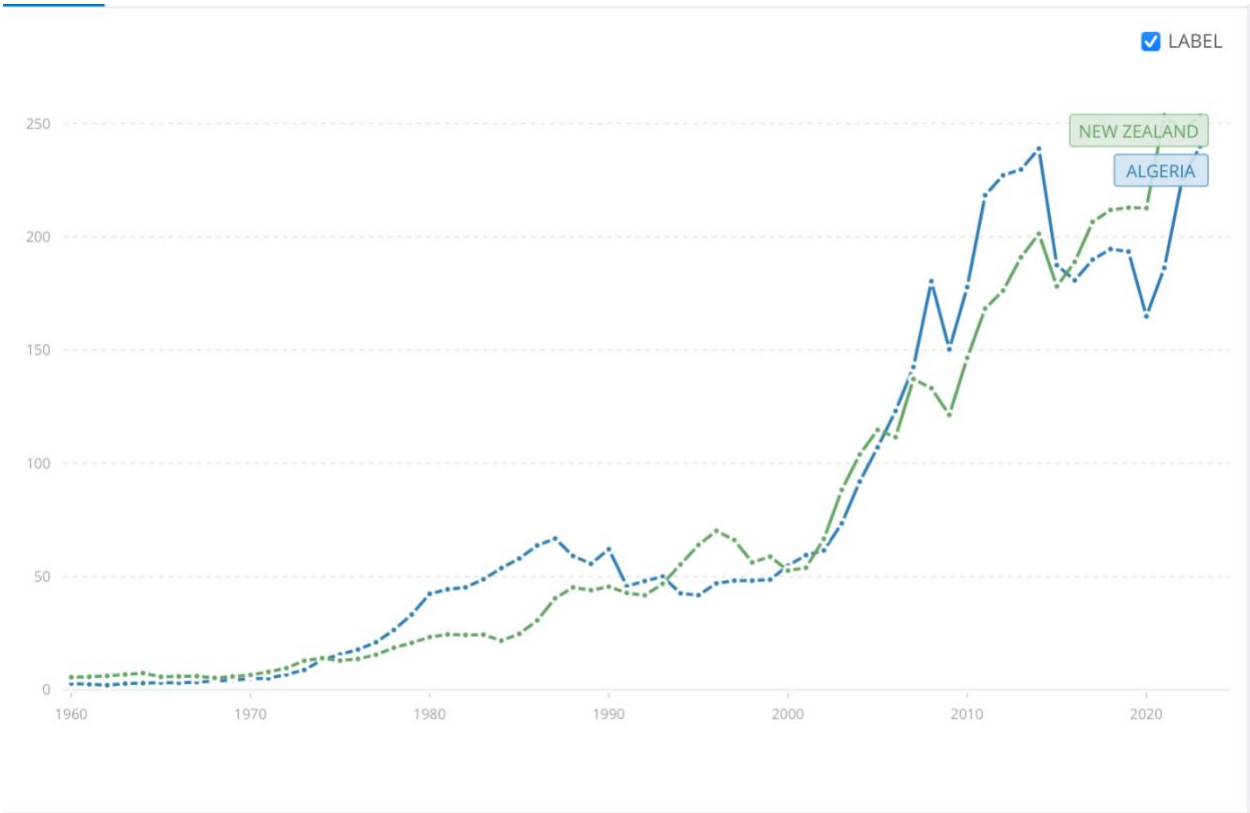


Figure 20 GDP$US difference between Algeria and New Zealand. (Source: World Bank, n.d.c)

Table 4 Algeria and New Zealand's national GDP. (Source: World Bank

Country	Most Recent Year	Most Recent Value (Thousands)	
Algeria	2023	239,899,491.13	
New Zealand	2023	253,465,703.23	

Table 5 shows a population difference of 40.4 million between Algeria and New Zealand (World Bank, n.d.d).

Economically Algeria and New Zealand have similar sized economies. It is unknown the great potential that both countries have yet to realise, through progressive and collaborative economic policies to stimulate economic wealth.

Table 5 Population of Algeria vs. New Zealand. (Source: World Bank, n.d.d)

Country	Most Recent Year	Most Recent Value	
Algeria	2023	45,606,480	
New Zealand	2023	5,223,100	

Algeria's proximity to Europe offers great potential in the manufacturing market. A gateway for Europe to Africa vice versa. An ideal location to have access to established and emerging markets.

8.2 Trade Relationships

NZ relies on its political engagement to effectively navigate ways to generate wealth and provide resilience to other countries worldwide.
Algeria is not too dissimilar to many country's governments. Perspectives may differ to protect and insulate an economy democratically, to satisfy its population.

Algeria is not a member of the WTO (World Trade Organisation) (USDC, 2023). New Zealand is a member of the WTO. It is important to note there is no obligation via international court, for Algeria to participate in potential trade disputes between New Zealand. For this reason, New Zealand exporters might perceive that trade to Algeria carries a higher risk. It should be noted that at this current time, 2024, The WTO Security Council is unable to hold international trade disputes as a full council has not been unanimously voted by WTO membership countries. Diplomatic neutrality is required by New Zealand to maintain its current trade engagement with Algeria. Positive diplomatic relations between New Zealand and Algeria, should be prioritised by New Zealand, to provide opportunity for further opportunities for trade that is mutually beneficial.

It is quite possible that through the vehicle of exports, we can assist a country's ability to increase its economic wealth nationally and privately while supporting New Zealand's economic growth. The softer skills are necessary through introducing the '4 p's' is most important. Our personal relationships with contacts are inviting, and trustworthiness is maintained. Patience for an emerging market, adapting to the local market and understanding the cultural nuances. Persistence. New Zealand must continue to make an effort diplomatically and privately into trading relationships. And lastly, passion. Where there is a will, there is a way.

Several developing economies use tourism-related activities, food, and transportation services to help diversify their exports away from volatile primary sectors (World Bank,

2022). Furthermore, exports of travel-related services are the largest in value. Exports of other e-services have grown discernibly faster over the last 15 years, creating new value opportunities. Exports of telecommunications, computer, and information services quadrupled between 2005 and 2019, while those of other business services, such as legal, accounting, consulting, and engineering, more than doubled. (Mulabdic & Nayyar, 2022). This further emphasises the importance of trade diversification in the countries we trade with and the goods New Zealand trades. Embracing diverse trade opportunities will ensure stability and foster long-term resilience in evolving global trade dynamics'(McIndoe, 2023).

Algeria has pledged with many countries to become an investment gateway for investors to enter the continent of Africa (Asharh Al Awsat, 2023). A consideration that New Zealand might be able to work collaboratively, with Algerian officials to form a strengthened partnership through positive trade relations.

8.3 Algeria's Dairy Industry

The peer-reviewed articles painted a bleaker picture of the knowledge and understanding of the reality of Algerian dairy farmers. Water availability and the environmental climatic impact such as rainfall, water access, droughts, land use access and feed supply was difficult to compare and identify the government's reluctance to open up opportunities for dairy farmers the reality of irrigation and specifically precision irrigation and how it is currently used. Using Google Earth scanning over the country of Algeria from the coastal regions to the more arid space shows that agriculture has more complexity than subsistence farming. It is hard to gauge whether lower dairy production is a result of knowledge gaps, skills or access to adequate resources which might be limited to the climate.

It was clear that Algeria is limited to fresh forage and relies on cereal and dry crop feed, such as hay, which, from a feed efficiency perspective, impacts Algeria's ability to drive milk production. The use of dual-purpose cattle is also worth noting. Beef and Dairy producing animals provide some resilience to farmers. This highlights Algeria's potential to grow domestic milk production with improved genetics. Implying that Algeria has the potential to meet the intended outcomes of the $US 3.5 billion deal with Baladna. This affects how Algeria participates in the global dairy market.

Revealed during the interview with a geneticist who had been to Algeria in early 2024, highlighted that Algerian dairy farmers had limited access to advanced genetics, which was challenging for dairy farmers. 'instead of having a choice of the latest sires to improve the genetic potential of the dairy herd or the dual purpose of meat and dairy production. The choice was limited to genetics from 2013 and had to be administered and requested access from a qualified vet. These genetics were further separated by breed, not sire. A standard choice is limited to breeding more 'Friesian into the herd' rather than a Friesian sire with the genetics of strong health traits, production traits and stature to suit the dairy farmer's requirements. The agricultural knowledge and policies that prevent access to suitable genetics within Algeria, drives a market for live export cattle via sea and land.

Many newspaper articles supported the role the government plays in meeting food security. The goal of importing dairy is to make dairy affordable and accessible for Algerians, making it a price-competitive market. Dairy is a staple food. Algerians consume 55 litres more per capita than the world average of 145 litres per capita (USDA, 2023). Figure 21 indicates that consumption has lifted 56 kg of dairy to 201 kg per capita. Dairy production in Algeria, however, can only meet the consumption demand of 55% of the domestic population. The rest is imported. Algeria's dairy industry is divided into private and public sectors, this is important to know, as private enterprises ambitiously attempt to fill the fragmented dairy supply market. The supply market includes the government buying agency, Private buyers and domestic dairy farmers/processors.

Algeria's recent signing of a USD$3.5 billion deal with Baladna to build the world's largest dairy farm carves new territory for Algeria and the Sahara region. It is an attempt for Algeria to become self-sufficient in dairy and export the surplus. The potential outcomes of this deal would halt New Zealand's dairy exports to Algeria. The trading relationship could come to a halt or diversify should the Algerian population increase domestic wealth and be in a position to buy high-quality grass-fed dairy. Another alternative for New Zealand dairy is diversifying from an export of goods to an export of services. New Zealand can provide technical support in animal husbandry, irrigation, and agricultural infrastructure.

Algeria's access to dairy technology, such as genetics, has growth potential. "Algerian dairy farmers do not have much choice when choosing sires, broken up into breeds rather than sire using genetics from 2013", which delays the genetic potential of the Algerian dairy herd.

Figure 21 and Table 6 and 7 below are sourced from StoneX- a financial platform supporting dairy farm owners who wish to engage in the futures and options market. StoneX have done independent research and forecast on the Algerian dairy market. The table below shows the change in dairy production from 2019- 2024. This table can be used in conjunction with NZ WMP exports to Algeria. The YOY% change indicates an increase in the domestic production of milk. The implications of this should concern dairy exporters to Algeria. However, this should be balanced against Algeria's growing population.

Furthermore, domestic use is on average growing by 3% on average. Imports are showing no change on average since 2019. The volatility in the importation market makes the Algerian market hard to interpret long term participation within the global dairy trade.

ME Balance-'000MT	2019	2020	2021	2022	2023	2024
Production	4,769	5,077	5,414	5,785	6,183	6,589
(YoY Change)	6.8%	6.5%	6.6%	6.9%	6.9%	6.6%
Imports	2,404	2,735	2,379	2,824	2,855	2,811
	-19.1%	13.8%	-13.0%	18.7%	1.1%	-1.5%
Domestic Use	7,172	7,812	7,793	8,609	9,037	9,400
	-3.5%	8.9%	-0.2%	10.5%	5.0%	4.0%
Dom. Per Capita (kg)	165.2	178.1	174.8	190.1	196.6	201.6
	-5.4%	7.9%	-1.9%	8.7%	3.4%	2.6%
Real GDP Growth	1.0%	-5.1%	3.4%	2.9%	2.6%	2.6%

Source: FAO, GTT, IMF, StoneX Estimates, Calculations and Forecasts

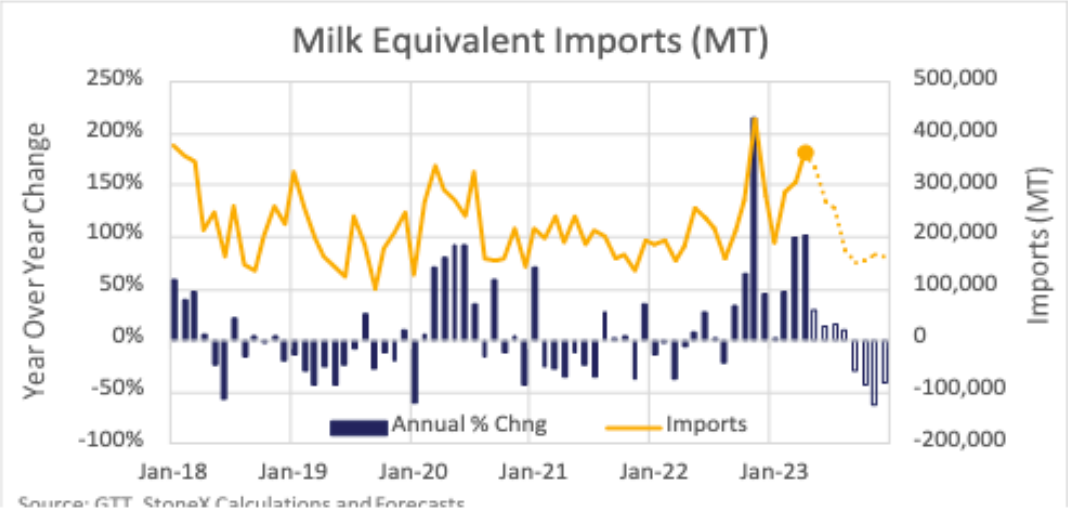


Figure 21 Algeria's Milk consumption and I import trends. (Source: Winston, 2024)

Table 5 shows the overall top milk equivalent import partners globally. Naturally, China, New Zealand's largest dairy buyer, sits in top position. Algeria is 4th. At an optimistic 101% year-on-year change. Taking into account Figure 21. It indicates extremely positive purchasing behaviour

Table 6 Global Top Milk Powder Importers. Including Algeria. (Source: Winston, 2023)

Top Milk Equivalent Importers ('000 MT)				
	Apr-23	YoY Change	12 Month Rolling	12 Month Change
World	6,376	4.0%	74,012	-1.5%
China	1,426	10%	16,712	-11%
Mexico	427	12%	5,185	17%
Indonesia	305	-11%	3,873	0%
Algeria	363	101%	3,251	45%
Japan	216	-16%	2,977	-1%
Malaysia	168	-24%	2,103	-15%
United States	155	-5%	2,071	6%
South Korea	164	-22%	2,061	-3%
Thailand	188	-9%	1,999	-6%
All Other	2,963	3%	33,780	-1%

Source: GTT, StoneX Calculations

Table 6 is more important to New Zealand. Algeria predominantly purchases Whole Milk Powder from New Zealand. In comparison, they purchase Skim Milk powder from other dairy producers such as Europe. It is understandable as Europe specialises in making cheese from European milk supply; the by-product of this is skim milk powder. Table 4 shows how important Algeria's participation in the whole milk powder market is in second position with a +42% year-on-year change. It is important to remember that Algeria's participation in the market is positioned to purchase milk powder to re-manufacture into milk for the consumer market at a very low price. It is also important to remember that compared to New Zealand's GDP per capita. Algeria is significantly lower. Should future economic prosperity sweep Algeria through progressive national policy changes favouring more progressive foreign policy, an increase in Algeria's GDP per capita would likely shift Algeria's rank in global whole milk powder importers.

Table 7 Global Top Milk Powder Importers. Including Algeria. (Source: Winston, 2023)

Top Whole Milk Powder Importers (MT)				
	Apr-23	YoY Change	12 Month Rolling	12 Month Change
World	186,282	25.6%	1,780,329	-14.3%
China	54,506	42%	440,976	-45%
Algeria	20,946	48%	215,613	25%
UAE	11,058	129%	90,099	-2%
Indonesia	7,425	16%	88,991	23%
Thailand	5,856	-28%	67,594	-12%
Brazil	5,685	418%	60,226	287%
Singapore	2,179	-55%	59,581	20%
Saudi Arabia	4,176	-22%	59,197	15%
Oman	5,059	-12%	56,822	5%
All Other	69,391	17%	641,231	-7%

Source: GTT, StoneX Calculations

8.4 Demand for New Zealand WMP (Whole Milk Powder)

New Zealand is the ideal climate for producing grass-fed milk. An outcome of this is that it is a high-quality product, not just for its flavour profile but also for how the milk characteristics behave in food manufacturing. Customers prefer New Zealand's Whole Milk powder from a milk shortage perspective. Algeria's per capita consumption has lifted. Reported to be once 145kg per capita in a USDA report. It is now just above 200kg per capita. For a growing population like Algeria. The demand for dairy is high. The challenge is that comparatively wealth amongst the population is a lot lower. To ensure food prices are kept down. The government allows private businesses to re-manufacture milk powder into liquid milk; however, when there are shortages within the domestic market, that cannot be met, even with importation quotas. The government buying agency ONIL puts out global tenders to meet the gap in the market. A race to secure these tenders is determined by price. New Zealand's advantage is the ability to produce low-cost milk compared to other producing nations, such as the EU, even when they are closer to the market, because of the variable nature of these government-issued tender and import quotas for private businesses. The short-term, issued tenders create a challenge to plan for both importers and exporters. Government tenders/importation quotas are only valid for six months, putting pressure on tight deadlines for order fulfilment to be met.

'New Zealand's grass-fed milk has more long-chain fatty acids,' meaning they melt at a higher temperature. Behaviours of these fats during processing are preferable for food manufacturers. Especially since New Zealand cows are grass-fed, not grain-fed. During

processing it is less likely for the oil to separate from the fats, and it is less liquid during processing. Holding its product form better (Alothman, et al. 2019). This large factor sets New Zealand's dairy products apart from other export nations.

Depicted in Figure 22. Displays market data from the New Zealand Exchange (NZX), emphasizing the market dynamics and price trends for dairy products, particularly Anhydrous Milk Fat (AMF), which offers higher stability and longer shelf life compared to other dairy products (NZX, 2024).

Markets and data

Dairy commodity futures (US$/tonne)

Date	Jun 2024	OI	Jul 2024	2nd OI	Aug 2024	3rd OI
WMP	3440	6678	3325	11391	3170	13092
SMP	2750	9437	2745	4757	2695	5280
BTR	7300	661	6900	192	6300	360
AMF	7600	79	7100	140	6900	120

Figure 22 New Zealand Exchange, Market Data April 12 2024. (Source NZX, 2024. b)

Figure 23 illustrates the principle of 'Anhydrous Milk Fat (AMF) production, providing insights into how much processing is required, specialist knowledge and equipment to achieve value-add commodities to international markets (Tetrapak).

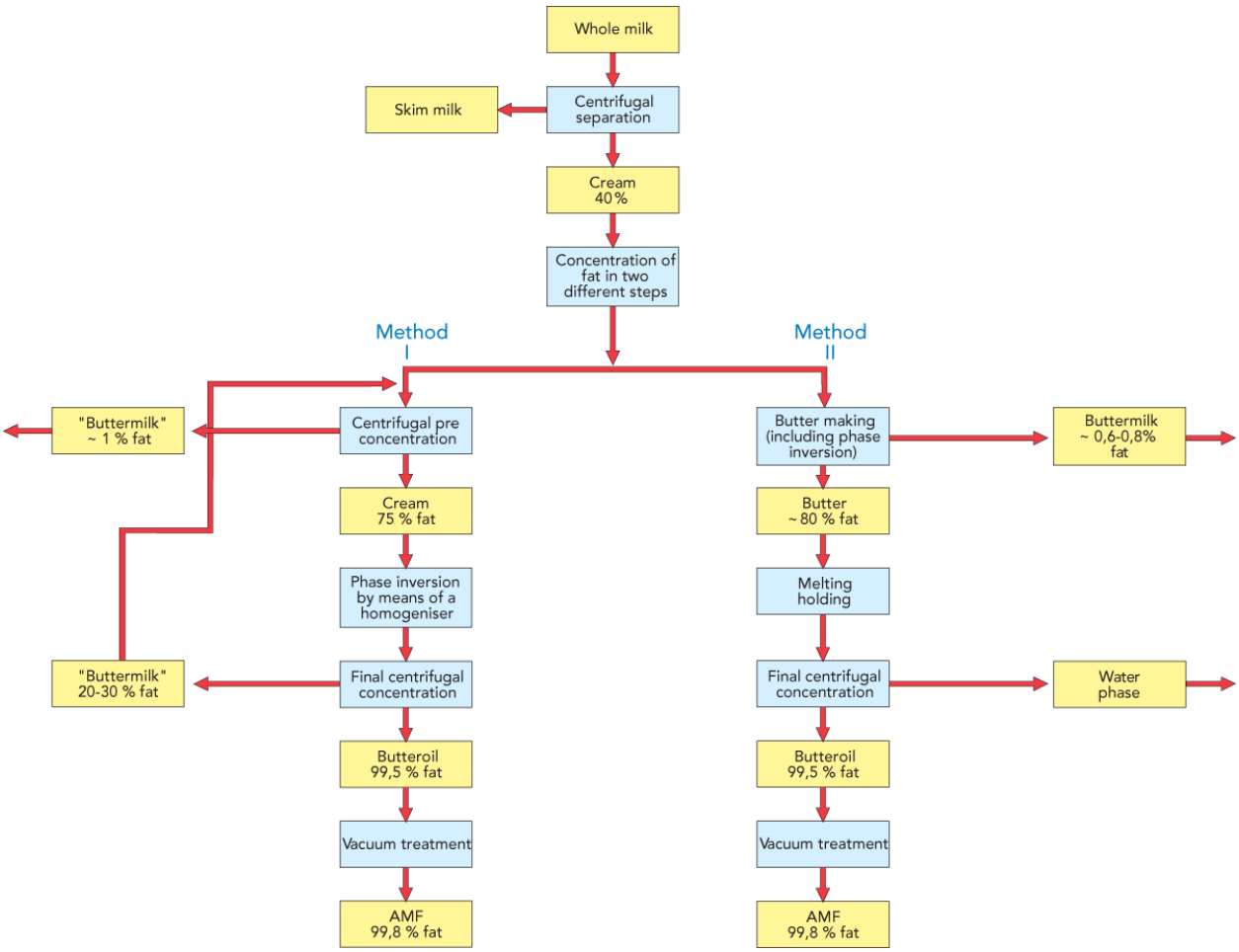


Figure 23 Flow chart showing the principle of AMF production. (Source: Tetrapak. n.d.)

8.5 Economic Value-Add

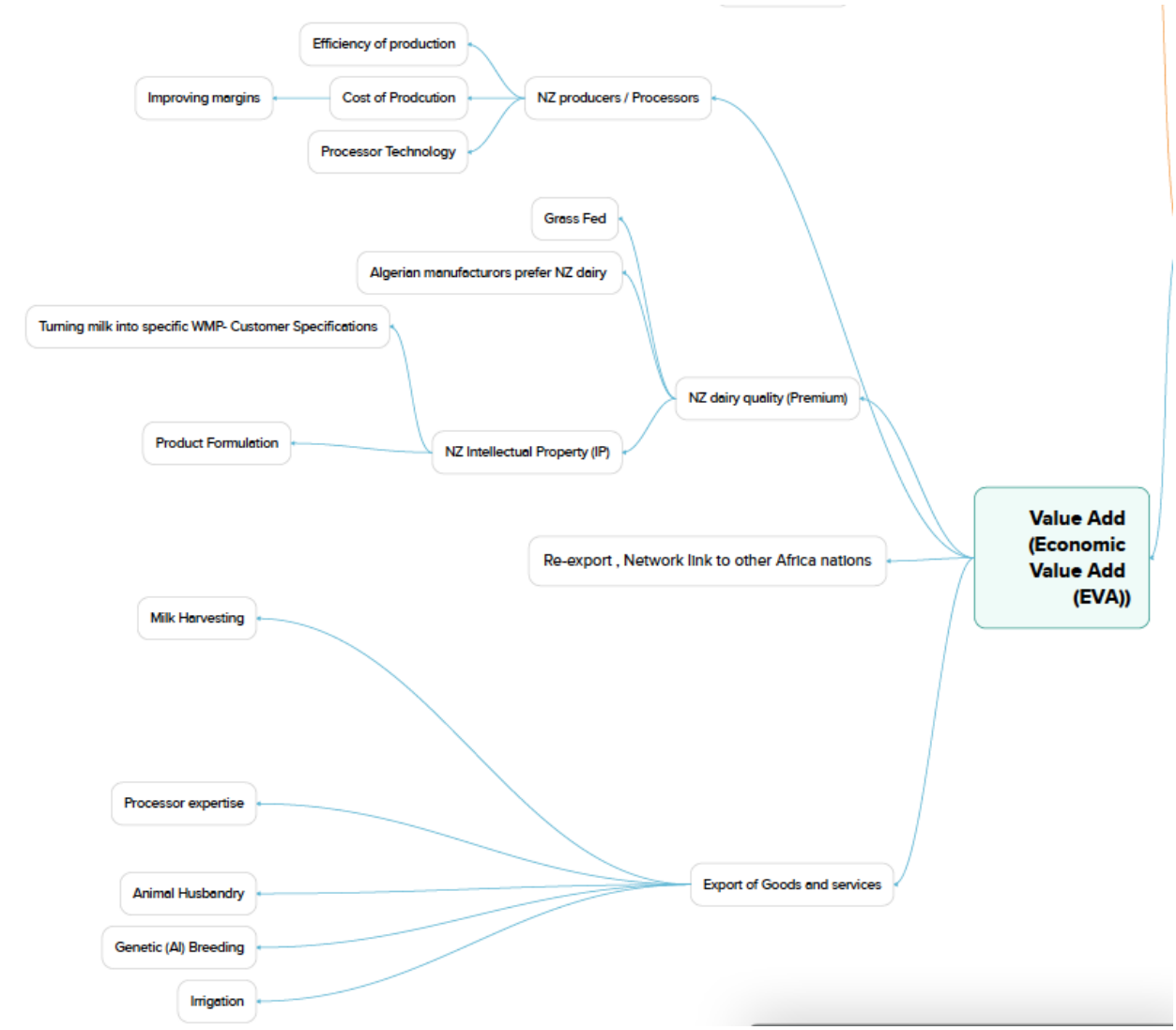


Figure 24 Thematic Analysis of Value Add

'Value-add' is often associated with building highly differentiated consumer ready products, for the export consumer market. The idea to have control and ownership over the entire supply chain seems like an attractive proposition for the New Zealand dairy industry to focus its efforts. The reality of access to capital to establish, maintain and grow shelf space, build brand recognition, and shift consumer behaviour/ perception can be expensive and often risky. When building consumer brands. New Zealand's dairy industry is already exposed to volatility. "7% of the world's dairy produced is exported", with butter (40%) and WMP (53%) holding market share (OECD, 2021).

The appropriate role for NZ to play is one of political and brand neutrality. Focusing on production efficiency. New Zealand can still add value. The focus on creating value is moving closer to the beginning of the supply chain. Production and processing efficiency should be highlighted as the largest opportunity to increase the value of New

Zealand dairy. Technology and our intellectual propriety to turn grass-fed milk into powder of varying specifications.

Consideration to further improve financial margins to improve economic return to participants along the dairy supply chain, such as farmers and processors should be placed with greater importance to add value within the supply chain, through technological advancements and automation to reduce fixed costs.

New Zealand dairy farmers must remain profitable and efficient, regulators and policymakers hopefully are reminded of this. Through this, New Zealand generates significant economic prosperity due to our ability to produce low-cost milk for our buyers. It enables us to access markets that mutually benefit New Zealand's economy. It is part of New Zealand's trade negotiations.

NZ dairy products are to manufacturers to use as an ingredient due to how the milk behaves. Global importers and manufacturers including those in Algeria prefer New Zealand Dairy due to its quality grass-fed milk powder attributes. The Intellectual propriety that New Zealand dairy processors hold.
Highlighting New Zealand's comparative advantage in the dairy sector globally, and the success of dairy in growing export revenue (DairyNZ, 2023).

The exploration of the hedging and futures market should be further explored to bring engagement closer to the farmer as a potential as per recommendations from 2016 Kellogger Paul Martin (Exploring price risk management. Less than 25% of New Zealand dairy farmers participate in the NZX futures market.
Anhydrous milk fat are examples of value-add commodities such as Anhydrous milk fat. It is also important to understand how important grass-fed new Zealand milk is to global and why export customers value it.

Algeria would like to reduce its reliance on food imports. Hence the significant commitment to build the world's largest dairy farm. Suppose the ambitious goals are fulfilled, and Algeria can produce more milk than the domestic market requires. In that case, Algeria, a WMP market for New Zealand, would no longer exist. Highlight New Zealand's importance in monetising our skills and agri-tech knowledge, such as precision- irrigation, genetics, milk processing and agricultural software, amongst other skills and services New Zealand businesses offer.

Growing New Zealand's capability to monetise our agricultural services as export products. New Zealand's strength in 'exports is mainly low complexity, e.g. agriculture and tourism'(Pells, 2022).

Identifying service-based strengths will be a strong asset to New Zealand's agricultural sector as it is not required to go through the same rigorous processes to reach international markets such as tariff and quota systems.

Growing New Zealand's agricultural exports to be more service-based involves leveraging expertise, technology, and knowledge associated with agricultural practices and products to offer value-added services rather than just raw commodities. Here are some key aspects of what this transition could look like:

Agricultural Technology and Expertise Services
New Zealand can export its expertise in agricultural technology, such as precision farming and agri-tech Solutions: Offering consulting services and technologies that optimize farm management practices, enhance crop yields, and reduce environmental impact through precision farming techniques.

Livestock Management: Providing knowledge and technology for efficient livestock farming, including breeding programs, nutrition management, and animal health monitoring.

Irrigation and Water Management: Exporting expertise in water-efficient irrigation systems, soil moisture monitoring technologies, and sustainable water management practices.

Agricultural Education and Training
Capacity Building: Offering training programs and courses in agricultural sciences, farm management, and sustainable agriculture practices. This could include on-site training in New Zealand and capacity-building programs in partnership with global agricultural institutions.

Technology Transfer: Facilitating the transfer of agricultural technologies, best practices, and know-how through training sessions, workshops, and educational exchanges.

Agricultural Consulting and Advisory Services
Market Access and Trade Facilitation: Providing consultancy services to facilitate market access for agricultural products, navigating regulatory requirements, and understanding market dynamics in target countries.

Offering advisory services on optimizing agricultural supply chains, including logistics, storage, and distribution, to ensure efficiency and quality control from farm to market.

Sustainable Agriculture Solutions
Environmental Consulting: Advising on sustainable agriculture practices, environmental impact assessments, and compliance with international standards and regulations related to environmental sustainability.

Certification and Standards: Assisting farms and agricultural enterprises in obtaining certifications (e.g., organic, fair trade) and complying with global sustainability standards to enhance the marketability of their products.

Benefits of Transitioning to Service-Based Agricultural Exports
Higher Value and Margins: Service-based exports typically command higher value and margins than raw commodity exports, increasing profitability and economic resilience.

Enhancing New Zealand's reputation as a knowledge-based economy by exporting intellectual capital, expertise, and innovative agricultural solutions.

Diversifying export offerings beyond commodities reduces reliance on price volatility and market fluctuations, providing more stable revenue streams.

Expanding New Zealand's agricultural exports to be more service-based exports, involves capitalising on New Zealand's strengths in agricultural technology, education, consulting, sustainability, and research. By exporting these value-added services, New Zealand can enhance its global competitiveness, support sustainable agriculture practices worldwide, and contribute to global food security and environmental sustainability efforts.

Briefly discussed '8.2 Trade Relationships' is Algeria's potential to be considered as an economic gateway between Europe and Africa. Through shared knowledge and expertise, from New Zealand's agricultural service exports, leverging this with favourable market access points. Could potentially strengthen New Zealand's trade relationship with Algeria. Providing an opportunity for other New Zealand export businesses/ industrys to access trade opportunities within Africa via Algeria.

9.0 Conclusions

Algeria is a complex economy; it is possible for New Zealand to add-value to the current dairy exports, but with a long-term focus and a slightly abstract approach. Our trade relationship exists in a very transactional capacity. The possibility to add-value would begin through building transformative relationships diplomatically, and strengthening relationships with Algerian buyers. Forging new relationships with the agricultural sector in Algeria, to identify opportunities where New Zealand expertise might transfer well, and capitalising on this. Such as precision irrigation, genetics and milk processing. Assuming Algeria meets their food security independence, understanding New Zealand's participation might shift from a goods exporter to a service exporter. If Algeria can build wealth within the economy, it must benefit all Algerians through progressive policies. Algerian purchasing potential will increase, as a result of increased wealth. Algerian dairy consumers will likely look for differentiated products from New Zealand, that meets consumer needs, such as grass-fed dairy, protein rich dairy with health attributes, and overall quality, food safe.

Algeria and the rest of Africa have growth potential yet to be fully realised. If reports are true, by 2050, the continent of Africa will have the biggest population in the world. The balancing factor is the New Zealand dairy industry maintaining its current production levels, and becoming more efficient within New Zealand's supply chain.

Long-term strategies are important. Fostering relationships with Algeria is part of the market mix. To our advantage our low-cost milk keeps New Zealand's whole milk powder as a product of choice.

New Zealand should continue to focus on building further efficiencies within New Zealand's supply chains. Advancing factory efficiencies, and increasing margins for both farmers and processors. New Zealand's consistent focus on utilising grass as a main feed input, and investment into improving the production efficiency of our nation's herd

population is crucial to the overall profitability, and sustainability of New Zealand's major exporting industry.

Capturing the value of New Zealand's technical knowledge and skills, to monetise our agricultural services diversifying our export portfolio. Increasing the value of New Zealand's agri-tech industry.

10.0 Recommendations

- New Zealand dairy industry, dairy farmers and processors to remain focused on production and processing efficiency.
- Investment by New Zealand dairy processors into processing technology, to reduce costs and improve margins.
- Monetise the expertise of NZ tech, dairy and irrigation knowledge as an exportable service, to facilitate agricultural developments overseas.
- Remain politically neutral with geopolitical issues.
- Strengthen diplomatic relations through collaborative policies between New Zealand and the Algerian government.
- Consider Algeria as a gateway to Africa for future trade opportunities.
- Research supported by New Zealand agencies such as Ministry of Business, Innovation and Employment, Ministry of Primary Industries New Zealand Stock Exchange, and DairyNZ with tools to support New Zealand dairy farmers, such as future and options markets, to insulate volatility using the dairy commodity futures market.

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Appendix

FAOSTAT_data_5-6-2024 (1)

		2021 [2021]	2021 [2021]	2021 [2021]	2030 [2030]	2030 [2030]	2030 [2030]	2060 [2060]	2060 [2060]	2060 [2060]
		Unit	Value	Flag Description	Unit	Value	Flag Description	Unit	Value	Flag Description
Algeria [012]	Rural population [551]	1000 No	11317.455	Figure from international organizations	1000 No	10590.338	Figure from international organizations			
Algeria [012]	Total Population - Both sexes [511]	1000 No	44177.969	Figure from international organizations	1000 No	49787.283	Figure from international organizations	1000 No	63553.718	Figure from international organizations
Algeria [012]	Urban population [561]	1000 No	32651.848	Figure from international organizations	1000 No	38231.625	Figure from international organizations			

Figure 25 Algeria's population, 2021, 2025 & 2060 (FAOSTAT, 2021)

TABLE 5: AVERAGE NUMBER OF NTMS APPLIED TO NZ DAIRY EXPORTS

Country	Whole milk powder	Skim milk powder	Butter & milkfats	Cheese	Casein & Caseinates	Whey protein concentrate	Condensed milk	Fluid milk
China	8.5	8.5	6.7	7.4	7.3	11.0	7.8	7.5
Indonesia	5.6	5.6	6.9	6.8	1.2	5.4	5.5	4.1
Australia	4.1	3.8	3.9	3.9	2.4	3.8	3.8	4.2
USA	8.5	7.7	6.7	8.5	2.7	7.4	8.7	7.8
Japan	3.0	2.6	2.8	2.7	3.3	2.1	3.1	2.6
Algeria	2.4	2.4	2.2	1.9	2.0	1.9	2.5	2.6
Malaysia	1.5	1.5	1.5	1.5	1.0	1.5	1.5	1.6
Thailand	3.6	3.5	4.9	5.1	1.7	2.2	3.5	3.2
Saudi Arabia	4.2	4.2	4.2	4.2	4.3	4.2	5.3	4.2
UAE	3.4	3.4	3.4	3.4	2.8	3.6	4.5	3.5

Source: UN TRAINS, Sense Partners

Tariffs impose a $1.5b cost on NZ dairy trade

TABLE 4: TOP 20 NZ DAIRY EXPORT MARKETS AND THE TARIFFS FACED

Destination	Value (NZD) & share (%)	Duties paid[13]	Average duties paid	Average tariff for all dairy
China	$8.76 B (34.1%)	$219 M	6.6%	1.6%
Indonesia	$1.43 B (5.6%)	$31.2 M	2.2%	0.8%
Australia	$1.36 B (5.3%)		0.0%	0.0%
USA	$1.27 B (4.9%)	$97.1 M	7.7%	19.6%
Japan	$1.09 B (4.2%)	$116 M	10.6%	25.3%
Algeria	$1.06 B (4.1%)	$57.9 M	5.4%	21.6%
Malaysia	$0.90 B (3.5%)	$6.55 M	0.7%	3.9%
Thailand	$0.84 B (3.3%)	$20.6 M	2.5%	15.0%
Saudi Arabia	$0.78 B (3.0%)	$38.9 M	5.0%	4.8%
UAE	$0.67 B (2.6%)	$33.4 M	5.0%	4.8%
Taiwan	$0.66 B (2.6%)	$0.33 M	0.1%	0.9%
Philippines	$0.64 B (2.5%)		0.0%	0.3%
Singapore	$0.61 B (2.4%)		0.0%	0.0%
EU 27	$0.58 B (2.3%)	$213 M	36.7%	46.7%
Korea	$0.57 B (2.2%)	$181 M	31.6%	46.8%
Viet Nam	$0.54 B (2.1%)	$1.11 M	0.2%	0.7%
Mexico	$0.48 B (1.9%)	$52.7 M	10.9%	18.2%
Hong Kong	$0.40 B (1.6%)		0.0%	0.0%
Bangladesh	$0.35 B (1.4%)	$53.8 M	15.3%	21.5%

Figure 26 Tariffs Imposed on NZ Dairy Trade (DairyNZ, 2023)

Table 8 Population of Algeria and New Zealand. (Source: World Bank Data, n.d.c)

Country	Most Recent Year	Most Recent Value (Thousands)	
Algeria	2023	239,899,491.13	
New Zealand	2023	253,465,703.23	

Interview Questions

Background

1a. What is your involvement within the New Zealand industry
1b.What has been your exposure to the Algerian dairy- trade market.

Market trends / Dairy Exports

2a. What are the main dairy products exported to Algeria, from New Zealand?
2b. With your knowledge of Algeria are they wanting more specialised / customised product mix?
2c. What is the NZ dairy product offering into Algeria, in the last 3-5 years?
2d. What changes / trends within NZ dairy exports to Algeria in the last 3-5years have you noticed?
2e. What market signals/ discussions of expanding, the New Zealand dairy product offering into Algeria?
2.f. How significant is the Algerian market to the value of NZ dairy?

Value Chain

3a. How do the issues in the Red Sea affect NZ dairy export trade to Algeria?
3b. How are NZ dairy exports currently getting to Algeria?
3c. How, if possible, might you see the Gulf Cooperation Council as an important relationship for New Zealand, in aiding our relationship with Algeria to have better terms of trade for New Zealand Dairy Exports?
3d. How do you interpret adding value within this supply chain?
3e. What value add mechanisms should the New Zealand dairy industry be focusing on in the short- medium term future?

Political trade landscape

4a. What are the political limitations of trade into Algeria
4b. What government controls in Algeria, are in place that increase the challenge to increase the value of New Zealand dairy products into Algeria?
4c. How do the Tariffs/Quotas affect NZ dairy exports to Algeria
4d. How much involvement do you have with building trade relationships in Algeria government / officials
4e. What kind of non-tariff barriers exist for New Zealand dairy exports into Algeria?

Cultural aspects

5a. What stands out to you with the current trade into Algeria compared to more developed markets, in terms reliability of market access?
5b. How are the Algerian business protocols different, compared to our main New Zealand dairy trading partners?

Figure 27 Interview Questions

Table 9 Thematic Analysis of Interviews