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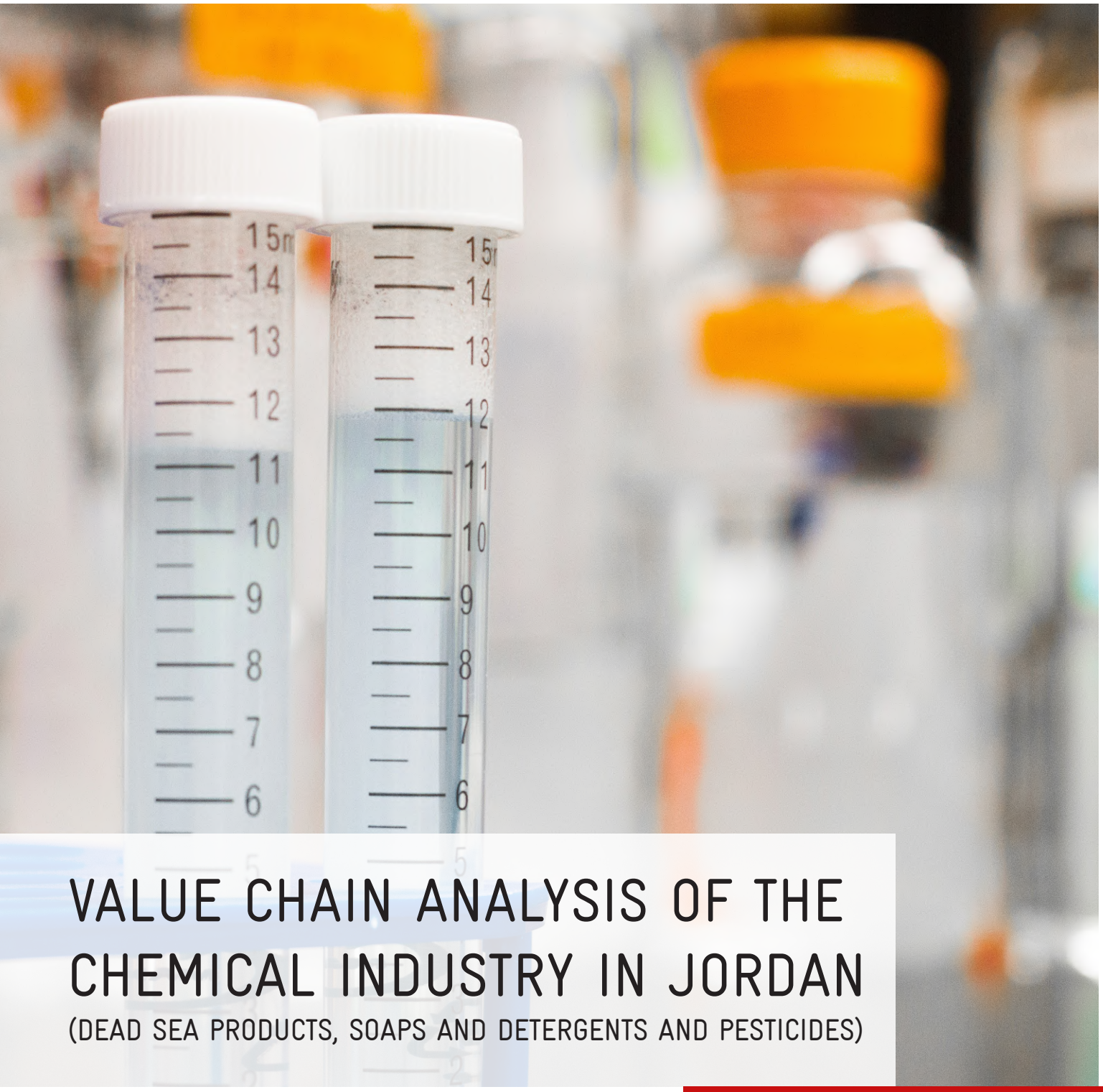

# VALUE CHAIN ANALYSIS OF THE CHEMICAL INDUSTRY IN JORDAN

## (DEAD SEA PRODUCTS, SOAPS AND DETERGENTS AND PESTICIDES)

Industry Overview in Jordan

Trade for Employment (T4E) Project

Published in 2019

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# Abstract

The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH ('GIZ') is looking to invest in Jordan in key sectors in order to increase job creation as part of their focus on Employment and Education. GIZ hence commissioned Euromonitor to assess the pharmaceutical and chemical sectors in Jordan to identify and understand what needs to change in order to increase exports and make Jordanian products more competitive. This is part of the Trade for Employment (T4E) project that focuses on building capacities and strengthening structures in a sustainable manner to enhance the conditions of Jordanian companies to increase their trade performance for employment. GIZ need to know what fields of intervention the T4E team can focus on over the course of the coming 3 years to help Jordanian companies increase export.

The present study provides an in-depth analysis of the current pharmaceutical industry in Jordan and its outlook. The focus of the study is to reach a comprehensive assessment of Jordan's regulatory framework, possible innovation-facilitating instruments, and key innovation assets – research and human capital. It proposes a stronger monitoring and evaluation (M&E) framework and provides a sectoral analysis with respective recommendations in key areas.

The methodology used in order to reach this objective consisted of a combination of extensive primary and secondary research to gather data that was subsequently cleaned, processed and analysed in order to obtain insights on the situation of the value chain and on potential steps for improvement. Data gathered from secondary sources has been blended with in-depth interviews with stakeholders of the industry such as manufacturers, exporters and industry specialists. These results were complemented with knowledge on international best practices and research on case studies of other developing countries (e.g. Israel), which has been successful in developing their chemicals industry.

# Executive Summary

The present study provides a comprehensive analysis of the current functioning and potential prospects for the Jordanian Chemical industry, using a value chain perspective to determine activities subject to process optimisation, as well as identify key potential areas of focus for the maximisation of value within the supply chain. This assessment was done with the primary objective of providing recommendations for addressing identified deficiencies in the Chemical industry value chain, and for improving growth and employment generation of companies in the industry.

The project's objectives include the development of activities within the Jordanian Chemical industry that have the greatest impact on economic development, ecosystem efficiencies and export demand potential. Based on these primary objectives, three subsectors within the country's Chemical industry were selected in coordination with the industry's main stakeholders: Dead Sea Products, Soaps and Detergents, and Pesticides. Each of these subsectors was analysed in a comprehensive manner to determine its current competitive structure, market functioning and value chain activity flows, as a way of determining potential areas of improvement and recommendations specifically tailored to the role of GIZ as an important stakeholder in the industry.

The results of this analysis point to a situation that presents both challenges and opportunities for the Jordanian Chemical industry. Based on the industry's apparent strengths in terms of local raw material availability, a sound regulatory and policy framework, and an export-driven approach, the Jordanian Chemical industry has developed to become one of the main contributors to the country's manufacturing sector and overall economy. Nevertheless, the Jordanian Chemical industry also suffers from weaknesses that prevent it from realising its full potential, including a focus on low-value-added products, lack of availability of financing, and insufficient focus on activities such as R & D and marketing.

Against this backdrop, proposals have been made whose implementation could support the efficient functioning of the Jordanian Chemical value chain in areas such as operational activities, financing, regulations and policies, and training and skills. These include both proposals that we see as necessary for the structural development of the sector, as well as actionable, specific proposals that consider the specific role of GIZ as a stakeholder in the country's value chain.

Above all, we have established, in our opinion, the strategic cornerstones for the long-term development of the Jordanian Chemical industry. These include a focus on R & D and innovation (in order to differentiate its products from the rising threat of inexpensive exports from Southeast Asia); the promotion of exports markets (which eliminates constraints posed by the relatively small domestic market, as well as achieving economies of scale); and the implementation of best practices along the value chain (which would support closing existing gaps identified in the value chain, as well as building human capital).

In conclusion, the long-term development of the country's Chemical industry is subject to choices that would lead the sector towards a clear strategic direction of increased value for both participants in the sector and the entire country. In this context, support from the different stakeholders would be pivotal to maximise the possibilities of success for the sector, as well as promoting its long-term development as an important contributor to the Jordanian economy.

# Chemical Industry Overview

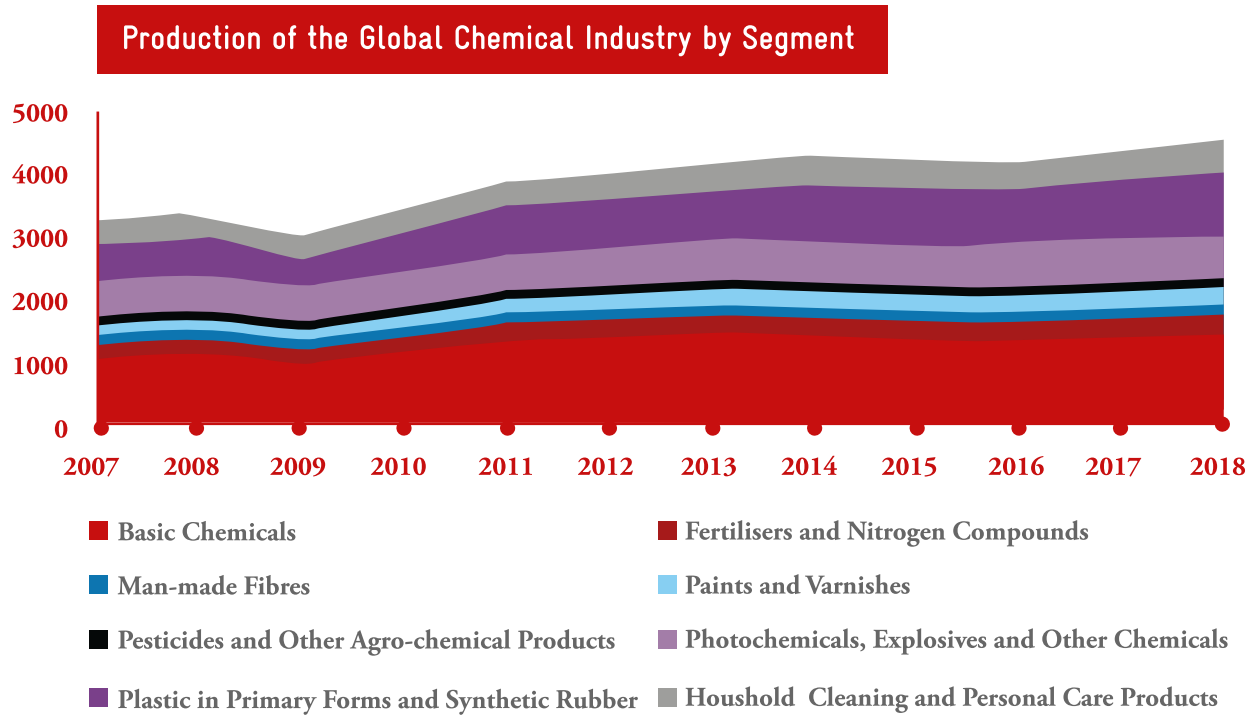
## Background

### – Global and Regional Trends in the Chemical Industry

The global Chemical Products industry expanded at an average annual rate of 1.4% in real terms between 2013 and 2018 to reach USD4.5 trillion by the end of that period. This represents a deceleration from the 4.5% compound annual growth rate (CAGR) in real terms recorded during the period 2007-2012 as a result of lower demand for chemical products from markets such as the European Union (EU), Japan and Latin America; the decline in global commodity prices observed since mid-2014; and rising competitive pressures in the global Chemical Products industry.

In value terms, the breakdown of the Chemical industry at a global level, as of 2018, comprised: Basic Chemicals (32.6%); Plastic in Primary Forms and Synthetic Rubber (21.0%); Photochemicals, Explosives and Other Chemicals (16.1%); Household Cleaning and Personal Care Products (10.2%); Fertilisers and Nitrogen Compounds (6.7%); Paints and Varnishes (6.7%); Man-Made Fibres (3.6%); and Pesticides and Other Agrochemical Products (3.1%). This composition involves a trend towards faster growth of output of speciality/value-added chemicals such as photochemicals, pesticides and fertilisers and nitrogen compounds, which are gaining ground against basic chemicals (whose share out of total global chemical production declined from 34.4% in 2007 to 32.7% in 2018).

**Chart 01:** Break-Down of Production of the Global Chemical Industry by Segment

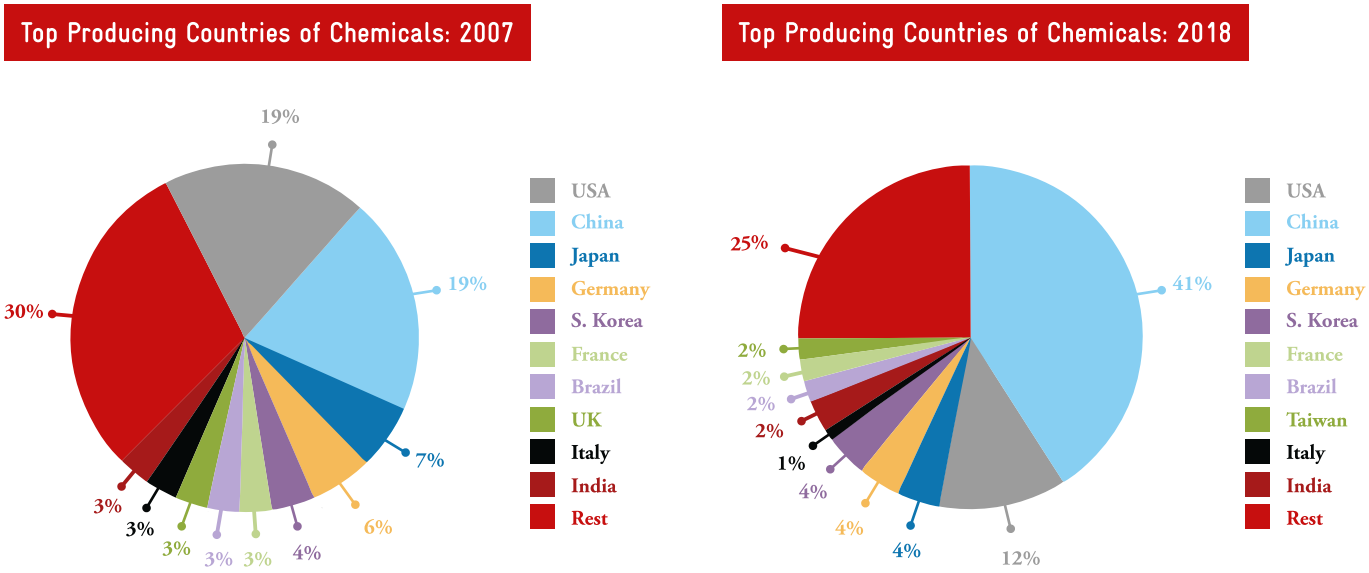



Source: Euromonitor International's Passport
Note: Figures expressed in constant USD billion

1 | Euromonitor International's Passport
2 | Ibid

Global demand for chemicals (both basic and speciality) is being driven by emerging markets (particularly China), due to their stronger economic growth compared to advanced economies during the period 2007-2018. On the supply side, emerging markets (especially China), which have traditionally mainly been producers of low-value-added Basic Chemicals, are rapidly gaining market share in the rest of the segments including products with higher value added. This trend, coupled with the growing consolidation of companies in the global Chemical industry and a rising focus on technological improvements and efficiency in the sector, are resulting in an increasingly competitive landscape for the Chemical industry at a global level.

**Chart 02:** Top Producers of Chemicals: 2007 and 2018




Source: Euromonitor International's Passport

These global trends are directly impacting the chemical industry in the Middle East region. On the one hand, the Middle East is benefiting from increasing demand for chemicals from Asian countries, due to its geographical advantage over other major producing regions, such as the EU and North America. On other hand, rising investment in technology and capital in the Middle East's chemical industry is leading to the emergence of increasingly important players at a global level (eg SABIC in Saudi Arabia), which are satisfying the region's demand for basic and speciality chemical products at more affordable prices.

3 | Future of Chemicals – Middle East Challenges, PricewaterhouseCoopers, https://www.strategyand.pwc.com/media/file/Future_of_Chemicals_Part_II.pdf

## - Importance of the Chemical Industry to Jordan's Economy

In Jordan, the Chemical industry was valued at USD5.5 billion in 2018, representing 23.5% of the country's total manufacturing output in that year[4]. As a percentage of Jordan's total Gross Value Added (GVA), the Chemical industry reached 3.0% in 2018, which is below countries such as Saudi Arabia (3.7%) but higher than economies such as Israel (1.3%)[5]. Overall, the country's chemical industry directly employed about 14,800 persons in 2016[6],equivalent to 0.7% of total employment in the country in that year.

Nevertheless, in terms of indirect employment, it is estimated that each direct job in the Jordanian Chemical industry represents an additional 2.6 indirect jobs[7] (in areas such as logistics, ICT and trading). This would extend the sector's employment impact by an additional 38,500 persons, approximately, increasing its share of the country's total employment to 2.5%.

The Chemical industry is also a key contributor in generating revenue from exports which was valued at USD2.0 billion in 2018 (equivalent to 25.8% of Jordan's total exports in the same year)[8]. This generates important foreign exchange inflows that help the country narrow its current account balance (which reached 8.8% of GDP in 2018)[9].

All these highlighted factors, combined with the growing positive effect of technology and innovation brought by investments in the country's Chemical industry, reflect the importance of this industry for Jordan's economic development.

## - Current Situation and Prospects for the Jordanian Chemical Industry

The performance of the country's Chemical industry during the period 2013-2018 was lacklustre, with total Gross Value Added (GVA) from the sector registering a real negative CAGR of 4.8% and total exports from the industry falling at a negative CAGR of 3.9% over that timeframe[10]. This was the result of factors such as slowing demand from members of the Gulf Cooperation Council (GCC), which are important exports markets for Jordanian chemical products such as pesticides, beauty and personal care, and cleaning products; lower global commodity prices since 2014; and the impact of Jordan's border closures with Iraq and Syria since the mid-2010s (which negatively affected Jordanian exports).

Over the forecast period 2019-2023, the Jordanian Chemical industry is anticipated to experience a partial recovery, on the back of factors including the implementation of Jordan's Economic Growth Plan (JEGP) 2018-2022; higher global commodity prices; firmer demand from GCC countries; and the reopening of borders with Syria (in 2018) and Iraq (in 2019). This is expected to support employment and export levels in the country's Chemical industry, which nonetheless will remain exposed to potential external shocks both at global and regional levels.

The Jordanian Chemical industry is dominated mainly by four sectors: Oil Refining Products; Inorganic Chemicals (mainly basic chemicals); Organic Chemicals (primarily speciality chemicals); and Fertilisers. These sectors together accounted for 94% of total installed capacity and 70% of the country's Chemical sector exports in 2018[11]. However, the value addition in these four dominant sectors is relatively low, for the most part constituting just basic products/inputs that will be used by players in downstream global value chains to manufacture higher-value-added finished goods. As a result, ample opportunities exist to increase the value added to products in these four sectors, while also capturing a larger share of the value of smaller subsectors that are relatively more developed (such as Pesticides and Soaps and Detergents).

4 | Euromonitor International's Passport
5 | Ibid
6 | Euromonitor International's interview with the Head of Industrial Development of Jordan's Chamber of Industries
7 | Euromonitor International's calculations based on data from the Department of Statistics of Jordan
8 | Euromonitor International's Passport
9 | Ibid
10 | Euromonitor International's Passport
11 | Euromonitor International research from trade sources, 2019 based on primary and secondary sources

## – Structure of Jordan's Chemical Industry

There were 640 companies performing manufacturing operations in the country's Chemical industry in 2016, according to the latest data from the Jordan Chamber of Industries. These included both Industrial companies (defined as those with a capital higher than JOD30,000 and at least 10 employees registered with social security) and Small and Medium Enterprises (SMEs), also referred as "Craft" companies (those with a capital below JOD30,000 and/or less than 10 employees registered with social security). "Craft" companies represent around 75%[12] of the total number of businesses operating in the country's Chemical industry.

In terms of ownership modality, Jordan's chemical industry comprises both state- and private-owned companies, with the former being generally prevalent in the four largest sectors (Refined Petroleum Products, Inorganic Chemicals, Organic Chemicals and Fertilisers). This typically results in oligopolistic or monopolistic market dynamics for at least a portion of the value chain in these sectors. In addition, some of the other sectors also feature companies whose large size provides them with a position of relative market dominance in their respective sectors. Several of these large players are also publicly held and listed on the Amman Stock Exchange, as detailed in the table below:

**Table 01:** Jordanian Chemical Companies Listed on the Amman Stock Exchange

| METRIC | SECTOR |
|---|---|
| Arab Potash Co | Inorganic Chemicals / Fertilizers |
| Jordan Phosphate Mines Company | Inorganic Chemicals |
| Jordan Petroleum Refining Company | Oil Refined Products |
| Industrial, Commercial, and Agricultural Co | Cosmetics / Detergents / Plastics |
| Premier Business and Projects Co | Soaps and Detergents |
| Jordan Chemical Industries | Inorganic Chemicals |
| National Chlorine Industries | Inorganic Chemicals |
| Jordan Industrial Resources | Cosmetics / Personal Care Products |
| Comprehensive Multiple Project Company | Plastics |
| Arab Pesticides and Veterinary Drugs MFG | Pesticides |
| Intermediate Petrochemical Industries | Plastics and Inorganic Chemicals |

Source: Amman Stock Exchange

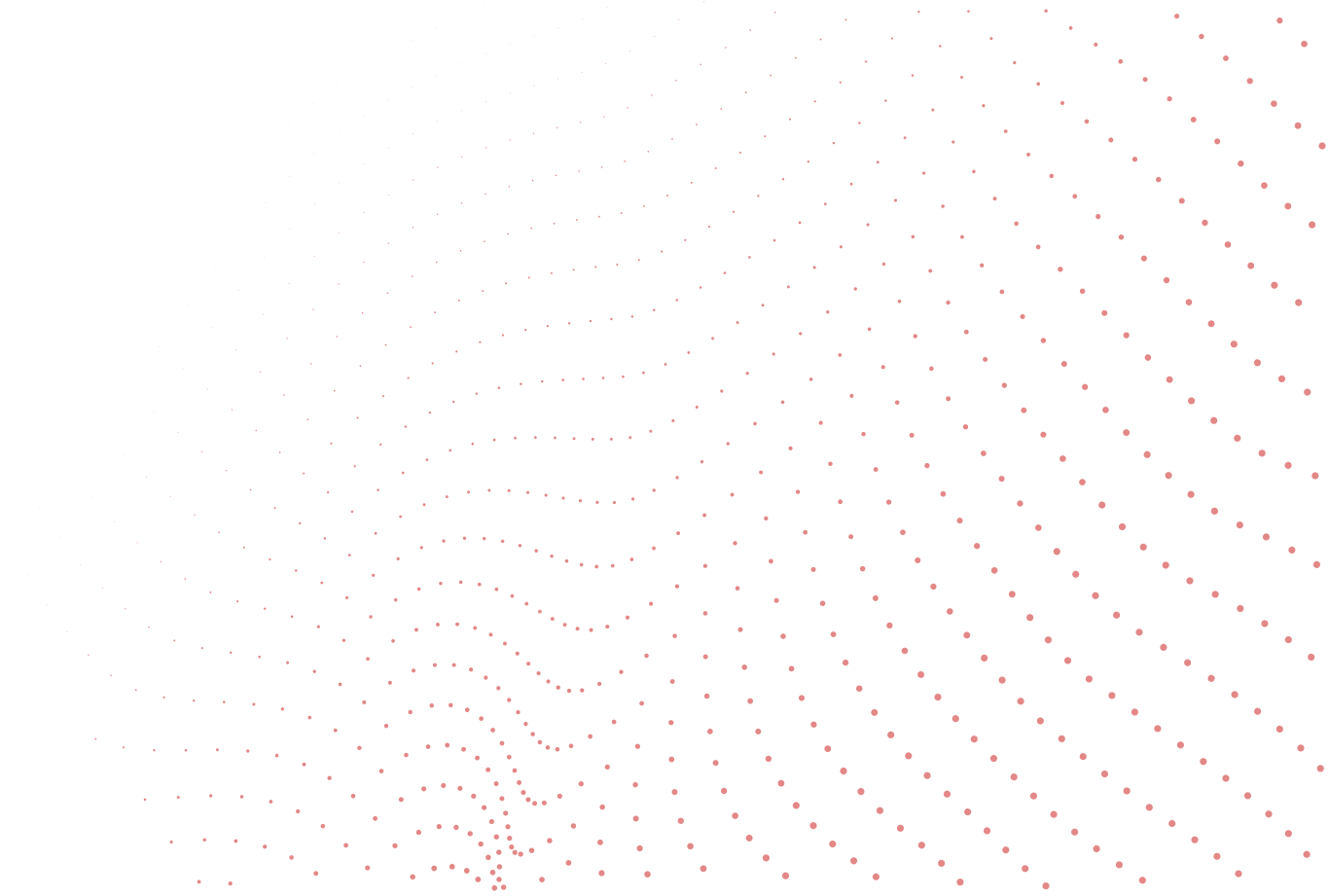
Given the different supply/demand dynamics for each of the sectors of the Chemical industry, and their relative position in the domestic and global value chains, the production of some (eg Refined Petroleum Products) is predominantly geared towards satisfying domestic demand, while others are focused mainly on export markets (eg Fertilisers, Dead Sea Products). Likewise, the mentioned structure of the different sectors has a direct impact on market functioning. For example, in the Fertilisers sector there is only one company supplying phosphoric acid (a main ingredient for fertiliser manufacturing) in the domestic market. This monopolistic position at the inputs stage of the value chain incentivised the sole supplier to raise prices of their product for distribution to fertiliser manufacturers which, in turn, had a detrimental effect on the entire sector.

12 | Euromonitor International's calculations based on data from Jordan's Chamber of Industries

## - Production Hubs

Jordanian companies operating in the Chemical industry take advantage of a range of special zones (set up by both public and private sectors) which enjoy several investment incentives including a relaxation of restrictions to FDI; access to high-quality infrastructure; and reduction of/ exemption from taxes for companies operating in these estates. The special zones are classified into different schemes, including Special Economic Zones (SEZ); Developments Zones (DZ); Qualifying Industrial Zones (QIZ); and Free Zones (FZ), each of these provides a different set of incentives to attract specific types of industries or activities within a value chain.

In the case of the Chemical industry, manufacturing activities are clustered in special zones in/close to Aqaba, Amman and Irbid. For companies that make primary use of minerals extracted from the Dead Sea (eg potash, bromates, industrial salts), these have generally set up processing operations in the Gawr as-Safi area (near the Dead Sea West Bank), although production is then typically transported to special zones elsewhere in the country for further processing, storage or distribution. The government of Jordan continues to promote the creation of special zones to balance industrial development across the country, which will continue to be the focus of investment by the country's Chemical industry.



## – Key Stakeholders in Jordan's Chemical Industry

The most important stakeholders that influence activities in the Jordanian Chemical Industry are detailed in the following table.

**Table 02:** Key Stakeholders of Jordan's Chemical Industry

| STAKEHOLDERS | TYPE | MAIN ROLE |
|---|---|---|
| Ministry of Industry, Trade and Supply | POLICYMAKER/ REGULATOR | The Ministry is responsible for developing the different sectors of Jordan's industry, as well as classifying, registering and regulating them to help increase their competitiveness. The Ministry also devises policies related to external trade and performs studies with the view of subscribing to international trade agreements. |
| Jordan Customs | REGULATOR | The customs department is tasked with regulating and enforcing systems related to tariffs and international trade flows to and from Jordan. More recently, the department's tasks have been broadened to include support of the national economy, investment promotion, and trade facilitation. |
| Jordan Food and Drug Administration (JFDA) | REGULATOR | The JFDA is the country's sole authority on issues related to 1) food safety and quality; and 2) drug safety and efficacy. The latter gives the Agency power to regulate and issue requirements to the chemical and pharmaceutical sectors, for which it also acts as an inspector to verify compliance. |
| Jordan Standards and Metrology Organisation (JSMO) | REGULATOR | The JSMO issues, approves and monitors the implementation of standards and technical regulations regarding products and services sold in Jordan (apart from pharmaceutical products and medicines). The organization is also tasked with establishing a national measurement system and supervising its implementation. |
| Chambers of Industry | INDUSTRY ASSOCIATION | As Jordan's pan-industry association, the Chambers participate with inputs on the formulation of the country's industrial policy and represents the interests of companies operating across Jordan's industrial sectors. The Chambers also seeks to help the development of the national industries by promoting the use of technology and augmenting the value-add to industrial products. |
| Jordan Enterprise Development Corporation (JEDCO) | NATIONAL DEVELOPMENT BODY | JEDCO's goals are the development of Jordan's trade, exports and companies by improving Jordanian businesses' competitiveness to contribute to the economic development and employment in Jordan |
| Jordan Investment Commission (JIC) | NATIONAL DEVELOPMENT BODY | JIC is Jordan's exports promotion agency. The agency seeks to develop infrastructure, attract foreign direct investment and increase exports from Jordan, while also managing most of the country's investment and tax incentives schemes. |
| Chemical Product Manufacturers | COMPETITORS | Companies engaged in the production of chemical products in Jordan. A detailed analysis of these companies is available in the following sections of this report. |

Source: Euromonitor International research

## - End Customers for the Chemical Industry

The segments of end-customers that benefit from the output of the Jordanian Chemical industry depend on the different subsectors of the industry under consideration (each one of which has its own value chain), the extent of development of the individual subsectors and their place in the global value chain. However, the dominant subsectors of Refined Petroleum Products, Inorganic Chemicals, and Fertilisers (which together account for 69%[13] of Jordan's chemical exports in value terms) display relatively underdeveloped value chains, based primarily on the provision of commodity-like products to other industries (domestically or abroad) for end-use or further transformation.

On the other hand, the value chains of subsectors such as Pesticides, Dyes and Paints, and Cosmetics show relatively higher development (as measured by the degree to which they make use of intermediate products as inputs), and their final products are generally targeted to the end-user (either in domestic or foreign markets). While their size is relatively small compared to the dominant subsectors mentioned above, these more developed subsectors have the potential for a larger impact on Jordan's economic development, due to the higher value added they generate and the latent benefits that could be generated through the enhancement of their existing value chains.

## - Industry Sectors

There are 18 sectors in the Jordanian Chemical industry (according to the classification by Jordan's Chamber of Industries), which are listed below:

**Table 03:** List of Sectors in Jordan's Chemical Industry

| METRIC | SECTOR | METRIC | SECTOR |
|---|---|---|---|
| 1 | Oil refining products | 10 | Perfumes and cosmetics |
| 2 | Inorganic chemicals materials | 11 | Shampoos, hair sprays, cosmetics and shaving preparations |
| 3 | Organic chemical materials | 12 | Explosives and matches |
| 4 | Petrochemicals (including plastics and plastic parts) | 13 | Gum and glue |
| 5 | Fertilizers | 14 | Refined and processed salt |
| 6 | Pesticides and other agricultural chemicals | 15 | Dead Sea Products (salts, mud, natural cosmetics materials) |
| 7 | Dyes, paints and similar coatings | 16 | Lighting products, paintings, photographs and films |
| 8 | Printing inks | 17 | Anti-freeze materials, fluids processing and hydraulic transport processors |
| 9 | Soaps, detergents, cleaning and polishing preparations | 18 | Materials used in the completion of tissue processing and dyeing |

Source: Jordan Chamber of Industries

A detailed discussion of each one of these subsectors is included in section 4 'Chemical Industry Subsectors'.

13 | Euromonitor International's calculations based on United Nation's Comtrade data

# Chemical Industry Regulatory Landscape

## General Overview

The Jordanian tax and investment framework provide for two different types of incentives for any given subsector: general incentives (ie those that apply to all industries or to all subsectors within an industry, provided certain conditions are met) and those that are specific to a subsector. General incentives are mainly structured around the country's special zones, where activities performed within a delimited geographical area (the "special zone") benefit from a range of tax and investment incentives. A description of the main types of special zones is outlined in Table 4, while an exhaustive list of the incentives offered by each type of special zone is available in Section 3.2 below ("Tax and Investment Incentives").

**Table 04:** Description of Special Zone Schemes Operational in Jordan

| TYPE OF SPECIAL ZONE | DESCRIPTION |
|---|---|
| SPECIAL ECONOMIC ZONES (SEZ) | Currently, Jordan only has one Special Economic Zone, in Aqaba, spreading over 375 square kilometres. The Aqaba Special Economic Zone is the only zone not governed by the Jordan Investment Commission (JIC), and its main objective is to attract domestic and foreign investment from the private sector, with an investment regime that is generally seen as more favourable than the country's other special zones. |
| DEVELOPMENT ZONES (DZ) | Development Zones seek to create an investment and regulatory framework that supports investment in selected locations in the country. There are 16 declared DZ in Jordan as of 2019: Ajlun DZ; King Hussain Business Park DZ; King Abdallah II Development Area; Al-Mwqar DZ; Dead Sea DZ; Al-Hasan Industrial Area; Irbid DZ; Jerash Development Area; Al-Hussein Bin Abdallah II DZ; Ma'an DZ; Solar Park DZ; Mahmedieh DZ; Madaba DZ; King Hussein Bin Tala DZ; Salt DZ; and Tafeleh DZ. |
| QUALIFYING INDUSTRIAL ZONES (QIZ) | Qualifying Industrial Zones are designated industrial parks from which goods can be exported duty-free and quota-free to the USA. As such, Jordanian QIZ differ from other special zones in that they operate in two countries (Jordan and Israel); produce goods only for export to the USA; and function under oversight authority of the USA. There are currently 13 QIZ approved in Jordan, although they have lost prominence as most factories operating in QIZ have shifted their operations to arrangements within the USA-Jordan Free Trade Agreement framework. |
| FREE ZONES (FZ) | Free Zones were established in Jordan to promote export-oriented industries and transit trade. FZ are open to both foreign and local investors, although investment in the FZ must meet certain criteria, e.g. the introduction of new technologies, the use of local raw materials and inputs, the improvement of labour skills, and the achievement of import substitution. There are six public FZ and 37 private FZ in operation in Jordan as of 2019. |
| INDUSTRIAL ESTATES (IE) | Industrial Estates (also known as Industrial Parks) provide basic infrastructure networks for a wide range of manufacturing activities, reducing the cost of utilities and offering cost-effective land and factory buildings to investing companies. There are seven IE approved in the country as of 2019, located in Irbid, Karak, Aqaba, Amman, Ma'an, Muwaqar, and Balqa. The government has announced its intention to establish IE in each of the country's governorates, for which it continues planning and developing new IE. |

Source: Euromonitor International from JIC

An incentive scheme where Jordanian manufacturers of goods for export benefited from income tax exemptions expired in December 2018, as this type of incentive was effectively an "export subsidy" that contravened the World Trade Organization's regulations (as ruled by the WTO). As a result, Jordan's latest legislative reform regarding investment incentives (introduced in December 2018) replaces this provision with the general tax incentive programme for industries implemented with effect from January 2019. In addition, there are incentives (eg exemptions to custom duties) applying to certain inputs and industrial activities performed outside the special zone schemes. Details on these regulations are outlined in the Section 3.3 "Legislation".

## - Impactful Policies and Programmes

The special zone programmes have played an important role in supporting the development of the Jordanian Dead Sea Products, Pesticides and Soaps and Detergents subsectors, by attracting investment and increasing the competitiveness of these products in international markets. Likewise, schemes from JEDCO (financing programmes, in particular) have helped several players in the three subsectors under study, to expand their product portfolio and access international markets. Nevertheless, interviewed players point to a lack of specific incentives and development programmes in their subsectors as a considerable disadvantage when competing with competitors (some of which benefit from extensive government support of domestic industries) in international markets.

## - Policy Changes

As will be discussed in detail in Section 3.3, "Legislation", the approval of the Jordanian Investment Law in 2014 represented an important step in reorganising and enhancing the country's general tax and investment regime, to attract private capital into the Jordanian manufacturing industry. Nevertheless, factors such as Jordan's slowing economy, rising public debt levels and the expiry of the country's export tax subsidy scheme has prompted authorities to introduce a reform to the Investment Law in December 2018, which had an adverse impact on the manufacturing industry led by a reduction of benefits/incentives, to support the country's public finances.

According to 'Vision Jordan 2025'[14], the government aims to create a "dynamic and globally competitive private sector", for which it has devised measures including the update of the national Industrial Policy document; the review and development of policies and legislation related to industry; besides the adoption and implementation of a national export strategy. Likewise, the "Jordan Economic Growth Plan 2018-2022"[15] considers steps to increase the competitiveness of Jordanian businesses, which include easing access to financing, lowering tax and customs compliance costs for businesses and allocating 15% of international and regional financial institution loans to SMEs and start-ups. While the Jordanian government's clear stance on supporting investment and private participation in the economy sets the tone for further changes/reforms in the country's tax and investment framework, a potential deterioration of the Jordanian economy (eg due to external shocks) generates risks that would limit the government's room for action in this area.

14 | http://inform.gov.jo/en-us/By-Date/Report-Details/ArticleId/247/Jordan-2025
15 | http://www.ssif.gov.jo/UploadFiles/JEGProgrammeEnglish.pdf

## Tax and Investment Incentives

The country's system of special zones is the main framework of general incentives for Jordanian industry. These special zones are presented in different formats including Special Economic Zones (SEZ); Developments Zones (DZ); Qualifying Industrial Zones (QIZ); Free Zones (FZ); and Industrial Estates (IE). The Jordan Investment Commission (JIC) also provides some incentives to activities performed in areas outside of these special zones, provided certain conditions are met. The list of investment and tax incentives offered by each one of these schemes is detailed below.

**Special Economic Zones (SEZ):**

- Reduced income tax rate (5%)
- Exemption from social services tax
- Exemption from annual land and building taxes on property
- Exemption from taxes on distributed dividends and profits
- No restrictions on foreign equity for investments
- Duty-free imports of goods for commercial activities
- Land can be leased or purchased by foreigners
- Up to 70% of the workforce in projects within SEZ can be foreigners

**Development Zones (DZ):**

- Reduced income tax rate (5%) for activities with a local value added of at least 30% (with a 10% income tax rate applying for other activities). The reduced 5% income tax rate is also not applicable to income from the following entities: banks, telecommunication companies with individual licences; financial brokerage companies; financial and currency exchange companies; financial leasing companies; consultancies and financial and tax audit companies; transport companies; insurance and reinsurance companies; basic mining and extraction industries; generation and distribution of electricity; and companies engaged in the extraction, transport or distribution of water, gas and oil derivatives using pipelines
- Reduced GST rate (0%), or, alternatively, a refund of GST for goods and services bought or imported in the DZ
- Exemption from duties on all inputs (including instruments, materials and machines) to be used for the construction, establishment or equipment of businesses
- No export performance requirement
- No local content requirement

**Qualifying Industrial Zones (QIZ):**

- Duty-free and quota-free exports of goods (only to the USA)
- Streamlined customs procedures for goods moving into and out of the QIZ
- No tariffs apply to goods entering the QIZ

**Free Zones (FZ):**

- Reduced income tax rate (5%)
- Exemption from income tax on salaries of non-Jordanian employees working in companies within the FZ
- Exemption from customs duties and fees on goods exported from the FZ to foreign markets
- Exemption from customs duties and fees on goods imported into the FZ, including materials, equipment, supplies and machines for construction, building, preparation and furnishing of projects in the FZ. This exemption includes spare parts for maintenance of these projects, but not the service fees

**Industrial Estates (IE):**

- Full exemption from taxes and fees on fixed assets necessary for the functioning of a project or a company along with expansion and maintenance
- The investor can choose whether to own or rent a property in the IE
- No restriction on foreign equity for investment
- Reduced income tax rate (5%)
- Reduced GST rate (0%) on goods and services purchased or imported into the IE
- No custom duties on all materials, instruments, machines and appliances used for constructing, establishing and equipping projects or companies in the IE
- Reduced social services tax rate (0%)
- Reduced dividends tax rate (0%)

**Areas Outside Special Zones:**

- The following activities are exempt from customs duties and benefit from a reduced GST rate (0%): agriculture and livestock; hospitals and comprehensive medical centres; hotels and tourist facilities; entertainment and tourist recreation centres; communication centres; scientific research centres and scientific labs; artistic and media productions; conference and exhibition centres; extraction, transport and distribution of water, gas and oil derivatives using pipelines; and transport
- Municipalities in the governorates of Maan, Tafila, Karak, Mafraq, Ajloun and Jerash (classified as "Category A") also enjoy a 50% reduction on income tax for the activities
- In the case of municipalities in the governorates of Balqa and Madaba (classified as "Category B"), the income tax reduction is 30%
- Exemptions on customs tariffs and GST refunds also apply to certain production inputs; fixed assets; and certain services performed outside of the special zones, according to the schedules contained in the Law No. 33 of 2015 ('Investment Incentives Regulation') whose application oversees the Jordan Investment Commission.

Apart from incentives offered by the country's special zones, the projects and programmes run by JEDCO also offer investment incentives, focusing on the activities of SMEs, emerging enterprises, and exporting companies (although these are also general incentives applying to all industries). The list of relevant programmes offered by JEDCO and their incentives are detailed below:

**Projects and Programmes for Emerging Enterprises:**

**Network of Jordan Innovation Centres:**

- Incentivises collaboration between scientific researchers and the manufacturing sector to advance product and service innovation
- Provides consulting services specially tailored to entrepreneurs, in areas like marketing, strategic planning, opportunity analysis, legal framework and technology transfer
- Lobbies for intellectual property laws that could help transform innovative ideas into entrepreneurial projects

**Projects and Programmes for SME Owners:**

**National Linkages/Local Clusters:**

- Supports SMEs with the identification of opportunities to replace imported goods and services in their value chain with locally-produced inputs, or engage in the production of inputs not available locally
- Organises workshops where experienced exporters share their strategies with companies with the potential to export
- Develops "Export Readiness" programmes that provide training, international linkage strategies and assistance in identifying linkage opportunities

**Competitiveness Improvement for Private Sector Companies:**

- Creates a development plan specific to the SME, along with services to improve its competitiveness
- Provides assistance in acquiring certificates of compliance, computerised systems, or business software
- Offers assistance in preparing for energy consumption audits

**Virtual Marketplaces:**

- Trains export professionals on methods of effective and innovative use of electronic markets to assist SMEs
- Proposes policies to foster a business environment that is friendly to e-commerce
- Establishes a registration system that allows interested companies to market their products on virtual marketplaces (such as Amazon.com)

**Projects and Programmes for New Entrepreneurs**

**Entrepreneurial Communities:**

- Assists community initiatives that support enterprises with a competitive advantage and the capacity to create jobs
- Develops a supporting entrepreneurial environment that organises and enables enterprises to take advantage of know-how
- Promotes the use of public-private partnerships to achieve equitable distribution of economic activity

**Projects and Programmes for Innovative and High-Growth SMEs**

**Accelerate with JEDCO:**

- Identifies growth needs and challenges faced by SMEs with high-growth potential to assist them with customised development plans
- Establishes a talent pool of "Business Coaches" to provide support to participating high growth businesses
- Sets up a "SME Growth Observatory" which collects accurate information about the SME sector, monitors its performance, and evaluates the effectiveness of policies directed towards SMEs.

**SME Financing**

**Banking Window:**

- Assists companies in meeting the requirements and standards of funding agencies
- Improves companies' prospects of securing competitive financing terms from bank financing and capital contribution
- Makes optimal use of guarantees for businesses in need of financing and provides advice on acquiring new guarantees

**Governorate Development Fund:**

- Invests in economically viable emerging, small, medium and large companies that aim to start and/or expand production in the manufacturing, services and agribusiness sectors
- Invests a minimum of JOD100,000 in businesses, with the duration of the investment determined by needs and estimated cash flows (ranging between three and eight years)
- Investment modalities include equity, convertible bonds, and quasi-equity, depending on the specific case of the company.

## Legislation

Law No. 30 of 2014 (also known as the 'Investment Law' of 2014) has been the legislative bill shaping Jordan's general tax and investment incentive framework since the mid-2010s. The 'Investment Law' of 2014 was a considerable step forward in terms of simplifying investment-related laws, by unifying several previous pieces of legislation, including Law No. 16 of 1995 (also known as the 'Promotion of Investment Law'); Law No. 68 of 2003 ('Investment Law'); Law No. 71 of 2003 ('Law on the Development of the Investment Environment and Economic Activities'); Law No. 2 of 2008 ('Development of Zones and Free Zones'); and certain provisions from Law No. 33 of 2008 ('Law of Development of Economic Projects'); and Law No. 18 of 1998 ('Law of Industry and Trade'). The only exception constitutes the laws related to the Aqaba Special Economic Zone, which continues to have independent legislation (namely Law No. 32 of 2000 and regulations issued thereunder).

Considerable enhancements contained within the 'Investment Law' of 2014 included the establishment of the Jordan Investment Commission (by merging the functions of the Jordan Investment Board and the Development and Free Zone Commission), the introduction of a fully-operational "One-Stop Shop" investment window to facilitate bureaucratic procedures, the implementation of timeframes for issuing business permits, and the overhaul of the country's tax incentive system (with most benefits introduced by the 'Investment Law' of 2014 continuing to apply as of 2019). Law No. 33 of 2015 (or 'Investment Incentives Regulation') was issued afterwards, to provide a schedule/listing for the implementation of the 'Investment Law' of 2014.

In December 2018, the Jordanian government approved Law No. 38 of 2018 which introduces amendments to the 'Investment Law' of 2014. The effect of the new legislation, which entered into force on 1 January 2019, was a net decrease in benefits/incentives compared to those presented in the 'Investment Law' of 2014, with the main changes listed below:

- A rise in the corporate income tax rate for the industrial sector (from 14% to 20%, according to special schedules set until 2024)
- The introduction of corporate income tax cuts for selected industrial sectors. For eligible companies in sectors other than medicine and clothing, the reductions will vary according to the tax year: a 25% reduction in 2019; 20% in 2020; 15% in 2021; 10% in 2022; and 5% in 2023
- The introduction of a national contribution tax that will apply at sector-specific rates. For companies in the Jordanian manufacturing sector (other than those engaged in mining of raw materials), the rate of the new tax will be 1%
- The introduction of capital gains tax for the disposal of "Housas" shares
- The introduction of corporate income tax on activities generated by e-commerce
- The cancellation of exemptions on corporate income tax on revenue from exported goods
- The increase of corporate income tax for companies established in DZ from 5% to 10% (although companies performing activities that result in an increase in value of at least 30% on products procured locally remain subject to the 5% rate).
- The implementation of thin capitalisation rules for related party debt
- The reduction of tax allowances and an increase in tax rates for natural persons
- Amendments on certain penalties and tax administration matters.

The most up-to-date tax and investment incentives applying to Jordanian manufacturing companies is outlined according to the type of special zone and stakeholder responsible for the incentives as per Section 3.2 'Tax and Investment Incentives',

## General Export Process - Overview

Jordan's trade regulations and processes are relatively streamlined compared to other economies in the Middle East and North Africa region, although still compare unfavourably to those of OECD countries. According to the World Bank's Ease of Doing Business 2020[16] indicators, the total time necessary to export a shipment from Jordan (considering processes for border and documentary compliance) is 59 hours, lower than the Middle East and North Africa average of 118.9 hours but higher than the OECD average of 15 hours. According to the same source, Jordan's costs of exporting a shipment of merchandise stands at USD231, below the regional average of USD682.5 but above the OECD average of USD170.2 per shipment. In the World Bank's Logistics Performance Index 2018[17], Jordan ranked ninth out of 21 economies in the Middle East and North Africa region, with relative strengths in the areas of infrastructure and timeliness.

## - Export Procedures

To export goods from Jordan, companies (both local and foreign) must get a certificate of registration from the Ministry of Industry, Trade and Supply. The natural and legal persons representing exporting companies must be members of the Chamber of Industry or the Chamber of Commerce of Jordan, and their premises must be inspected and approved by the local municipality.

The typical export procedure for shipments from Jordan includes the following steps:

**a)** Preparation of documents

**b)** Inland transportation and handling

**c)** Ports and terminal handling

**d)** Customs clearance and technical control.

Documents necessary for performing exports from Jordan include:

**a)** Bill of lading

**b)** Certificate of origin

**c)** Commercial invoice

**d)** Customs export declaration

**e)** Packing list.

16 | http://www.doingbusiness.org/en/data/exploreeconomies/jordan#DB_tab
17 | https://lpi.worldbank.org/sites/default/files/International_LPI_from_2007_to_2018.xlsx

## Trade Agreements

The USA-Jordan Free Trade Agreement, which became fully operational in 2010, is one of the main frameworks for Jordan's foreign trade. However, the impact of this agreement is more evident in the clothing industry.

The Pan Arab Free Trade Area (PAFTA), which came into full effect in 2005, was an effort to enhance economic cooperation among Arab League member states: Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, the UAE and Yemen. PAFTA has helped consolidate Jordan's economic integration at a regional level, although political instability in the region (including the closure of borders with both Iraq and Syria), coupled with the existence of non-tariff barriers (including administrative, monetary, financial and technical) among member states did not allow Jordan to fully take advantage of the benefits of regional trade liberalisation during the 2010s.

Trade relations between the European Union (EU) and Jordan developed under the framework of the EU-Jordan Association Agreement (AA) that entered into force in 2002. This AA created a free trade area between Jordan and EU markets, and trade relations between both partners have developed further through additional agreement on areas such as agriculture, agri-food and fisheries, as well as mechanisms for dispute settlement. In December 2018, the EU and Jordan announced an agreement for the relaxation of requirements for Jordanian companies that benefit from simplified Rules of Origin when exporting to the EU. The three major components of this agreement have been re-addressed as follows:

• The new agreement signed in December 2018 will extend the original timeline from 2026 to 21 December 2030;

• The applicability of this Association Agreement was extended to all factories irrespective of location. This was originally restricted to 18 industrial and development zones;

• The threshold for the share of Syrian workers employed in each factory (a main requirement for Jordanian businesses to qualify for the relaxed Rules of Origin) has been reduced to 15%, from the previous 25%. This requirement is expected to be lifted completely once Jordan provides 60,000 jobs for Syrians. This threshold was relaxed from the 200,000 jobs as per the original agreement. Representatives from the Ministry of Industry, Trade and Supply indicated that 42,000 Syrians are already employed across various factories in Jordan;

• The other main requirement, concerning the proportion of imported raw materials that is allowed for a finished product to be labelled as "Made in Jordan", was noted at 70% for most products.

With only 13 Jordanian companies meeting all requirements as per this Agreement, major manufacturers believe the relaxed Rules of Origin could help encourage more companies to export to members of the European Union.
While treaties with the US, the Middle East and the EU are the backbone of Jordan's trade liberalisation policy, the country has also signed other FTAs with markets such as the European Free Trade Association (which includes partners Iceland, Liechtenstein, Norway and Switzerland), which resulted in full trade liberalisation by 2014; and with Canada (which entered into force in 2012). These trade agreements signal the Jordanian government's openness to trade liberalisation to support the country's manufacturing and export sectors and help improve the competitiveness of domestic industries.

# Chemical Industry Sectors

## Key Sectors in the Chemical Industry

Jordan's Chamber of Industries classifications will be used for the purposes of this study. This breakdown of the Chemical industry also provides a base for analysing the structure of each sector, its relative importance to the overall industry; and the product portfolio that will be the basis for the value chain assessment. An overview of the 18 sectors comprising the Jordanian Chemical industry, is presented in the summary below:

**Table 05:** Overview of sectors constituting the Jordanian Chemical Industry

| | |
|---|---|
| 1. OIL REFINING PRODUCTS | The Oil Refining Products sector comprises raw materials (e.g. solvents); intermediate goods (blown and liquid asphalt); and finished products (fuels and lubricant oils). Jordan Petroleum Refinery Co. is the only company operating in this sector which mainly focuses on domestic consumption. Total sector production value fell by about 60% over 2013-2017, mainly due to lower global oil prices and economic slowdown. |
| 2. INORGANIC CHEMICAL MATERIALS | The main products in this sector include potash, phosphates, bromides, and potassium nitrates, which are mainly used as raw materials for other industries like fertilizers and chemical applications. The sector is the largest in terms of installed capacity, estimated at 11.4 million tonnes in 2018 (equivalent to 51% of the Chemical industry's total). However, due to low product value added, the sector's share of Jordan's total chemical exports was lower, at 25% in the same year. Two companies account for 80% of the sector's installed capacity: Arab Potash Co and Jordan Phosphate Mines Co (JPMC) . |
| 3. ORGANIC CHEMICAL MATERIALS | Jordan's Organic Chemicals production includes higher value-added chemicals derived from carbon, such as isocyanates, acyclic alcohols and their derivatives, and amino-compounds. The sector's structured typically includes smaller companies compared to those observed for Inorganic Chemicals, with Ram Chemicals, True Blue Chemicals and Jordanian Swiss Company for Manufacturing & Marketing Construction Chemicals Ltd among the most visible. While value added for Organic Chemical products is higher than for Inorganic Chemicals, the size of the former is much smaller (representing just 1% of Jordan's total chemical exports in 2018). |
| 4. PETRO-CHEMICALS (INCLUDING PLASTIC AND PLASTIC PARTS) | The Jordanian Petrochemicals sector mainly involves plastic products both at intermediate (e.g. plastic components) and finished state (plastic packaging, household goods, and plastics for industrial uses). Over 90 manufacturers, most of them SMEs, operate in the sector, among the most prominent of which are Mafraq Plastic Industries Company, Intermediate Petrochemical Industries, World Plastics, and New Plastic Industrial Co. Nevertheless, exports from the sector fell by 11% (in volume terms) over 2013-2018, due to regional instability, with Iraq being a major market, while the reliance on imported raw materials also poses a considerable risk. |
| 5.FERTILIZERS | This sector uses raw materials from the Inorganic Chemicals sector to manufacture potassium and phosphate-based fertilizers. The largest generator of foreign exchange amongst all Chemical industry's sectors, Fertilizers represented 43% of the industry's total exports (in value terms) in 2018 . The major export markets include India, China, Egypt, Malaysia and Indonesia followed by countries in the Middle East and South-East Asian countries. The sector's structure has seven main providers of base fertilizers/raw materials (Arab Potash Co, JPMC, KEMAPCO, Indo-Jordan Chemicals, JAFCCO, Nippon Jordan Fertilizer and 1st Global Company), which are used by other players as inputs for higher value-added products. |

## 6. PESTICIDES AND OTHER AGRICULTURAL CHEMICALS

The Pesticides and Other Agricultural Chemicals sector product portfolio includes a wide range of insecticides, fungicides, herbicides and antibacterial products for agricultural use. This sector suffered a 47% decline in export volume between 2013 and 2018, mainly because of the closure of trade routes with Iraq (a major export destination for Jordanian pesticides). Despite the relatively high value added of Jordanian pesticide products, this sector accounted for just 2% of total chemical exports in 2018 , with companies like JIPCO, MEDMAC and MOBEDCO among the main players. Major markets include Saudi Arabia, Algeria, Egypt, Sudan and Iraq.

## 7. DYES, PAINTS AND SIMILAR COATINGS

Jordan's Dyes, Paints and Similar Coatings sector produces structural, industrial and decorative paints, as well as emulsions, varnishes and finishing products, and dyes for textiles. Players in this sector range from relatively large companies to cooperatives with artisanal production methods. Modern Paints & Chemical Industries Co, Heidan Coating Chemicals (Hasco) and Jordan Sipes Paints Co are among the largest manufacturers operating in the sector, which recorded a 28% decline in export volume between 2013 and 2018 due to fewer shipments to Iraq and Saudi Arabia.

## 8. PRINTING INKS

This highly specialised sector includes products such as inks (flexographic and rotographic), additives and overprint varnishes. The sector has less than 10 players, including Kharraz (Media Inks), Meteors Chemicals, and Al Fan Al Motamayez for Signs Ltd. Players are generally vertically integrated forwards in order to offer media, design and printing services to their customers. However, due to its nature as a niche sub-segment, Printing Inks accounted for just a fraction (0.1%) of the country's total chemical exports (in value terms) in 2018.

## 9. SOAPS, DETERGENTS, CLEANING AND POLISHING PREPARATIONS

This is one of the most developed sectors in Jordan's Chemical industry in terms of number of companies (over 70) and impact on employment. The range of products in this sector is relatively wide, including soaps, disinfectants, detergents, cleaning chemicals for industrial use, and surface care and polishing products. Some of the main players in the industry are Jordan Chemicals Co, Modern Chemicals Company (KIMA), GIANT Group, Layan and Spartan which have developed their own brands catering to households and businesses in both domestic and international markets led mainly by Iraq, Libya, Saudi Arabia, and Yemen.

## 10. PERFUMES AND COSMETICS

The Perfumes and Cosmetics sector also has an extensive portfolio of products including fragrances, skin care products, make-up and sanitary chemicals. These are predominantly value-added products, with local players having developed their own brands. However, the sector's relatively small size (0.1% of total chemical exports in value terms in 2018) limits its impact on the country's economic activity and employment. Some of the most prominent players in the Jordanian Perfumes and Cosmetics sector are Munir Sukhtian Group Chemicals, Muhtaseb Cosmetics, and Al Madaen Chemicals.

## 11.SHAMPOOS, HAIR SPRAYS, COSMETICS AND SHAVING PREPARATIONS

The portfolio in this sector includes a wide range of hair care products such as shampoos, conditioner, hair oil, leave-in products, hair tonics, treatment creams, styling products, hair sprays, hair straighteners, and after-shave preparations and lotions. The sector is relatively fragmented and includes mostly companies engaged in cosmetics manufacturing that have hair care products as part of their portfolios. Sigma Detergents, Al-Yousir Company for Perfumes & Cosmetics, and Ozone Cosmetics are among the most visible players in the sector.

## 12.EXPLOSIVES AND MATCHES

This sector includes products like fireworks, explosives, igniters and safety matches. This is a niche sector with the lowest installed capacity and one of the smallest export values in Jordan's Chemical industry. Only a very small number of companies (less than five) operate in this sector, with Chemical & Mining Industries Co (explosives) and Jordan Industries & Match (safety matches) standing out in their respective segments.

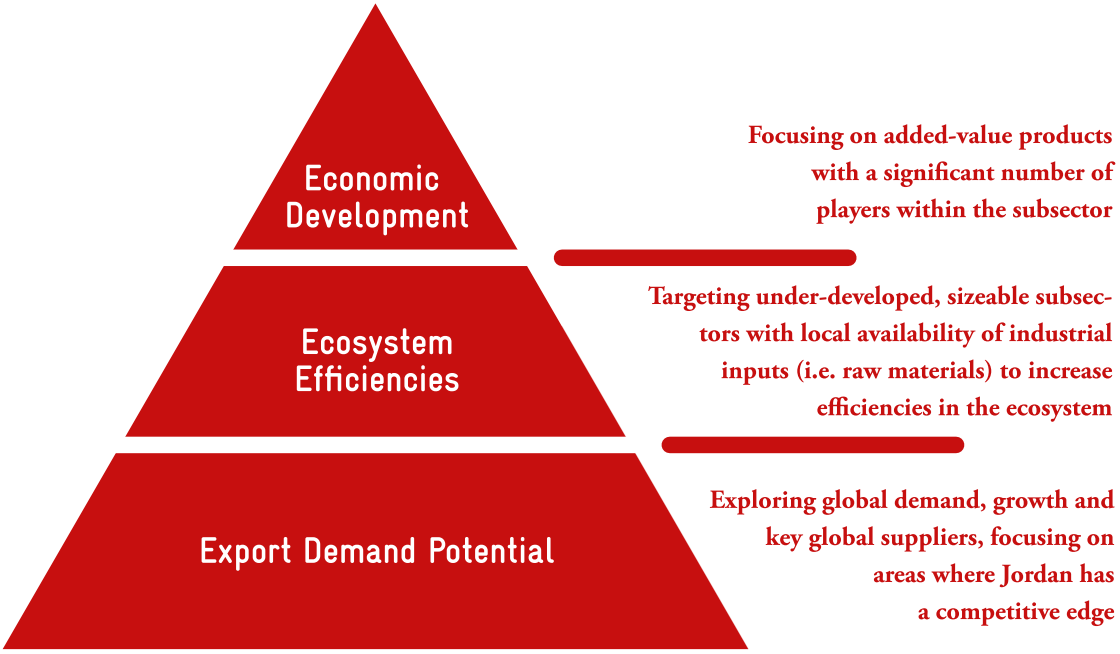
| | |
|---|---|
| 13. GUM AND GLUE | The Jordanian Gum and Glue sector manufactures products including prepared glues, enzymes, starches and adhesives. The sector represented only 0.4% of Jordan's total Chemical exports in 2018 . The Gum and Glue sector also recorded a weak performance over the period 2013-2018, with total export volume falling by 22% during that timeframe, due to lower exports to Saudi Arabia and Syria. Over 20 companies operate in this sector, with Saveto Jordan, JAC Polymers, and Al-Bahar Industries WLL among the largest. |
| 14. REFINED AND PROCESSED SALT | The Refined and Processed Salt sector has a very specific market structure, where one sizeable dominant company and many small producers (engaged in salt manufacturing at artisanal level) coexist. The Amra Salt Factory accounts for about 75% of total salt output in the country (sourced mainly from the Dead Sea), sold under three different brands. Meanwhile, many of the small producers operate mainly at subsistence level, often organised in cooperatives to increase the efficiency of their operations and strengthen their negotiating power with buyers. |
| 15. DEAD SEA PRODUCTS (SALTS, MUD, NATURAL COSMETICS AND RELATED MATERIALS) | This sector includes all beauty and personal care products based on ingredients from the Dead Sea and promoted as such by manufacturers. A total of 28 companies operate in the Dead Sea Products sector (which is largely focused on the export market including Saudi Arabia, The UAE, China, Canada, Italy, Greece, Poland, Kuwait, etc.), where products command a premium compared to normal personal care products. Some of the largest players in the sector include Rivage, The Jordan Egypt for Dead Sea Products Co, and the Jordan Co for Dead Sea Products. |
| 16. LIGHTING PRODUCTS, PAINTINGS, PHOTOGRAPHS AND FILMS | Production of this sector is focused mainly on photographic plates and photographic films. Despite the relatively high value-added nature of these products, total exports from this sector rank among the lowest in Jordan's Chemical industry (0.01% of the total in 2018) . A very limited number of companies (less than five) operates in this sector, with the Khalifeh Group for Advanced Industries one of the most prominent manufacturers and exporters for the sector. |
| 5. FERTILIZERS | This sector uses raw materials from the Inorganic Chemicals sector to manufacture potassium and phosphate-based fertilizers. The largest generator of foreign exchange amongst all Chemical industry's sectors, Fertilizers represented 43% of the industry's total exports (in value terms) in 2018 . The major export markets include India, China, Egypt, Malaysia and Indonesia followed by countries in the Middle East and South-East Asian countries. The sector's structure has seven main providers of base fertilizers/raw materials (Arab Potash Co, JPMC, KEMAPCO, Indo-Jordan Chemicals, JAFCCO, Nippon Jordan Fertilizer and 1st Global Company), which are used by other players as inputs for higher value-added products. |
| 17. ANTI-FREEZE MATERIALS, FLUIDS PROCESSING AND HYDRAULIC TRANSPORT PROCESSORS | This sector's main products are anti-freeze chemicals and hydraulic fluids. This is also a niche sector where large chemical manufacturers like Chemical & Mining Industries Co, Arab Group for Chemical Products and Near East Chemicals produce anti-freeze and hydraulic fluids as part of their portfolio. After plummeting by about 80% in volume terms on an annual basis in 2013, due to the closure of borders with Iraq and Syria, exports from the sector have partially recovered as of 2018, backed by shipments to other markets like the USA and Egypt. |
| 18. MATERIALS USED IN THE COMPLETION OF TISSUE PROCESSING AND DYEING | A highly specialised sector, products include chemicals, reagents and solutions for laboratory uses in histology, cytology and haematology. Due to the level of product specialisation, only a limited number of companies (less than 10) operate in the sector, with Atlas Medical Factory one of the main players. While the sector's share of total chemical exports is minimal (0.003% in 2018) , its total exports rose by 115% in volume terms between 2013 and 2018, due to higher exports to countries like Sudan and Lebanon. |

Source: Euromonitor International research

## Subsectors Selected for Research

The selection process of subsectors for in-depth analysis was performed by assessing each of Jordan's 18 Chemical industry sectors against an established set of criteria, that was discussed and agreed with representatives of the main stakeholders including Mr. Salameh Allboun (Jordan Chamber of Industry, JCI), Mr. Fadel Labadi (Amman Chamber of Industry, ACI), Mr. Essam Bahloul (Jordan Enterprise Development Corporation, JEDCO), Ms. Dana Tarifi (Jordan Association of Pharmaceutical Manufacturers, JAPM), Ms. Azza Al-Asir (Jordan Food and Drug Authority, JFDA) and members of Ministry of Industry and Trade including Ms. Lana Eltawil, Ms. Salma Dawud, Mr. Basil Alnobani and Ms. Nisreen Odeh along with representatives from GIZ. The selected criteria included Impact on Economic Development; Ecosystem Efficiencies; and Export Demand Potential, as outlined in the chart below:

**Chart 03:** Criteria for the Selection of Subsectors in the Jordanian Chemical Industry




Source: Euromonitor International research

After evaluating each of the sectors against the set criteria, three subsectors were selected for deeper analysis: Soaps and Detergents, Pesticides and Dead Sea Products, according to the details included in Table 6 below. Full details of the evaluation process undertaken to select the three subsectors is also available in Annex I at the end of this document.

**Table 06:** Selected subsectors in the Jordanian Chemical Industry

| | | | |
|---|---|---|---|
| Number of Manufacturers | 72 | 9 | 28 |
| Export size in US$ | 93,759,000 | 36,625,000 | 3,517,655 |
| STRENGTHS | -Sizeable number of manufacturers<br>-Large installed capacity<br>-Relatively high export potential | -High value-added products<br>-Relatively high export potential | -Competitive advantage in uniqueness of raw materials<br>-Rising global demand for natural/organic cosmetics |
| WEAKNESSES | -Value added is not among the highest<br>-Products must adapt to global sustainability trend | -Comparatively smaller number of producers<br>-Global trend towards tightening pesticide regulations | -Relatively small number of producers<br>-Value added is not among the highest |
| REASONS FOR SELECTING THE SUB-SEGMENT | Large potential for economic development and exports | Industry with high value added and potential to generate quality employment | Extraordinary potential for development of export markets and relatively high impact on employment |

Note: Data corresponds to 2018

## Regulations and Policies Affecting Selected Subsectors

There are no specific incentives offered by the Jordanian government to the Dead Sea Products, Pesticides and Soaps and Detergents subsectors, so only general incentives apply.

### - Dead Sea Products Subsector

In addition to general regulations, all cosmetics produced in Jordan (including Dead Sea Products) must meet the requirements set by the Jordan Food and Drug Administration (JFDA) in terms of registration, testing and compliance with Good Manufacturing Practices (GMP) as outlined by the JFDA. Meeting these regulations is necessary for the sale of products in the domestic market, while compliance also helps ensure that Jordanian cosmetics and Dead Sea Products meet the quality standards required in international markets. On incentives, the Jordanian Government is permanently revising / updating its set of tax and investment incentives in line

The main representatives of the Dead Sea Product subsector and the Jordan Chamber of Industry confirmed that there are currently no new programmes/policies targeted specifically to the subsector that could improve its competitiveness. All general incentives are said to be aligned with the tax and investment incentives spelt out in the December 2018 update of Investment Law (See Section 3.3, 'Legislation').

The most critical areas where Jordanian Dead Sea Product representatives mentioned a need for is a reduction of the tax burden affecting availability of financing; and assistance with activities like sales and marketing to facilitate easier access to international markets. As such, potential additional measures/ incentives introduced by the government would have to be adequately formulated and implemented to tackle these areas.

For instance, while the implementation of the JFDA's GMP guidelines is, in theory, a positive step in bringing the quality of Jordanian exports up to international standards, in practice, implementation of this measure could be improved by providing clear and consistent GMP guidelines, providing support to organizations to understand gaps in GMP implementation and facilitating consistent implementation across all organizations. as mentioned by competitors in the country's Dead Sea Product subsector. Overall, policies that help manufacturers in the subsector reduce costs (including taxes, inputs and regulatory compliance), provide wide and affordable access to financing and support them with the know-how necessary to efficiently reach international markets should be given a priority by government authorities to help address the hurdles and improve the competitiveness of the subsector.

## - Soaps and Detergents Subsector

For Soaps and Detergents, mandatory standards are issued by the Jordan Standards and Metrology Organization (JSMO), while the Jordan Food and Drug Administration (JFDA) and Ministry of Environment also provide regulations on products for the subsector (the former also applying GMP requirements to Soaps and Detergents manufactured in Jordan). A special case is the regulatory role of the Ministry of Interior, which provides approvals for certain raw materials used by Soaps and Detergents manufacturers in the country, on the grounds of national security.

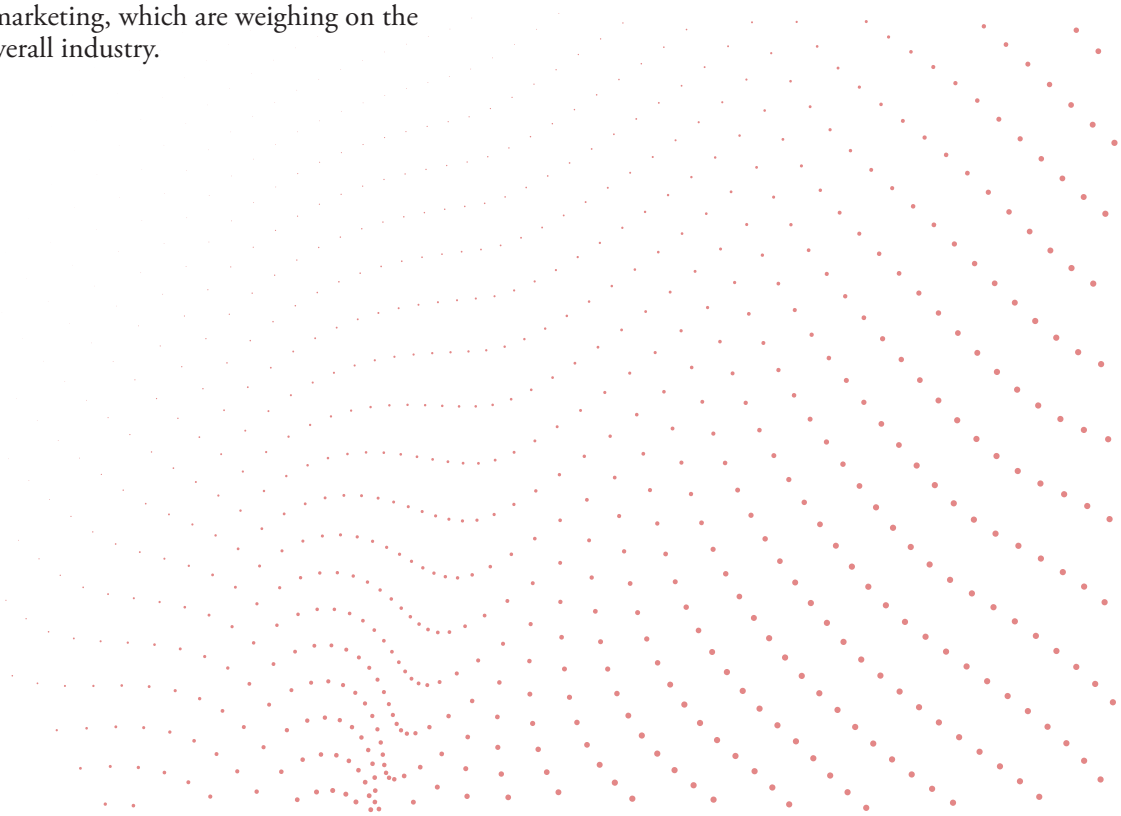
Likewise, interviewed representatives from the Jordanian Soaps and Detergents subsector did not know of any new government programmes being planned for the development of the subsector. Concerns raised by some Soaps and Detergents companies related to the detrimental effect of policy and regulatory instability on subsector activities, as frequent changes to the rules of the game made it difficult for their companies to engage in long-term decision-making and planning.

In addition, companies in the Soaps and Detergents subsector were trying to liaise with government authorities (through the Jordan Chamber of Industry and Jordan Detergents Committee) to tackle some of the pressing issues affecting the subsector. This includes the inflow of counterfeit/ smuggled products through Jordan's porous borders; delays in processes like GST refunds and customs clearance; and inconsistencies and lack of skills in certain areas like R&D and marketing, which are weighing on the performance of the overall industry.

## - Pesticides Subsector

The Pesticides subsector is subject to regulations issued by the Plant Protection Directorate (PPD) / Pesticides Division of the Ministry of Agriculture of Jordan. In addition, standards related to human health and pesticide use within Jordan must conform to World Health Organization (WHO) standards, while exported pesticides must also meet the regulations set by authorities of the destination market.

Representatives of market players in the Jordanian Pesticides subsector interviewed by Euromonitor International did not inform of new initiatives being proposed by the government to support the subsector. However, some representatives of industry players noted that the recent expiry of tax subsidies for Jordan's exports had an adverse impact on the country's Pesticides subsector and were trying to liaise with government and industry stakeholders to have the incentive reinstated or have a new one implemented with similar effect.



# Subsector Overview: Dead Sea Products

## Snapshot

The Jordanian Dead Sea Products subsector comprises a wide range of cosmetic products for body, face and hair care, including mud, salts, soaps, shampoos, masks, lotions and moisturisers. According to trade interviews conducted by Euromonitor International with leading producers in Jordan, the portfolio of Dead Sea Products offered by Jordanian manufacturers can reach over 200 different stock keeping units (SKUs), among which mud and salt enjoy the largest demand (in volume terms) both at domestic and international level. The differentiating factor between Dead Sea cosmetics and normal cosmetics is the presence of Dead Sea minerals (ie mud and salt) in the former, in a concentration that typically ranges between 2-5%, depending on the product and market. Close to 65% of total exports is estimated to be Dead Sea Mud and salt exported through HS Code 330499. Other HS Codes through which Dead Sea Products are exported include 330510, 330730, 330790 and 340119 which include soaps, shampoos, creams, etc.

**Subsector Performance**

Most of Jordan's domestic output of Dead Sea Products is destined for international markets (an estimated 65%[31]),and therefore export trends in the subsector are also reflected in domestic production. According to Euromonitor International's calculations, based on information provided by the Jordan Chamber of Industry, total exports of Dead Sea Products from the country declined by about 35% in value terms between 2013 and 2018 to stand at USD3.5 million by the end of that period. Factors contributing to the weak performance of the subsector included:

- Declining demand for Jordanian beauty and personal care products in target markets such as the EU and GCC;

- Political instability at a regional level (including the closure of Jordan's borders with Iraq and Syria);

- Elevated (and rising) taxes being applied to market players in this subsector;

- Lack of skills in areas such as innovation, marketing and commercialisation

Notwithstanding the disappointing performance of the subsector over the historic period, stakeholders in the industry anticipate a potential rebound in exports (and therefore domestic production) of Jordanian Dead Sea Products over the medium term. This will be driven by growing global demand for natural and organic products; the reopening of Jordan's borders with Iraq and Syria; and efforts by players in the industry to find alternative foreign markets for their product exports. However, Jordanian Dead Sea Products market players were almost unanimous in pointing out what they consider to be a lack of support from government bodies for the specific needs and requirements for the subsector's development (eg in areas such as the industry's tax burden, or support for the international promotion of their products), which will aid in the companies achieving a significant competitive disadvantage compared to Israel (Jordan's main competitor in the Dead Sea Products subsector).

While players in the Jordanian Dead Sea Products industry take advantage of the different incentives offered by the country's SEZ schemes, manufacturing operations of companies producing beauty and personal care goods based on Dead Sea minerals are scattered in SEZ across the country, reflecting the composition of this subsector with 2-3 major players and a large number of very small players (SMEs). This creates additional potential disadvantages (eg higher transportation costs) or missed opportunities (eg lack of a cluster where players in the subsector could benefit from synergies and collaboration), which also contribute to factors keeping the Jordanian Dead Sea Products subsector from realising its full potential.

31 | Euromonitor International's calculations based on data from trade interviews

## Key Stakeholders

The most important groups of stakeholders in the Jordanian Dead Sea Products sector are summarised in the Chart 04 below.

**Chart 04:** Key stakeholders in Jordan's Dead Sea Products subsector


Source: Euromonitor International's trade interviews

The main roles and relationships between general stakeholders in Jordan's Chemical industry are detailed in section 2.1.6 of this report. In addition to these, the roles of stakeholders specific to the country's Dead Sea Products subsector are detailed in the Table 7.

**Table 07:** Key Stakeholders Specific to Jordan's Dead Sea Products Subsector

| | | |
|---|---|---|
| Dead Sea Products Association (DSPA) | INDUSTRY ASSOCIATION | The Association aims to serve the needs of its members organise the Dead Sea Products manufacturing sector; and advocate for the issues relevant to the sector. It also seeks to impact legislation regarding the industry, while managing stakeholder relationships and initiating and supporting research initiatives. |
| AlNumeira Mixed Salts and Mud Company | SUPPLIER | AlNumeira (part of Arab Potash Co) is the sole supplier of Dead Sea raw materials (mud and salts) for the Jordanian market. Due to its monopolistic position, it is a highly sensitive player in the value chain, which can have considerable impact on manufacturing operations, costs and service levels of other players in the subsector. |
| Dead Sea Product Manufacturers | COMPETITORS | These include companies manufacturing Dead Sea Products in Jordan. A detailed analysis of these companies is available in the following sections of this report. |

Source: Euromonitor International research

As mentioned in Section 5.1, representatives of manufacturing companies interviewed by Euromonitor International shared a consensus view regarding government support to the subsector. Some representatives of industry players had the view that government actions have been counter-productive to the subsector's interests. The players specifically pointed out cases such as the "Mineral tax" introduced by the Ministry of Energy and Mineral Resources (which further increases the tax burden for Dead Sea Products manufacturers); the expiry of export subsidies for Jordanian goods (which will result in producers paying income tax on their exports) and inconsistencies in the implementation and control of Good Manufacturing Practices (GMP) by the JFDA (which generated uncertainty and additional costs for competitors in the subsector).

A special case is the situation with the DSPA, the industry association specific to the Dead Sea Products subsector. While in theory the DSPA should serve as a hub for discussion and collaboration on issues that could serve to develop the subsector, representatives from manufacturers indicated that internal dynamics among the market players have had a detrimental effect on inter-company relations and thus on the overall effectiveness of this body. As a result, smaller players in the subsector do not feel themselves represented by the DSPA, but rather see it as a vehicle to further the dominance of the large companies operating in the subsector. This considerably undermines the role that the DSPA should have in contributing to the development of the Jordanian Dead Sea Products subsector and serving as an advocate for its interests.

However, with a recent realignment on the main objectives of the association, the Association confirmed its adoption of a new strategy as immediate next steps for developing the sector and its visibility across the globe:

• The Association along with its members is said to have laid out a step-by-step road map to help its members grow both in terms of visibility and volume sales across the globe;

• The Association is currently facilitating discussions with all major manufacturers of Dead Sea Products in the country, irrespective of whether they are registered with the association, to consolidate support required and work with the government to resolve the identified issues;

• Members of the association can choose to be a part of developing a common "Made in Jordan" brand as an identity for the high quality of all Dead Sea Products originating from Jordan;

• The Association, in partnership with Arab Potash Co, is expected to participate in an exhibition as a representative of many companies to promote Jordanian Dead Sea Products in the CIS region:

• The Association also aims to steer identification of research initiatives such as the introduction of medicinal advantages to Dead Sea Products from Jordan that could help Jordanian companies help differentiate their products from Israel-originated products.

To support and further augment these efforts taken up by the subsector's association, a new format has recently been introduced (at the request of the Jordan Chamber of Industry), where the association's representation has been extended to include not only the Dead Sea Products subsector but also the entire Cosmetics sector. By expanding the base of support, the revamped format aims to increase the association's visibility and recognition among government bodies, as well as give it more leverage in negotiations with other stakeholders in the industry. On the other hand, there are concerns that the new format (merging Dead Sea Products into the broader Cosmetics sector) will make it more difficult to maintain focus on the specific needs of the Dead Sea Products subsector, as well as provide inclusiveness to benefit smaller players.
Overall, the relationship of manufacturers in Jordan's Dead Sea Products subsector with each of the relevant stakeholders is subject to its own particularities, which in turn have an impact on dynamics of players in the subsector.

Special attention should be directed to the role of government institutions (both policymakers and regulators) which, despite their efforts to facilitate and incentivise growth in the subsector, are actually perceived as indifferent to the advancement of companies operating in this area (due to what is regarded as lack of involvement in support programmes), or worse, as hurdles to its development (due to the introduction of measures that, according to interviewees, reduce the competitiveness of players in the subsector). In addition, there is a need for a strong, equitable and transparent body to represent Jordan's Dead Sea Products subsector which ensures that the interests of all its members are considered. Lastly, while financial support from stakeholders is important, this should be earmarked within comprehensive plans that makes a holistic assessment of the situation of the subsector and its players and propose a structured plan for its development (hence the purpose of this study)

**Best Practices for Sector Governance from Benchmark Country (Israel)**

This section outlines best practices on governance of the Dead Sea Products subsector in Israel, where the subsector is well regulated with multiple stakeholders supporting market players with laws and platforms to encourage both local and export sales. All the stakeholders in the country work in unison to promote exports of key products from Israel.
The Dead Sea Products subsector is centrally regulated by the Ministry of Health, the regulatory body for all beauty and personal care products. Other key stakeholders include:

**Ministry of Economy and Industry:** Overarching body defining key regulations for local manufacturers.

**Foreign Trade Association:** Operating as a sub-set of the Ministry of Economy and Industry, it defines regulations and extends financial and knowledge support to local manufacturers to promote exports.

**Israel Innovation Authority:** An independent, publicly-funded agency with a platform that extends both knowledge and extensive funding support to encourage the introduction of new products, innovative solutions to existing problems and adapting best practices from across the globe;

**Manufacturers' Association of Israel:** A central body representing manufacturers across all industries in Israel. Dead Sea Products is managed and represented by the Chemicals and Cosmetics division;

**USAID:** Most foreign assistance across all major industries in the region is driven by the United States of America.

Israel is largely led by technology-driven companies and entrepreneurs resulting in a large base of Small and Medium Enterprises (SMEs) in the country. These SMEs, across most industries, are represented by the Israel Small and Medium Enterprises Authority (ISMEA) in their requests to the various ministries in the country. Since 2015, the government, in its vision to support the SMEs, offers Government Secured Loans across all industries for SMEs with revenues up to NIS100 million. Beginning with a minimum support of NIS100,000, this extends as high as 8% of the company's revenue for SMEs with an annual turnover of over NIS6.25 million. This funding programme gives innovative start-ups a key advantage in achieving a competitive position in the market.
Israel, as a country, encourages local manufacturers to adopt an assertive approach to exports. With a well-established chemical industry driven by access to Dead Sea minerals and salts, like Jordan, most of the revenues of key companies in Israel are driven by exports. Israel leads in the export of Dead Sea Products with a significant support extended by the Foreign Trade Association in the form of the "Smart Money Program". This programme encourages local manufacturers in Israel to identify and penetrate potential foreign markets. Launched by the government in 2014, the "Smart Money Program" provides partial funding to support and market a company's products in the target country or to hire a professional agency to support` this activity. All applications received from companies are evaluated by the Foreign Trade Association before sanction of grants.

The country strives to achieve standardised processes to ensure it complies with international standards. The Ministry of Health, hence operates a dedicated standardisation department that benchmarks and recommends global best practices to define processes and methodologies across industries.

Source: Euromonitor International research

## Competitive Landscape

The competitive characteristics of Jordan's Dead Sea Products subsector show multiple players (over 25) with small levels of production and market share (typically corresponding to SMEs) and only three players considered large in terms of capacity. According to data from the country's Dead Sea Products Association (DSPA), there were 28 registered members as of 2018, although this figure does not encompass all competitors in the industry. This is because some of the smaller manufacturers are not members of the DSPA, while others have left due to the challenges outlined previously, and lastly there are competitors whose main line of business corresponds to manufacturing and export of normal cosmetics, with Dead Sea cosmetics representing only a fraction of their production. The main reasons for the market composition observed in Jordan's Dead Sea Products subsector include the relative underdevelopment of the industry, lack of economies of scale among most players and the ineffectiveness of the industry association in forging collaboration among manufacturers.

According to Euromonitor International's calculations, based on trade interviews with leading manufacturers of Dead Sea Products, the subsector employs about 380 workers, about half of which perform their activities in a full-time capacity and the rest on a part-time basis. Total installed capacity is estimated at about 16,200 tonness[32], with most competitors in the industry declaring they manufacture on a demand basis (ie based on new orders) to keep inventories at minimum levels due to the perishability of ingredients in their products. The main competitors in the country's Dead Sea Products subsector include the Jordanian Egyptian Company (strong in private label manufacturing); Rivage (with its own brand positioned at the higher end of the market); and Trinitae Cosmetics (with a flagship physical store in Amman as well as in international markets targeted at the premium segment).

In terms of geographic distribution, manufacturing operations of Dead Sea Products are scattered across the country with no specific developed hubs. While a large majority of manufacturers engaged in export operations, the subsector also shows a range of strategies in terms of commercialisation. For example, some players focus predominantly on the local market and give less attention to exports (eg Dead Sea Fortune, Haifa), while other manufacturers direct most of their efforts to export markets (eg Trinitae, Jordan Co for Dead Sea Products), and yet others produce predominantly for domestic and foreign private label (eg Jordanian Egyptian Company for Dead Sea Products) and give less emphasis to their own brands.

Most players at the different stages of Jordan's Dead Sea Products value chain (raw materials, manufacturing and end market) are privately owned. However, while AlNumeira (the supplier of raw materials for the industry) is under private control since 2003 (when the Jordanian government sold its majority shareholding in Arab Potash Co, AlNumeira's parent entity), its position at this stage of the value chain remains monopolistic. At the manufacturing and end-market stages of the value chain, more private sector players are entering the market due to prospects of rising global demand for Jordanian Dead Sea Products, which is also accentuating the competitive landscape (ie a few players with large installed capacity and several small players that mainly lack operational and/or financial capabilities to some degree).

According to representatives of Jordanian Dead Sea Products manufacturers, competition from imports of finished products is negligible (although imports play an important role in the provision of raw materials as will be seen in Section 5.6 "Value Chain Analysis"). This is mainly because Israel, the only other prominent producer of Dead Sea Products at a global level, focuses its exports on developed markets such as the US and the EU. Although at this point the role of imports in Jordan's Dead Sea Products subsector is immaterial, exports of raw materials (eg salts and mud) from the Dead Sea to countries such as China constitute a potential future risk (as lower-priced finished products would increase the intensity of competition in the global markets). This factor also generates risks to the overall development of Jordan's Dead Sea Products subsector, as these cheaper competing products would reduce opportunities for Jordanian Dead Sea cosmetics in international markets.

32 | Euromonitor International's calculations based on trade interviews, secondary research

Domestic brands including Rivage, Beauty Secrets and private label products manufactured by the Jordanian Egyptian Company (which supplies private label products to around 80 retailers) are among the most popular for Dead Sea Products consumers at a national level. In terms of regions, demand is concentrated in retail channels in the city of Amman (which accounted for about two thirds of the country's total consumer expenditure on beauty and personal care products in 2018), as well as in the different "Dead Sea Spas" that are in Amman and the northern shores of the Dead Sea. Other than these areas, demand for Dead Sea beauty products in Jordan is very limited, as most consumers are price sensitive and prefer buying normal soaps/cosmetics at lower prices, while Dead Sea Products are mainly targeted at the high-end market.

Due to the structure of the industry (with a small number of large players and the predominance of SMEs), and the general lack of access to financing to business entities of that size, most players competing in Jordan's Dead Sea Products subsector must source their own funds to finance their operations. Financing is clearly one of the aspects where support to SMEs in the industry would have a considerable impact, although the role of local development agencies is helping fill the gap in this area. For example, one representative from a medium-sized Dead Sea Products manufacturer interviewed by Euromonitor International commended the support of JEDCO in the form of grants and loans provided to the company, which allowed the business to expand its portfolio and widen its international reach. By improving availability of financing, both the public and private sectors could support activity in the subsector at its roots, while also backing employment and contributing to Jordan's external sector.

## Labour Market Needs

Three main areas were identified by representatives of Jordanian Dead Sea Products manufacturers as critical in terms of skills for companies operating in the industry:

- Research and Development (R&D)
- Manufacturing
- Marketing and Commercialisation.

Given the competitive nature of Jordan's Dead Sea Products subsector (large presence of SMEs with limited financial capabilities) and the different strategies used by players (eg focus on the domestic market, exports or private label), different companies will have different requirements and expectations in terms of labour.

As a result, while domestic availability of skills (for example, in manufacturing) may be enough to compete at a local level, it proves insufficient to be competitive at an international level. Interviewed representatives from Jordan's most prominent Dead Sea Products exporting companies had a consensus view that the limited availability of highly-skilled local professionals in areas such as R & D (necessary for innovation and product formulation) and marketing and sales (pivotal for international expansion) were a major drag on their activities, and they therefore had to look to international markets for the skills necessary to carry out these operations in a competitive manner.

In this respect, the main stakeholders in Jordan's Dead Sea Products subsector, as well as government authorities in the Ministry of Labour, could support the industry by providing skills training to the level required by the different stages of the business process. For example, vocational training programmes could be implemented targeting youth groups to address needs at the manufacturing stage. For qualified R & D and Marketing and Sales positions, the introduction of relevant career paths (eg Cosmetics Science, or International Marketing) to university curriculums could be considered, alongside collaboration agreements between companies and higher education institutions to provide hands-on training of the skills necessary for these roles at the level required, which would also provide career paths for students taking part in these schemes.

While several vocational training programmes have been organised by different parties (e.g. Chambers of Commerce, representatives from Dead Sea Products players recognise that these have been largely ineffective in supporting the development of the subsector, as they were not in sync with the specific needs and levels of skills required. In this respect, the proposed vocational training programmes would help address the current high turnover rates for manufacturing employees in Dead Sea Products companies (especially SMEs), by focusing on young people that will be presented with a career path and opportunities for professional advancement. In the case of qualified R & D and Marketing and Sales training, the proposed measures would help fill skills gaps caused by either lack of availability of educational paths that are relevant to these positions, or the mismatches between educational curriculums and the actual skills needed in the labour market.

## Market Demand and Supply - Production

According to Euromonitor International calculations, based on information provided by representatives from Jordan's Dead Sea Products subsector, total installed capacity in the subsector reached about 16,200 tonnes per year in 2018. However, total output witnessed a downward trend during most of the period 2014-2018, driven by reduced demand for beauty and personal care products from key exports markets; political instability at a regional level; rising taxes applied to players in the industry; and lack of skills in critical areas of the business process (e.g. R & D, marketing and sales).

Consequently, total output of Dead Sea Products in Jordan is estimated to have declined from a peak of about USD14.0 million in 2012 to about USD5.4 million in 2018[34] (with Dead Sea mud holding up better than other products due to its popularity in international markets). The industry's total capacity utilisation was estimated at around 40.0%[35] in 2018, due to reduced levels of activity among the largest players in the subsector, although interviewed representatives in the industry noted a modest uptick in activity during 2018 due to an increase in exports of Dead Sea Products during that year.

**Table 08:** Production value of Dead Sea Products in Jordan 2014-2018 (USD )

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Total production | 6,212,890 | 5,730,000 | 5,874,033 | 5,531,606 | 5,411,777 |

Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

## - Imports and Exports

According to data from Euromonitor International's trade interviews with players in Jordan's Dead Sea Products subsector, around 65% of domestic production is channelled to export markets mainly Saudi Arabia, the UAE, China, Canada, Italy, Greece, Poland, Kuwait, etc (which reached USD3.5 million in 2018). This proportion is set to increase gradually over the long term, due to rising global demand for natural and organic cosmetics (which will bolster exports of Jordanian Dead Sea Products) and limited domestic consumption of products in this category (partly due to the price sensitivity of most Jordanian consumers). According to data from trade interviews, the top export countries for Dead Sea Products at a global level are the US, the EU, Russia, China and GCC.

In terms of imports of finished Dead Sea Products into Jordan, values are negligible compared to domestic production, at less than USD32,000 in 2018. While Turkey, China and Syria are said to be manufacturing Dead Sea Products by procuring Dead Sea mud and salt from Jordan or Israel, the importation of Dead Sea Products is expected to be negligible. This is due to factors including the relatively low average disposable income of Jordanian households (which makes price an important factor in their purchasing decisions), the ample availability of Dead Sea Products in the local market, and the specific behaviour of Jordanian consumers, especially those of younger age (who generally place importance on international brand names for their cosmetics purchases, thus overlooking domestic products even if they offer additional benefits, as is the case with Dead Sea cosmetics).

34 | Euromonitor International's calculations based on data provided by the Jordan Chamber of Industry, trade interviews, secondary research
35 | Ibid
36 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews, COMTRADE

**Table 09:** Imports of Dead Sea Products into Jordan 2014-2018 (USD )

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Total imports | 4,038 | 11,173 | 19,091 | 25,169 | 31,659 |

Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

**Table 10:** Exports of Dead Sea Products into Jordan 2014-2018 (USD )

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Total exports | 4,038,378 | 3,724,500 | 3,818,122 | 3,595,544 | 3,517,655 |

Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

## - Domestic Consumption

Due to Jordan's economic slowdown and the attitudes of Jordanian consumers towards Dead Sea Products, domestic consumption is estimated to have fallen from USD2.2 million in 2014 to USD1.9 million in 2018. While representatives from Dead Sea Products manufacturers expect domestic demand to partially recover over the short to medium term, their emphasis is on the expanding export markets, to develop the industry and contribute to the national economy.

**Table 11:** Domestic Consumption of Dead Sea Products in Jordan 2014-2018 (USD )

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Domestic consumption | 2,215,201 | 2,050,476 | 2,064,920 | 1,985,201 | 1,934,169 |

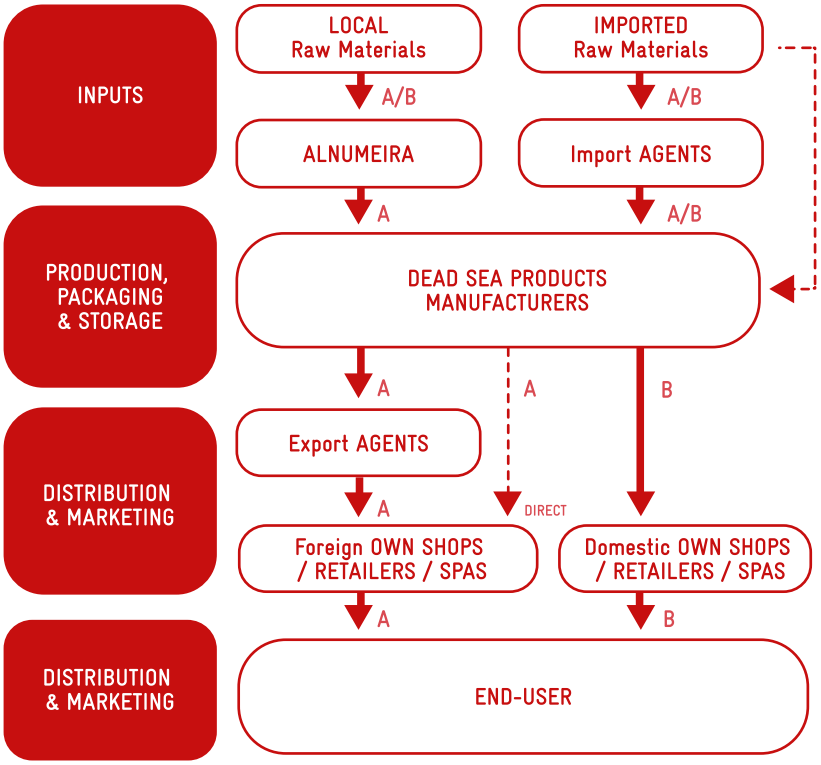
Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

37 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews, secondary research

## Value Chain Analysis – Overview

Due to high levels of competition and the cost pressures facing companies operating in Jordan's Dead Sea Products subsector, players try to keep the value chain as lean as possible, which allows them to increase efficiency in their operations and save costs. Following interviews with representatives of competitors in the industry, the typical value chain for Jordan's Dead Sea Products subsector is outlined as seen in Chart 5.

**Chart 05:** Dead Sea Products – Value Chain Flow




Source: Euromonitor International from trade interviews, secondary research

There are two clearly established routes for activity flows in Jordan's Dead Sea Products value chain:

A. Finished goods destined for export markets, which represent approximately two thirds of total Dead Sea Products production in Jordan;

B. Finished goods sold in the domestic market, which account for the remainder of total output.
The following sections explain in detail each of the stages of Jordan's Dead Sea Products value chain.

38 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews

## - Sourcing: Raw Ingredients/Materials

Representatives of Jordanian Dead Sea Products companies interviewed by Euromonitor International identified two main sources of raw materials for manufacturing their finished goods:

**Domestic Sources of Raw Materials**

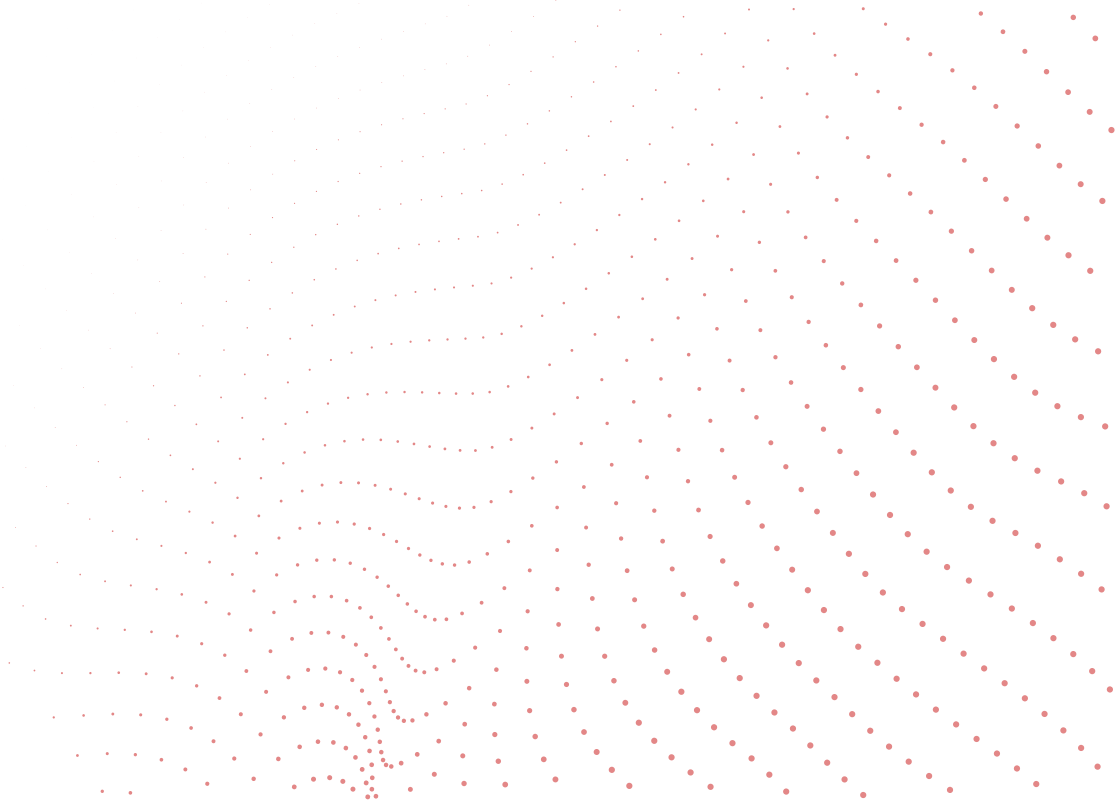
This primarily included Dead Sea mud and salts, which are the key ingredients for manufacturing Dead Sea Products. The uniqueness of this raw material (available only in the Dead Sea, and with a noticeably higher quality on the Jordanian side) is a potentially defining competitive advantage for the subsector, should the government decide to stop exporting Dead Sea mud to other countries to support domestic production;

**Imported Sources of Raw Materials**

These include most other ingredients used in the manufacturing process, apart from Dead Sea mud and salts, reaching up to 400 different components, including extracts, active ingredients, preservatives, packaging, etc. Interviewed sources noted that the need to import these raw materials arises from the generally low quality available in the domestic market.

The availability of raw materials also varies according to the source. In terms of domestically-procured raw materials, the only supplier of Dead Sea mud and salts is AlNumeira, a subsidiary of Arab Potash Co, a situation that generates additional costs for manufacturers due to the company's monopolistic position. For example, most interviewed players observed a "continued rise in the price of raw materials" over the past few years which is increasing cost pressures, while a leading manufacturer in the industry noted that "the mud that we buy from AlNumeira takes approximately six months of processing and treatment before we can use it in our products" due to the deficient quality of the raw material provided by the sole supplier, which further raises costs.

For imported raw materials, costs are dependent on supplier selling prices, foreign exchange rates, and potential bureaucratic delays in Jordanian customs for products being brought into the country. In order to minimise procurement costs, Dead Sea Products manufacturers try to eliminate middlemen by sourcing directly from foreign raw material suppliers, although this is not always possible (especially for smaller players), who use the services of local importing agents.



**AlNumeira and its Role in the Jordanian Dead Sea Product Value Chain (continued)**

Established in 1997 as a subsidiary of Arab Potash Co, Numeira Mixed Salts and Mud Company (AlNumeira) has the exclusive rights to extract and use Dead Sea minerals and materials in Jordan, which makes it a key player in the country's Dead Sea Products value chain. According to AlNumeira's statutes, the company's mission is "to provide natural Dead Sea products to all clients in Jordan and international markets with high quality and competitive prices".

While AlNumeira is a private company in terms of ownership, in practice it operates as a parastatal organisation due to the Jordanian government shareholding and influence in its parent corporation, Arab Potash Co. As a result, AlNumeira's strategic and operational decisions do not only respond to market considerations but are also subject to political influence, which could have a considerable impact on the performance of both AlNumeira and the country's whole Dead Sea Products subsector.

AlNumeira monopolistic position as the only supplier of Dead Sea minerals in Jordan has a direct effect on the country's Dead Sea Products subsector due to the lack of incentives for monopoly suppliers (public or private) to enhance efficiency in their operations and attain the best possible price-quality ratio for their products (despite AlNumeira's mission statement), which are aspects that companies operating in competitive marketplaces are obliged to focus on.

AlNumeira's product portfolio includes Dead Sea salt, mud and brine sold in bulk through the company's Raw Material Services division, as well as its own line of finished cosmetics (Odalisque) based on Dead Sea minerals. In addition, the company offers services such as material screening, filling and bagging, as well as bulk container loading, through its Industrial Services division.

AlNumeira's main operating facilities are in Ghor al Safi in Jordan, with a total production capacity of 20,000 tonnes of salt; 5,000 tonnes of mud; and thousands of tonnes of brine per year. These products are marketed to domestic producers of Dead Sea Products, exporters of Dead Sea minerals, and international markets. In 2018, the company employed 70 workers (about three quarters of which had only secondary education attainment).

In 2018, AlNumeira reported total assets of USD2.6 million and total liabilities for USD2.1 million, for a debt ratio of 0.81. This relatively high debt ratio contributed to reported operational losses of USD474,000 in 2018, which prompted management to commission the development of a plan to increase the company's efficiency in areas such as administration, finance, manufacturing and marketing, which could be implemented within a 3-year period.

AlNumeira and Arab Potash Co recently confirmed in Singapore that they would be partnering with a major Chinese company, a well-established cosmetics market player in China, in enhancing mining operations from the Dead Sea in Jordan. This partnership is expected to begin work from early 2020.

Source: Euromonitor International from trade interviews, secondary research

**Challenges at the Input Stage**

- Most players are subject to potential customs delays due to the inconsistent application of import regulations by Jordan's customs authorities.
- The majority of competitors (principally SMEs) also lack the technical and financial capabilities for currency hedging in order to manage exchange rate risks.
- Inconveniences related to minimum orders imposed by international suppliers, or lack of trust when establishing new relationships with importing agents (for imported raw materials).
- AlNumeira's late raw materials deliveries and their prioritisation of exports markets over the domestic market (in the case of locally-sourced raw materials).
- The shortcomings caused by AlNumeira's position as the sole industry supplier, which results in a lack of incentive to deliver raw materials at the best possible price/quality, while the status of AlNumeira's parent company (Arab Potash Co) as a partially state-owned enterprise generates additional challenges to enhancing efficiency in its operations

**Opportunities at the Input Stage**

- Given the nature of the mentioned challenges, the measures required to tackle them can only be part of a concerted effort of unconditional government support to the Dead Sea Products subsector, which would include implementing controls and regulations on the price and service levels of raw materials delivered by AlNumeira.
- In terms of measures to increase the efficiency of imported raw materials operations, a streamlining of regulations and their consistent application by Jordan's customs authorities would be a welcome measure.
- This could be complemented by support for Dead Sea Products manufacturers in their importing operations (eg aggregated purchasing of raw materials in bulk, with the provision of currency hedging) would also help address current challenges and reduce costs.

**Best Practices for Raw Materials Supply from Benchmark Country (Israel)**

Even though Israeli Dead Sea Products companies source an important share of their key raw materials (Dead Sea mud and salt) from Jordan, they ensure to keep the price of these inputs competitive due to the use of volume discounts when purchasing raw materials.
The biggest extractor in Israel has always been Dead Sea Works which was earlier state-owned but is currently under a 70-year concession by ICL (Israel Chemicals Limited). ICL deals with a wide range of products from industrial chemicals to food additives. As of 2018, the government is said to be intervening in the extraction by re-tendering the Dead Sea mining concession eight years ahead of its original schedule in 2022 to promote aggressive and focused players to partake in the extraction activity.

The role of the Israeli government has been pivotal in this respect, through the promotion of Israeli Dead Sea Products exports and manufacturing volume, which allows companies in the country to reach economies of scale. Likewise, this advantage is evident when dealing with all suppliers of raw materials (either directly with foreign producers or with domestic importing agents) in terms of better negotiating terms, access to financing from suppliers, and levels of trust in the supplier-buyer relationship.

Notwithstanding the mentioned challenges, most manufacturers in Jordan's Dead Sea Products subsector ensure a relatively consistent supply of raw materials for their operations, although the cost at which they source the material poses a problem.

## - Research and Development (R&D)

Only the largest companies can undertake their own R & D processes (either in domestic or foreign laboratories). However, since the industry is led by very few large players, the total R& D spend by the industry is very low. These include activities for new brand formulation, new ingredients testing and the adjustment of existing formulas to cater to specific preferences in different markets. Corresponding outlays are to be capitalised and amortised, representing large additional costs for companies engaged in these activities.

Due to the complex nature of R & D activities for cosmetics (including Dead Sea Products) and quality requirements from international markets, fully-equipped accredited laboratories are required for product development and testing. While Jordan has quite a few private sector laboratories, only three or four have the necessary conditions (in terms of infrastructure and accreditation) and accreditations to effectively provide the required services. One of the most reputable laboratories with the required facilities is the Royal Scientific Society (RSS). Nevertheless, the typically high cost charged by RSS or other domestic laboratories for performing research and tests prompted several companies to outsource their R & D activities to accredited foreign laboratories (e.g. to countries such as Cyprus), to keep their costs competitive.

Dead Sea Products manufacturers in Jordan are required to perform several tests to validate the new formulations, as detailed in the following graphic. For existing formulations, there is no regulatory mandate to repeat the tests (although some leading competitors opt to do random batch tests to ensure the quality and formulation validity of their products) and those that do, categorise the cost as a quality control rather than R & D expense. The high costs and recovery of invested costs associated with performing R & D and testing activities domestically is another factor deterring Jordan's Dead Sea Products manufacturers from engaging in R & D for their products, which is a factor to be considered for recommendations in this area.

**Nature of Tests Required for Dead Sea Products in Jordan**

Prior to registration, all new Dead Sea Product formulations in Jordan are required to pass several tests to meet the country's regulations and standards for cosmetics. Among the most important tests conducted on Dead Sea Products are:

- Heavy Metal Analysis
- Preservative Challenge Test
- Water Analysis
- Physio Chemical Properties Test
- Microbial Test
- Safety Test
- Performance Test
- Stability Test.

The cost of these tests constitutes an important financial constraint for most manufacturers in the industry (with the Heavy Metal Analysis and Preservative Challenge Test identified by the manufacturers as the most important and yet expensive) and part of the reason why most smaller players decide not to undertake further R & D activities, which weighs on the development of the entire industry.

For tests that are conducted periodically (e.g. Water Analysis Test and Physio Chemical Properties Test) by some manufacturers, the typical process is a random batch sample taken from their production line and sent to the chosen laboratory for testing. The frequency with which these tests are performed (if at all) depends on the manufacturer, with some companies performing them on a quarterly basis while others do it on a bi-annual basis, depending on each manufacturer's capabilities and strategy

**Challenges at the R&D Stage**

- Most competitors in Jordan's Dead Sea Products subsector lack the means to perform their own R & D activities while also lacking the financial means to perform product testing beyond the basic regulatory requirements.
- There is also a lack of know-how on best practices to carry out R & D activities for developing cosmetics products from dead sea raw materials.
- However, many of them take certain measures to make their products more competitive (as derived from interviews with players in the industry), which may include:

- Outsourcing the services of R & D laboratories (generally to the largest players in the industry, which have facilities for these purposes) to perform tests on new formulas;
- Copying an existing formula in the market and modifying it slightly to avoid intellectual property infringement;
- Subscribing to websites providing generic formulas for cosmetic products, then altering the formula to some degree (typically to include a new ingredient they have identified as trending in the global cosmetics market (eg aloe vera, argan oil, coconut oil).

**Opportunities at the R&D Stage**

- Overall, many players in Jordan's Dead Sea Products subsector understand that if they are going to successfully compete in the global cosmetics market, they have to offer products that consider the latest trends in the international cosmetics industry.
- Consequently, R & D activities should focus on following (and ideally setting) trends in consumer preferences in the world's largest cosmetics markets (eg North America, the EU and Southeast Asia). These include the search for natural and organic active ingredients; the premiumisation of beauty and personal care products; and the preference for healthier lifestyles among consumers in these markets.
- Given that the lack of financial capabilities is the main constraint for the performance of R & D activities for most Dead Sea Products players, support from the government and other stakeholders should seek to directly tackle this issue.
- Possible options to address this problem include setting up a centralised R & D laboratory to meet the requirements of Dead Sea Products manufacturers (at a cost that is either completely or partially subsidised); offering the services of government laboratories or those in higher education institutions (also at a subsidised cost); and funding research programmes specific to the Dead Sea Products subsector to develop new ingredients/formulas and drive innovation in the industry.
- A short-term option would be the provision of rebates for R & D spending, which would imply the reimbursement of their expenses (in whole or in part) for performing research and testing activities in laboratories of their choice

**Best Practices for R&D from Benchmark Country (Israel)**

Israel has a dedicated government body (Israel Innovation Authority in the Ministry of Economy and Industry) and specific legislation (Law of Encouragement of Industrial Research and Development) for the promotion of R & D activities in the industrial sector.

The main incentive vehicle in this area is the R & D Fund, which supports R & D projects of Israeli businesses by offering conditional grants of up to 50% of the approved R & D spend. Should the project be successful, the business is liable to pay back the grant through royalty repayments.

In addition to the R & D Fund, other programmes to bolster investment include "The Tnufa Program"; "Technological Incubators"; the "MAGNETON" and "NOFAR" programmes; the "MAGNET" programme; support for the R & D centres of foreign companies; and several R & D collaboration programmes between Israel and third countries/companies.

These programmes promoted close collaboration between industry and educational institutions/ government bodies to bolster innovation in the Israeli Dead Sea Products subsector

## - Production

The production stage of Jordan's Dead Sea Products value chain includes all activities for the transformation of raw materials into finished goods leveraging available capital and labour. This stage of the value chain accounts for, on average, more than three quarters[39] of the total operating costs of players in the subsector, as detailed in the table below.

**Table 12:** Industry norms of the cost per tonne of Dead Sea Products in Jordan

| METRIC | SHARE OF COST PER TONNE |
|---|---|
| **Labour & Fixed Costs** | **19%** |
| **Raw Materials** | **30%** |
| **Packaging** | **23%** |
| **Transportation & Clearance** | **5%** |
| **Maintenance** | **8%** |
| **Research & Development** | **3%** |
| **Profit Margin** | **12%** |
| **TOTAL** | **100%** |

Source: Euromonitor International from trade interviews
Note: Stated costs correspond to the average for the industry

According to Euromonitor International's calculations based on data gathered from trade interviews with subsector representatives, the average number of persons employed in Jordanian Dead Sea Products manufacturing companies was about 13 in 2018. However, there were considerable variations in terms of the range of employment depending on the size of the company, with one of the leading players employing about 85 workers, while many of the smaller manufacturers have a headcount of just 4-5 employees each. In addition, the labour force composition in the subsector varies according to demand, with about half of the total number of workers in the industry employed full time, and the other half on a part-time basis depending on the volume of incoming orders.

Competitive pressures coupled with regulatory, operational and financing challenges faced by players in the country's Dead Sea Products subsector obliged them to increase efficiency in their operations to stay in business. Nevertheless, there was a consensus among interviewed representatives on the main problems faced by their companies at the production stage of the value chain, as observed below:

39 | Euromonitor International's calculations based on trade interviews

**Challenges at the Production Stage**

• Increasing taxes (e.g. introduction of the new "Mineral tax" and income tax on exports due to expiry of Jordan's export subsidy scheme) which are raising cost pressures and trimming profit margins.

• Bureaucratic delays faced in processes such as VAT refunds on imports. According to one representative, this process is complex and lacks uniformity (e.g. often subject to lengthy inspections and requires cumbersome levels of paperwork) which in practice dissuades many players from applying for VAT refunds on their imported inputs.

• The lack of consistency in the implementation of the GMP programme by the JFDA. While competitors in the subsector tend to agree that the introduction of the GMP will benefit the industry by improving quality standards that would facilitate access to highly regulated markets (eg the US and the EU), most players also share the view that implementation of the programme has been inadequately managed, due to inconsistencies in the requirements, communication and application by different government bodies. The introduction of GMP also affected SMEs to a large extent, as they generally lack the financial capability to implement the required processes and controls for the functioning of the GMP programme.

• Maintaining optimal stock levels is challenging for most players in the industry due to delays/ uncertainties in the provision of raw materials (not only from imports but also those sourced from AlNumeira) and the perishability of finished goods. Overall, most manufacturers opted for keeping minimum/no inventory, which negatively impacts sales due to their inability to meet orders at short notice. This inconsistency in orders received is having a direct adverse impact on production planning and efficiency management.

• Increasing utilities costs (water, electricity, telecommunications and internet bills) which eat into profit margins.

• Lack of availability of financing from financial institutions, government bodies, and suppliers (mainly affecting SMEs). For example, most smaller players would benefit from credit to expand their operations, invest in technology; or obtain certifications for their processes/products.

**Opportunities at the Production Stage**

• Support for the provision of financing/grants could help drive innovation and access to new markets, while raising the competitiveness of the subsector.

• The correct application of the GMP scheme would open additional export markets for Jordanian Dead Sea Products, as a result of higher product quality standards for the whole industry, which would contribute to an attractive positioning in international markets.

• The competitive structure of the country's Dead Sea Products industry could be considerably improved by adopting a cooperative model (discussed in detail in the recommendations for this section), which would improve the efficiency of operations and provide leverage for manufacturer groups in their relationships with stakeholders.

• Most interviewed subsector representatives shared the view that the outlook for production in the medium term (i.e. during the period 2019-2023) is positive, driven by an expected rise in demand at both international and domestic levels. This would help increase overall capacity utilisation (estimated at about 40% in 2018), which constitutes another financial burden for manufacturers as they must pay for fixed costs regardless of their relatively low levels of production.

**40 |** Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews

## - Packaging and Storage

Packaging is a key cost component among all costs of production of Dead Sea Products in Jordan, representing around 20% of total manufacturing costs. According to interviewed representatives of Dead Sea Products companies, the unavailability of high-quality packaging in the domestic market obliges them to source packaging from foreign suppliers (mainly from the EU or Southeast Asian countries such as China, Taiwan and South Korea), which can meet their quality requirements, increase the attractiveness of their products and offer affordable prices to keep their products price competitive.

**Best Practices for Production from Benchmark Country (Israel)**

Production activity in the Israeli Dead Sea Products subsector is promoted through a set of general incentives providing considerable advantages for domestic and foreign companies deciding to invest in the Israeli economy.

The main incentive schemes supporting Israeli Dead Sea Products production is the "Law for the Encouragement of Capital Investments" which allows companies to lower their tax burden while also enjoying several grants for employment of skilled labour and capital investment. This has been pivotal to Israel's strategy to expand its export sector, by allowing Dead Sea Products to be competitive in the global marketplace.

The Israeli government is also active in providing support to companies in the Cosmetics industry in general (e.g. in obtaining certificates of compliance with international standards or undertaking studies to demonstrate the health/wellness benefits of Israeli products).
In addition, "Invest in Israel" (the country's investment promotion agency) set up a "one-stop shop" to reduce levels of red tape and improve consistency when applying investment regulations

**Challenges at the Packaging and Storage Stage**

- The sourcing of packaging materials from foreign suppliers creates challenges for Jordan's Dead Sea Products manufacturers in the form of timely availability of shipments; customs delays for imported products; and minimum order requirements of foreign suppliers.

- While the largest manufacturers in the industry have put measures in place to mitigate these risks (eg keeping inventories of packaging, or ordering in bulk), smaller players often have no means to address these shortcomings, which negatively affects the quality of their products and their ability to meet orders in time.

- In terms of storage, while competitors in the country's Dead Sea Products subsector do not note a lack of storage capacity, they do remark the need to keep their stocks to a minimum due to the perishability of the product and their need to maintain quality levels in their finished goods

**Opportunities at the Packaging and Storage Stage**

- According to interviewed representatives, the top three criteria international consumers consider when deciding to purchase Dead Sea Products are (in order of importance):
1) Packaging/appearance of the finished product;
2) Ingredients used in the manufacturing of Dead Sea cosmetics;
3) Price of the product.

Therefore, packaging design and materials are a key demand driver that requires special attention from Dead Sea Products manufacturers, especially for products destined for export markets.

- Currently, Jordanian companies offering Dead Sea Products targeting the high-end segment generally source their packaging from the EU, while those targeting the mid- and low-income segments typically import from Southeast Asia. In this area, professional support (from design and marketing personnel) could be provided to improve the appearance/design of packaging regardless of its origin, which would increase the attractiveness of the product and support international sales.

- Data gathered from industry interviews show that stock levels of Jordanian Dead Sea Products companies tend to range between 0% (eg companies that work with no stock and only produce on an order by order basis) and 10% (eg mainly larger companies with prominent international clients, for whom it is important to maintain service levels and the ability to deliver at short notice). Efficiency in stock management could be attained by improving collaboration between Dead Sea Products manufacturers and input suppliers (something that is also addressed by the proposed "cooperative" model).

**Best Practices for Packaging and Storage from Benchmark Country (Israel)**

Packaging also plays an important role in the quality and innovation positioning of Israeli Dead Sea Products (and cosmetics in general) in international markets.
As a result, packaging requirements of Israeli Dead Sea Products companies are met by high-quality packaging from the domestic or foreign markets (EU packaging is preferred due to its high standards).

Israeli Dead Sea Products players spare no expense in securing the highest quality of packaging as they will recover the investment through higher prices for their premium product offerings.

The scale of Israeli Dead Sea Products manufacturers also contributes to better negotiating positions with packaging suppliers (in terms of prices and delivery times), as well as eliminating intermediaries by sourcing directly from packaging producers.

## - Distribution and Marketing

**Local Market**

The main distribution channels for Dead Sea Products in Jordan include traditional (eg bazaars) and modern retailers (eg shopping malls), spas, and hotels. A small number of industry players (eg Rivage, Trinitae, Allied Jordan) have successfully engaged in vertical forward integration and also distribute their complete or partial range of products through their own shops. Still other manufacturers (particularly those specialising in private label or bulk mud) also channel their products through wholesalers who in turn distribute them to their clients in the local market.
According to interviews with retailers of Dead Sea Products in the domestic market, shipping and delivery is usually handled by the manufacturers at an additional cost (less than 10% of the total price, based on data from representatives from manufacturing companies). This cost can be higher when more intermediaries (eg wholesalers) are involved, or lower in the case of special collaboration agreements between producers and retailers, or where Dead Sea Products manufacturers operate their own shops. For Dead Sea Products sold in Jordan, marketing activities are generally limited, due to the specific attitudes of local consumers towards goods in the category and the reputation of Dead Sea Products among visitors to Jordan. As one of the interviewed retailers (with shops in some of the country's main tourist centres such as Aqaba, Madaba and Petra) put it, "tourists already know what they are looking for and come in asking for Dead Sea Products; sometimes for specific brands they have already tried in their home countries".

**Export Markets**

With Dead Sea Products destined for export markets, players generally rely on international trade fairs and exhibitions to promote their products. According to interviewed representatives from Dead Sea Products companies, examples of countries where they have participated in trade fairs and exhibitions include Poland, Morocco, the UAE and the US. However, these constitute mainly isolated (and generally ineffective) efforts and are not part of a marketing strategy that could adequately position their products in the desired markets or build the brand among international consumers.

**Challenges at the Distribution and Marketing Stage**

- Limited technical and financial capabilities for marketing activities for most companies targeting their products at both domestic and foreign markets.

- Shortage of highly skilled labour in marketing and sales departments, due to a skills gap in university graduates who, for the most part, lack hands-on experience in their required functions.

**Opportunities at the Distribution and Marketing Stage**

- Adequate government or other stakeholder support for international marketing and sales of Dead Sea Products is seen as one of the critical points for future development of the subsector.

- This should be considerably expanded in scope and depth compared to recent support programmes (which focused on the provision of financial support/grants for participation at international exhibitions), and provide help with an integral marketing plan to successfully compete with global cosmetics companies in international markets, including:

- Global positioning of brands and a clear definition of strategies in terms of relationships with consumers, product acquisition costs, levels of convenience, and communication plan;

- Market research in key target countries for the brand to identify consumer preferences and adjust the marketing offering accordingly;

- Brand management to rival competing global cosmetic brands, if not financially then in terms of expertise and ability to create rapport with the consumer.

**Best Practices for Distribution and Marketing from Benchmark Country (Israel)**

Alongside Research and Development, Marketing and Commercialisation is the point where Israeli Dead Sea Products companies excel in terms of their approach to operations and fitting these activities into their overall strategy.

For example, high levels of investment in R & D (driven by considerable government incentives) drive innovation in Israeli Dead Sea Products companies, which has allowed them to position their products as "organic" and "natural" (two trends that are enjoying rising demand in global cosmetics markets).

Government involvement in the promotion of Israeli Dead Sea Products exports is significant, through the work of the Israel Export and International Cooperation Institute (IECI), whose programmes include international exposure (e.g. considerable financial support for national pavilions at trade shows), business matchmaking (organising business delegations, conferences and meetings), and facilitating access to relevant stakeholders (e.g. diplomatic corps, commercial attachés and academia).

In addition, government support in international standards compliance and audits of foreign clients has aided the subsector's access to large, highly regulated cosmetics markets such as the US, the EU and Russia.

These marketing efforts have allowed the country to position Israel almost as synonymous with Dead Sea cosmetics in global markets, which reinforces the brands from the country's companies and further increases its access to foreign markets.

## - End Consumers

The perception of and attitudes towards Dead Sea Products among the Jordanian population is radically different to that of consumers in international markets. A representative of one of the leading players in the industry summarised the view of Dead Sea Products in the domestic market: "The older population think why pay so much for Dead Sea Products when the Dead Sea is only half an hour's drive away, while the younger population prefers to buy the French/international cosmetics brands as they have this aura of glamour and sophistication".

This view is in stark contrast with the perception of Dead Sea Products in international markets. According to interviewed companies, Dead Sea Products are perceived as high-end quality in foreign countries, due to their rejuvenating, toning and healing properties for skin care. As a result, Dead Sea Products typically sell at a premium compared to normal cosmetics in any given market segment. Marketing campaigns by Israeli Dead Sea Products companies have played an important role in developing a positive perception of Dead Sea cosmetics in general, a situation that can be advantageous to Jordanian Dead Sea Products manufacturers when devising marketing campaigns for their products.

## - Export Supply Chain: Dead Sea Products

As outlined in the Chart 3 in section 5.6.1 'Value Chain Analysis', the supply chain for Dead Sea Products exports (Route 'A' of the diagram) is short, consisting of the following players:

**Exports Agents:** Typically based in the foreign market where products are being exported and used predominantly by smaller firms with no international presence or whose limited operational capabilities or negotiating power do not allow them to engage directly with international retailers.

**Foreign Retailers:** Typically, modern retail formats including specialised beauty and personal care stores, supermarket and hypermarket chains, discounters, and department stores.

**Own Shops:** A small number of leading Jordanian Dead Sea Products exporters (e.g. Rivage, Trinitae) have vertically integrated and set up their own shops for distribution and promotion of their products in foreign countries.

**Foreign Spas/Hotels:** An important purchaser of Dead Sea mud and salts in bulk (which they use for their spa treatments) but also carry branded products (generally targeted at the higher-income segment) to sell to its guests in a retail capacity.

**Internet Retailing:** an emerging channel for international sales of Dead Sea Products. Although transactions through this channel still account for only a fraction of the total, it could be a key component of sales and brand building as part of a comprehensive marketing strategy.

Jordanian Dead Sea Products exports are executed under the following HS codes.

**Table 13:** Composition of Dead Sea Products exports (by HS code and share of subsector exports)

| | | |
|---|---|---|
| **330499** | Beauty or make-up preparations and preparations for the care of skin (other than medicaments), incl. sunscreen or suntan preparations (excluding medicaments, lip and eye make-up preparations, manicure or pedicure preparations and make-up or skin care powders, incl. baby powders) | **64.7%** |
| **330510** | Shampoos | **5.6%** |
| **330730** | Perfumed bath salts and other bath and shower preparations | **25.6%** |
| **330790** | Depilatories and other perfumery, toilet or cosmetic preparations, n.e.s.: Other cosmetic or toilet preparations, not elsewhere specified or included. | **3.1%** |
| **340119** | Soap and organic surface-active products and preparations, in the form of bars, cakes, moulded pieces or shapes, and paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent (excluding those for toilet use, incl. medicated products) | **0.9%** |

Source: Euromonitor International from trade interviews, secondary research

Overall, total exports of Dead Sea Products from Jordan recorded a negative CAGR of 8.1% in value terms during the period 2013-2018, due to the various factors discussed in Section 5.5.2 "Imports and Exports". Dead Sea mud was the only product that performed better than the rather weak export performance over this period (recording a negative CAGR of 2.7% in value terms), driven by the higher demand it enjoys in international markets. Other products in the subsector registered sharper declines in exports, including Dead Sea salt (CAGR of -15.4% in value terms over 2013-2018); Dead Sea soap (-51.2%) and Dead Sea natural products (-7.9%).

Data from trade interviews with industry representatives revealed that the top export destinations for Jordanian Dead Sea Products are the US, the EU, Russia, China and GCC. Given the weak performance of Jordanian Dead Sea Products exports over 2013-2018, companies focused on expanding their exports to alternative markets, principally in Asia, with China, Indonesia and Singapore among the countries showing higher dynamism in imports of Jordanian Dead Sea Products during this period.

41 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry

### Challenges in Dead Sea Products Exports

According to interviews conducted with Dead Sea Products manufacturers with export operations, the main challenges facing the industry when it comes to international sales are:

- High and rising levels of taxes, which include a 16% sales tax, a "Mineral tax" (JOD50 per kg of minerals used); a 25% tax on cosmetics products (including Dead Sea Products); and a 25% income tax on exports. According to the Jordan Chamber of Industry, together these taxes can amount to up to 50% of total costs for Dead Sea Products manufacturers, which reduces the competitiveness of their products in international markets.

- Lack of ability to fulfil large orders, especially among the large number of SMEs operating in the industry. As one interviewed representative from a medium-size company noted: "The US retailer Walmart approached an industry player here in Jordan to inquire about prices and quantities they can supply, but they had to decline the opportunity to put a proposal together, as none of us, individually or combined, are able to supply such massive demand".

- Deficient sales and marketing skills, which have not been adequately addressed by stakeholder initiatives. As another interviewed representative stated: "The Department of Investment does not give enough support. They provide very little money to participate in international exhibitions, and the pavilions they put together for us are extremely poor and neither representative nor attractive, and as such do not attract business".

### Key Learnings from Current Dead Sea Products Exports

The most salient takeaways inferred after analysis of the export capabilities of Jordanian Dead Sea Products subsector are:

- There is great potential for export-driven development of the country's Dead Sea Products subsector, given the right support. This includes not only addressing challenges to the value chain that have been identified in this study, but also offering political support to implement the necessary measures to develop the industry.

- Jordanian Dead Sea Products must find their positioning in international markets. Faced with an established player (Israel) and rising competition from Dead Sea Products manufactured in other countries (e.g. China, Switzerland, Turkey), Jordanian Dead Sea cosmetics must identify a positioning that maximises their likelihood of success after a competitive analysis of the global market for Dead Sea Products.

- A strategy must be devised to access the largest global cosmetics markets. Relatively unserved foreign markets for Dead Sea Products could provide opportunities for growth in the short to medium term. However, in our view, achieving and consolidating a position of leadership in the global Dead Sea Products market will inevitably require access to the world's most developed cosmetics markets (North America and the EU), due to the sheer size of these markets (which together account for almost two-thirds[42] of the global cosmetics market) and the role they can play in a successful brand positioning of Jordanian Dead Sea Products.

**Potential Dead Sea Products Export Markets**

Pending the implementation of strategies to access the most developed cosmetics export markets, there are other highly attractive markets that could be targeted that present considerable opportunities for initial export expansion. The chosen market for promoting Jordanian Dead Sea Products exports during this timeframe is China. This is based on China's strong growth rates in imports of Dead Sea Products (from Israel), the vast market size of the subsector in the country (and the Cosmetics sector in general); and its relatively low penetration of Dead Sea Products compared to markets such as the US and the EU.

With increasing demand for Dead Sea Products due to its still fast-growing economy and rising middle class, China would constitute an ideal market for Jordanian Dead Sea cosmetics to boost export volumes as well as raise awareness of its products. This would help Jordan's Dead Sea Products subsector meet its proposed goals both for the short term (raise exports volumes and contribute to the country's external sector) and the long term (create a platform and gather experiences for accessing the world's largest cosmetics market in the long run).

**Conclusion**

Following the analysis of Jordan's Dead Sea Products value chain, it can be concluded that, while most players have managed to streamline their value chain to remain competitive in an increasingly challenging market, there are still key areas open to considerable improvement for the further development of the subsector. These are related to the stages of Raw Material Procurement, Research and Development, Production, and Marketing and Distribution.

In terms of raw material supply, the main challenge remains the uneven product quality and service levels offered by AlNumeira, the sole supplier of Dead Sea mud and salts for the domestic industry. This is the result of a lack of incentives for AlNumeira to deliver its products at the best possible quality and price, due to the company's monopolistic position, an issue that would need to be addressed through the introduction of standards to be observed by the supplier and controlled by government regulators (which at the same time would demand considerable political support).

Research and Development (R & D) is an area whose underdevelopment poses an important constraint for the future development of the country's Dead Sea Products subsector. Currently, only a few leading players carry out their own R & D activities as part of their efforts to remain competitive in international markets, while most smaller companies see R & D as an unnecessary expense. This situation could be tackled through proposed measures such as the introduction of centralised R & D facilities, increased access to government and educational institution laboratory services, funding research programmes specific to the industry, and (in the shorter term) the introduction of rebates for R & D spending.

The main challenges related to Production include rising taxes applied to companies in the Dead Sea Products subsector, a lack of consistency in the application of government regulations (including those related to the GMP programme), and lack of availability of financing. Potential solutions to these problems mainly fall within government jurisdiction, showing political support by reducing the subsector's tax burden, training personnel and improving internal processes in order to guarantee consistency in the application of regulations, and offering affordable financing (viewed as an investment for further development of exports and not as an expense).

Marketing and Distribution is another critical area with significant room for improvement, especially in relation to the promotion of Jordanian Dead Sea Products in international markets. Actions in this area should have as an objective a shift in the industry's marketing approach from confined measures mainly reliant on presence at international trade fairs, to the formulation and application of integrated marketing strategies that encourage the development of brands to compete in the global cosmetics industry.

An important part of the recommendations proposed in this study to address deficiencies in the Dead Sea Products value chain rely on government action and political support to effect change. However, it is our view that political support is already a given based on government commitments made under national policy documents such as "Vision Jordan 2025", and "Jordan Economic Growth Plan 2018-2022", and what is recommended would simply be implementation of this commitment for the further development of the subsector. This would allow Jordanian Dead Sea Products to come closer to realising their full potential and be an important driver of economic growth, employment and wellbeing for the Jordanian population.

**Recommendations**

**In the Value Chain Area**

• Purchase raw materials in bulk from both domestic and international suppliers to obtain volume discounts and reduce unit costs.

- Reduce the tax burden on the Jordanian Dead Sea Products subsector to make its products more competitive in international markets.

- Organise Jordanian Dead Sea Products companies to benefit from a larger combined size and economies of scale. For example, a "cooperative" model could be explored where industry players pool their capabilities and production to sell directly to international clients or to an umbrella company (either public or private sector, where cooperative members are also shareholders).

- This umbrella company will take charge of major non-production activities in the value chain (international promotion and expansion, procurement, R & D, etc), benefiting from adequate know-how and a larger size, besides leverage its relationship with regulators and stakeholders.

- In practice, the proposed umbrella company would focus on developing the business, while members of the cooperative would get their orders from and sell their production to the umbrella company, on a voluntary basis (eg large players could opt out of this system and maintain their own facilities, brands and activities).

- This system would allow Jordanian Dead Sea Products companies to enjoy higher efficiency in their operations (due to economies of scale), direct negotiations with large international clients/suppliers (bypassing the current role of export and import agents), and greater capacity to access financing to invest in plant expansion, technology enhancements, and certifications that could further open international markets for members.

**In the Regulatory Area**

- Simplify procedures for imports (by Jordan Customs) and GST refunds (by the Income and Sales Tax Department of the Ministry of Finance) to alleviate levels of red tape.

- Consistent application of regulations by government authorities including Jordan Customs, the JFDA and JSMO. For instance, clarity and consistency in the application of new GMP standards by the JFDA and Jordan Customs would allow Dead Sea Product manufacturers to benefit fully from this scheme and lower costs.

- Limit/ban the export of Dead Sea minerals to third countries. Given the unique competitive advantage that raw materials from the Dead Sea confer to manufacturers of cosmetics, this should be secured and not given away to a rising number of competitors that threaten Jordan's position in the global Dead Sea Products market.

**In the Financing Area**

- Support with currency hedging for importers of raw materials in the Jordanian Dead Sea Product industry.

- Provision of financing at affordable rates (especially to SMEs) to give opportunities for capacity expansion, investment on technology, and obtaining certificates for processes and products.

**In the Technical/Training Area**

- Support Dead Sea Products manufacturers in devising a comprehensive marketing strategy for the expansion of their international markets to compete with global cosmetic brands.

- Help R&D activities of players in the subsector, which could include setting up a centralised R&D labouratory; offering the services of government or higher education institution laboratories; funding research programmes specific to Dead Sea Products and, in the shorter term, offering rebates (in full or in part) for R&D spending.

- R&D activities should be tightly interlinked with the desired positioning of the brand and beauty and personal care trends in the target market. Once the desired outcome has been established, R&D should be focused on new product development (based on advanced and applied research) as well as evaluation of developed products (in areas of performance, side effects and eco-toxicity).

# Subsector Overview: Soaps and Detergents

## Snapshot

Jordan's Soaps and Detergents subsector includes a comprehensive array of products typically categorised into three segments: Personal Care (eg soaps in liquid and bar form); Clothes Care (eg fabric detergents and softeners); and Household Care (eg dishwashing liquid, shoe polishers, general purpose cleaners, specialised cleaners for glass, metal, carpets, etc). Based on trade sources, the product portfolio of a single company can reach more than 600 SKUs depending on the scale of the manufacturer and segments in which it operates.

**Subsector Performance**

Local production of Soaps and Detergents is geared predominantly towards the domestic market, with only 23% of domestic output estimated to be channelled to satisfy exports in 2018. Between 2013 and 2018, total production of Soaps and Detergents in Jordan is estimated to have risen by about 26% in value terms to reach USD549 million in 2018. The rise in total output from the subsector was driven by factors including:

- Strong expansion of Jordan's population (which increased from 6.7 million in 2010 to 10.3 million in 2018 ), mainly due to the surge in Syrian refugees entering the country during this period;

- The closure of Jordan's borders to Iraq and Syria. The impact of this development was twofold. On the one hand, it stopped Syrian and Lebanese imports of Soaps and Detergents from entering Jordan, providing an opportunity for domestic producers to fill the gap in demand. This more than offset the effect of the closure of the Iraqi market to Jordanian Soaps and Detergents, which weighed on exports of the subsector over this timeframe;

- Rising levels of competition in the country's Soaps and Detergents subsector, due to new players entering the market (including Syrian investors bringing capital for greenfield investment in Jordan), which led to an increase in overall supply.

Total output from the industry is expected to continue expanding over the short to medium term. This will be the result of favourable prospects for demographic growth, the reopening of borders with Iraq and Syria (despite some trade frictions that remain), and the search for new international markets by exporters in the subsector. Trade sources also pointed out the strong potential for development of the subsector should additional support be provided by stakeholders in the industry, in the form of lower taxes and fees, help in the international promotion of their products, and the provision of facilities for performing R & D activities at affordable costs.

Due to the fragmentation of the sector, manufacturing operations in this industry are dispersed geographically (across the different SEZs operating in the country). The lack of a hub for operations in the subsector leads to additional logistics, communications and transportation costs, while also preventing potential benefits derived from synergy and industry collaboration, which add to existing challenges already facing the industry.

43 | Ibid
44 | Department of Statistics of Jordan

## Key Stakeholders

The main stakeholders in the Soaps and Detergents subsector are shown in the following chart.

**Chart 06:** Key stakeholders specific to Jordan's Soaps and Detergents subsector


Source: Euromonitor International's trade interviews

Apart from general stakeholders in Jordan's Chemical industry (whose activities were described in Section 2.1.6), the main roles specific to the Soaps and Detergents subsector are summarised in the following table

**Table 14:** Key stakeholders specific to Jordan's Soaps and Detergents subsector

| STAKEHOLDER | TYPE | MAIN ROLE |
|---|---|---|
| Ministry of Environment | Regulators | Responsibilities include the conservation of Jordan's ecosystems, reduction of the impact of climate change, improvement of public awareness of environmental protection and enhancement of institutional capacity. In its regulatory function, the Ministry issues guidelines on ingredients and processes to be followed by participants in the Soaps and Detergents subsector. |
| Ministry of Interior Affairs (MoI) | Regulators | The Ministry's main tasks are the preservation of security and public order, support for building modern government institutions, and the provision of high-standard services to citizens of Jordan. The significance of the MoI to the country's Soaps and Detergents subsector is in a regulatory nature, as the MoI provides clearance for the importation of some raw materials whose misuse can be considered a threat to national security. |
| Royal Scientific Society (RSS) | Service Supplier/ Research Partner | The RSS is the most prominent applied research institution, consultancy and technical support private service provider in the country. It provides research services for projects both to the public and private sector, while it also offers testing and calibration services through its specialised laboratories. |
| Jordanian Detergents Committee (JDC) | Industry Association | Created in 2016, the JDC is a voluntary initiative from members of Jordan's Detergents subsector and JCI. Its main objectives include developing and representing the industry before policymakers, driving cooperation initiatives between detergents manufacturers, engaging with key stakeholders to promote industry interests, and leveraging the expertise of international and national associations and companies.<br>Initiatives taken by the JDC include the launch of international exhibitions (DETEX and DETO) to promote the subsector, liaising with government authorities to tackle pressing issues affecting the industry (e.g. the rise of smuggled/counterfeit imports of Soaps and Detergents), and the organisation of training sessions with foreign experts to provide know-how to subsector participants. |
| Soaps and Detergents Manufacturers | Competitors | This group comprises businesses performing Soaps and Detergents production activities in Jordan. An in-depth analysis of these companies is included in this section of the report. |

Source: Euromonitor International research from trade sources, 2019

**Best Practices for Sector Governance from Benchmark Country (Russia)**

The Cleaning Products sector in Russia includes the following major stakeholders:

**Ministry of Economic Development of the Russian Federation:** The overarching body defining key regulations for all entities involved in trade and business and supporting socioeconomic growth in the country.
**Ministry of Industry and Trade of the Russian Federation:** A government entity tasked with defining regulations for manufacturers of industrial exports, holding exhibitions and fairs, implementing anti-dumping or compensatory measures when importing goods set out in line with Unified Rules for Providing Industrial Subsidies of December 9, 2010, implementing non-tariff regulations and enforcing government regulations in foreign trade.
**Federal Agency on Technical Regulating and Metrology:** A government body that controls standardisation of all products manufactured in the Russian Federation.
**Russian Union of Cleaning Companies (RUCC):** The Union formed by key players in the cleaning products sector of the Russian Federation. The Union represents the manufacturers to the Government for regulatory resolutions to attract investments, harmonisation of standards and rendering legal support.

Although the Russian Chemical industry has been largely privatised since the 1990s, strong government involvement persists through regulations and standards that seek to protect the domestic industry against what might be deemed as unfair competition (for example, by keeping strict technical standards on imported chemical products) or openly favouring domestically manufactured products over imported ones (eg in government tenders).

Despite recent government efforts to reduce administrative barriers, shortcomings related to the Russian business environment (including weak rule of law, policy instability, and high corruption) have restrained private sector participation in the economy, weighing on the creation and development of Small and Medium Enterprises (SMEs). However, several stakeholders have created an easy investment platform with minimal bureaucratic processes and a dedicated Russian Bank for Small and Medium Enterprises Support, SME Bank, to encourage smaller players to invest across several sectors in the region. The SME Bank evaluates each application on a case by case basis and approves loans from USD2 million (RUB120 million) for micro enterprises up to about USD30 million (RUB2 billion) for medium-sized enterprises

Common challenges among manufacturers include frequent changes to policies and regulations (which creates uncertainty for businesses operating in the subsector), increasing costs (due to the expiry of subsidies on exported goods and the rising cost of sampling and testing), and inconsistency in the application of regulations by government bodies.

## Competitive Landscape

The Soaps and Detergents subsector is highly fragmented, represented by around 70 companies in 2018, of which a small number correspond to relatively large and medium-sized players (ie more than 50 workers), while most participants in the industry have operations that could be qualified as "micro" or "artisanal" (ie fewer than 10 workers). Lack of economies of scale for most industry participants, the geographical dispersion of their manufacturing operations, and the fact that the industry is still at its growth stage are the main reasons for the fragmentation of the subsector. The number of new entrants (dominated by privately-owned companies) grew over 2013-2018, reflecting the growth in turnover of the subsector.
Total employment in the industry reached approximately 2,900 workers in a full-time equivalent capacity in 2018[45]. The relatively high employment generation in the subsector is the result of the elevated capacity utilisation of the industry (estimated at about 95% as of 2018[46]), as well as the labour-intensive nature of operations of smaller players (which constitute most participants in the subsector), due to their lack of capacity for capital investment. In 2018, total installed capacity in the subsector was estimated at about 790,000 metric tonnes.[47] The Giant Group, Spartan Modern Industry Company, Layan and Sigma Detergents Industry are among the largest players with the highest installed capacity in the subsector.

This fragmentation also has an impact on market dynamics, as the large number of players focus on different business strategies (eg sales in bulk versus sales of products ready for retail) and market segments (eg soaps, household cleaners, clothing detergents). As a result, the market does not show a recognisable leader across categories, but instead each market segment is typically dominated by different competitors, according to companies' strengths (eg The Giant Group in gel detergents; Sukhtian Group in hand soap; Spartan Modern Industry Company in liquid dishwashing).

Competition from imports is sizeable, with imported products accounting for about 21% of total domestic demand.[48]. These include global brands from multinational companies such as Persil (Henkel/Unilever); Dettol (Reckitt Benckiser); and Tide (Procter and Gamble), which are highly popular especially among higher-income households in the country's major urban areas. In addition, there is a rising inflow of inexpensive products entering the country (mainly manufactured in Southeast Asia and Turkey), which are enjoying rising demand among lower-income households.

According to Jordanian Soaps and Detergents manufacturer representatives, a major problem noted in the competitive landscape is the rising predominance of "parallel" imports (cheap products, typically counterfeits of known brands, being smuggled into Jordan). This constitutes an additional challenge due to the lack of set standards for imported products, which, according to interviewees, played a part in the proliferation of counterfeit Soaps and Detergents in the domestic market.

All these factors result in an increasingly competitive environment, which also displays different characteristics in terms of geography. For example, the cities of Amman, Zarqa, Irbid and Russeifa show a deeper consumer segmentation featuring a recognisable higher-end market segment (typically covered by imports of global brands); a mid-market segment (served generally by domestic producers); and a low-income segment (where local brands and inexpensive or parallel imports compete). Meanwhile, smaller cities such as Karak, Anjara and Huwwarah as well as rural areas are dominated by low-cost domestically-produced products (usually manufactured by "artisanal" companies), catering to price-sensitive consumers.

Financial capabilities for most players in the industry are limited, due to their generally small size and lack of capital (eg land, property or equipment) to present as collateral. Consequently, most firms operating in the industry have to use their own funds in order to finance their operations, which greatly constrains their capacity for plant expansion, investment in R & D, and developing marketing and sales activities. This gap constitutes a critical aspect for the potential development of the country's Soaps and Detergents subsector, which would require the intervention of both the public and private sectors.

45 | Euromonitor International's calculations based on data from the Jordan Chamber of Industries, trade interviews
46 | Ibid
47 | Ibid
48 | Euromonitor International's calculations based on data from UN's COMTRADE, trade interviews

## Labour Market Needs

The main challenges related to the labour market affecting the performance of the subsector are:

**a)** Limited availability of highly skilled personnel in the domestic market in areas like **R&D and marketing & business development**, which results in inefficiencies and missed opportunities in these areas. A main reason behind this is reported to be the gap in technical knowledge and practical skills among higher education graduates in relevant areas like chemistry, mechanical engineering and marketing. Practical training is required to teach graduates how to use machinery or create formulas.

**b)** A situation that has been identified by company representatives as the general "attitude" or "mentality" sees many local workers, for example, dismiss working in relatively low-paid, unskilled positions, or on non-conventional schedules (e.g. night shifts or weekends). As a result, companies have little option but to hire foreign labour (principally from Syria) to work in these positions/schedules, which is a process subject to additional bureaucratic hurdles due to the permits and authorisations required to hire foreign workers.

## Market Demand and Supply – Production

Total output of Soaps and Detergents in Jordan registered a rising trend over the period 2014-2018 (as shown in Table 15), according to Euromonitor International's calculations based on data from trade interviews and the Jordan Chamber of Industries.

Total production is estimated to have expanded from USD461 million in 2014 to USD563 million in 2018. This was due to robust domestic demand observed during this period (total capacity utilisation was estimated to reach about 95% in 2018 ), with some representatives of interviewed companies stating the introduction of additional shifts to production line to meet growing demand. Growth in output is anticipated to continue over the period 2019-2023, principally driven by an expected sustained increase in the country's population, which will keep driving demand for products in the category. However, the fact that the subsector currently operates at almost full capacity utilisation, represents a constraint to domestic supply expansion.

**Table 15:** Production of Soaps and Detergents Products in Jordan 2014-2018 (USD '000)

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Total production of Soaps and Detergents | 460,894 | 488,025 | 552,389 | 558,717 | 563,378 |

Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

49 | Euromonitor International's calculations based on data from the Jordan Chamber of Industries, trade interviews
50 | Ibid

## - Imports and Exports

According to Euromonitor International's calculations based on data from trade interviews with representatives of Jordan's Soaps and Detergents subsector, about 23% of total domestic output is channelled to exports (USD130 million in 2018). Exports of detergents in bulk accounted for an important share (39.2%) of the country's total exports of Soaps and Detergents in 2018. Exports are expected to continue rising over the medium term (2019-2023), on the back of the reopening of borders with Syria and Iraq (which were two of the most important markets for Jordanian Soaps and Detergents prior the closure of borders in the mid-2010s), and of increasing exports to GCC countries (which are displaying rising demand for Jordanian exports in the category).

Imports of Soaps and Detergents into Jordan totalled USD116 million in 2018 (not including "parallel" imports), accounting for 21% of domestic demand in that year. Over the medium term, category imports into Jordan are also anticipated to show an upward trend, due to factors including:

- The reopening of borders with Iraq and Syria;
- The rising popularity of imported products among certain segments of the Jordanian population (namely the top and bottom income deciles in the country's major cities);
- Constraints to the expansion of domestic output of Soaps and Detergents (due to already high capacity utilisation).

**Table 16:** Imports of Soaps and Detergents into Jordan 2014-2018 (USD '000)

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Total imports | 126,285 | 100,969 | 108,918 | 558,717 | 101,007 |

Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

**Table 17:** Exports of Soaps and Detergents from Jordan 2014-2018 (USD '000)

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Total exports | 147,486 | 117,126 | 99,430 | 100,569 | 129,577 |

Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

51 | Euromonitor International's calculations based on data from UN's COMTRADE, trade interviews
52 | Euromonitor International's calculations based on data from UN's COMTRADE
53 | Euromonitor International's calculations based on data from UN's COMTRADE, trade interviews

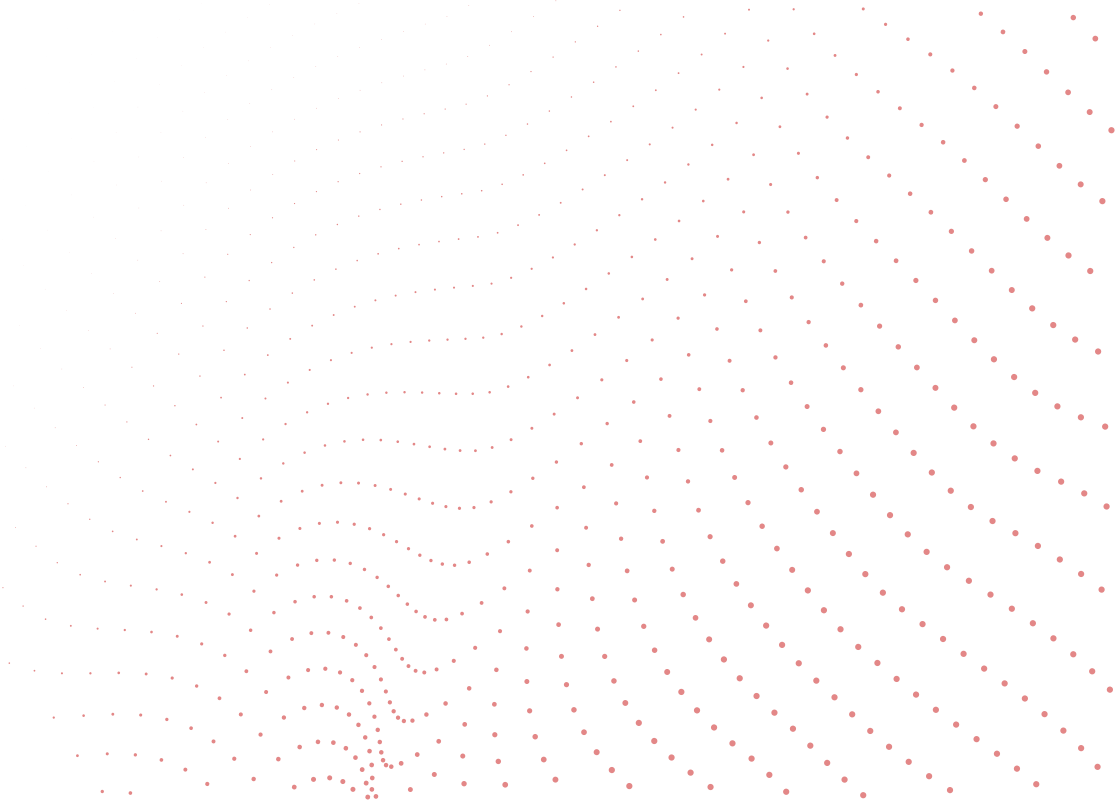
## - Consumption

Domestic consumption of Soaps and Detergents is estimated to have risen by 26% over 2014-2018 to reach USD549 million by the end of that period. The outlook for growth of domestic consumption over the medium term is positive due to the country's favourable demographic factors, generally low discretionary nature of products in the category (due to their role as part of basic hygiene and sanitation), and rising average disposable incomes in Jordanian households.

**Table 18:** Domestic Consumption of Soaps and Detergents in Jordan 2014-2018 (USD '000)

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Domestic consumption | 437,130 | 469,155 | 555,441 | 558,522 | 549,337 |

Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

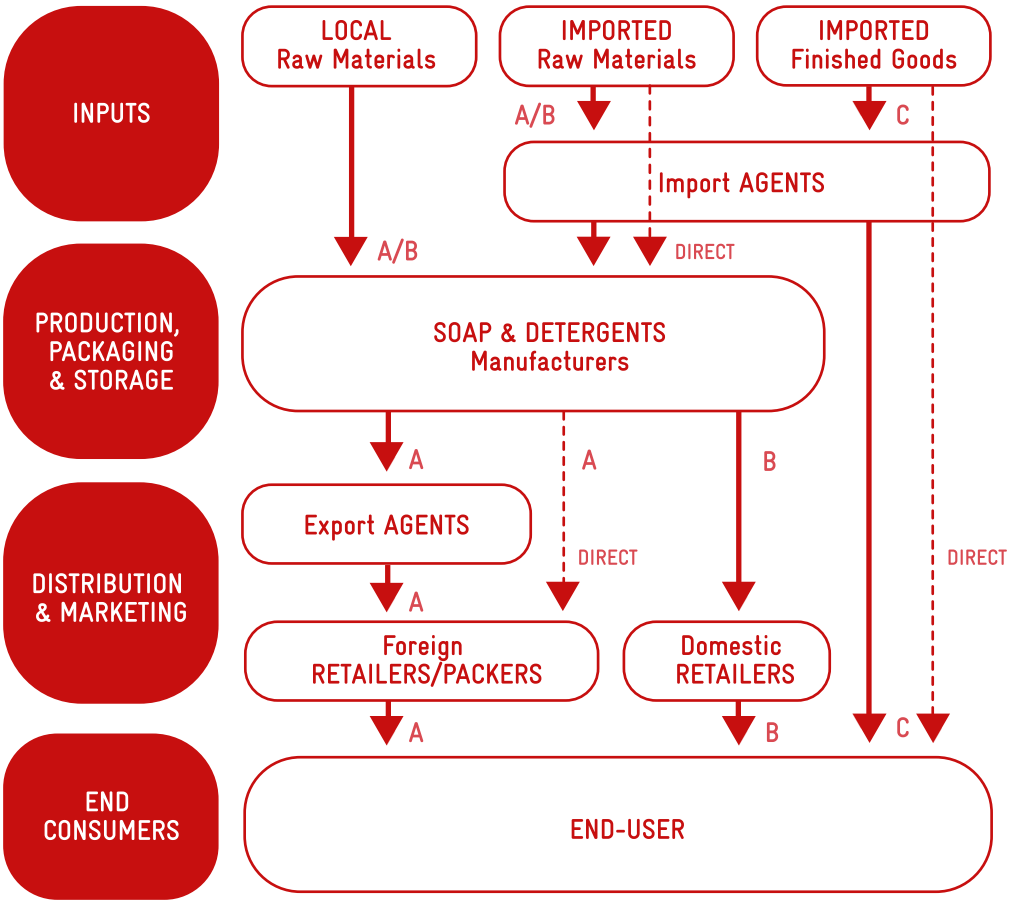


54 | Euromonitor International's calculations based on data from the Jordan Chamber of Industries, trade interviews

## Value Chain Analysis – Consumption

To reduce costs and remain competitive, the value chain needs to be as efficient as possible. The typical value chain for Jordan's Soaps and Detergents subsector is represented in Chart 7.

**Chart 07:** Soaps and Detergents Products – Value Chain Flow




Source: Euromonitor International from trade interviews, secondary research

The three differentiated paths for activity flows within the value chain are described below:

A. Domestically-produced finished goods channelled to export markets, which account for about 23% of the total output of the subsector;

B. Domestically-produced finished goods for sale in the domestic market, representing 77% of total domestic output in the category;

C. Imported finished goods for sale in the domestic market, which covered around 21% of total domestic demand for Soaps and Detergents in 2018.

A detailed explanation of each of these three paths in the value chain follows.

55 | Euromonitor International's calculations based on data from the Jordan Chamber of Industries, trade interviews
56 | Ibid
57 | Ibid

## - Sourcing: Raw Ingredients/Materials

Two main sources of raw materials were established for domestic manufacturing of products in the Soaps and Detergents subsector:

**Domestic sources**
Depending on local availability of the raw materials, business strategy, financial capabilities and the preferences of each company, raw materials are sourced locally in whole or in part. For example, a domestic player specialising in manufacturing Soaps and Detergents for private label declared that raw materials are always sourced locally when possible to maintain competitive costs, given their low price compared to imports. Imported raw materials become an option only when the required ingredients are not available locally or do not match the needed quality (eg some active ingredients such as sulphates, glycols and triclosan). Meanwhile, another manufacturer that owns its own private brand stated that all raw materials used are imported due to quality concerns;

**Imported sources**
Most manufacturers in Jordan import at least a portion of their raw materials, according to their specific needs. For example, some producers source sulphonic acid from Saudi Arabia, fragrances from Switzerland, and other active ingredients from Italy. Interviewed representatives from companies noted that they prefer to import directly from foreign suppliers to keep costs down, however, when this is not possible an import agent is used.

A small number of manufacturers (principally larger players) are engaging in vertical backwards integration to source at least a portion of their raw materials (eg packaging, certain active ingredients like sulphonic acid) from their own production. This allows them to have greater control over the price and quality of inputs used in their production process, while also eliminating risks related to availability/timeliness of delivery of raw materials, and, in the case of imported products, additional risks deriving from exchange rate fluctuations, negotiations with foreign suppliers/import agents, and potential bureaucratic delays when importing raw materials.

It is reported that there is large potential for development at the inputs stage of the value chain if the right support is obtained. For example, some active ingredients, enhancers and enzymes used as raw materials by companies are not available locally and have to be imported, but these could potentially be produced by domestic chemical manufacturers provided financial and technical support is offered for the manufacturing of speciality chemicals (instead of basic chemicals as is currently the case). This would back the development of both the domestic Soaps and Detergents subsector (which would have local access to currently imported raw materials at lower costs) and the broader Chemical industry (through the manufacturing of higher-value-added products and expansion of output).

**Challenges at the Input Stage**
For imported raw materials, most players are subject to potential customs delays due to what they deem the inconsistent application of import regulations by Jordananian Customs authorities, while most competitors (principally SMEs) also lack the technical and financial capabilities for currency hedging to manage exchange rate risks.

- Lack of availability of some raw materials (eg certain active ingredients such as sulphates, glycols and triclosan, enhancers, and enzymes) in the domestic market forces Jordanian Soaps and Detergents producers to import these inputs at higher costs.
- The small size of most domestic Soaps and Detergents manufacturers reduces their options to establish direct business relations with foreign suppliers, prompting them to use the services of import agents with a subsequent impact on profit margins.

**Opportunities at the Input Stage**

- Potential measures to support activity at the inputs stage of the value chain would include optimisation and consistent application of customs procedures.
- Likewise, the provision of import facilities such as centralised buying of raw materials for importers in the Soaps and Detergents subsector (ie a platform or scheme to aggregate purchases of inputs for players, set up, for example, under supervision of the JDC). This would improve their leverage position with foreign suppliers (allowing for lower costs) while also providing services such as currency hedging and trade financing for the smaller importers.
- Opportunities exist to produce certain raw materials, such as active ingredients, enhancers and enzymes for Soaps and Detergents in the domestic Chemical industry, which would help develop the sector and reduce dependence on imports.
- At the same time, the opening of communication and collaboration channels between Soaps and Detergents manufacturers and domestic suppliers of raw materials (potentially through a scheme administered by the JDC) would help increase the quality of domestic inputs and develop activities upstream of the value chain. This would support production of raw materials such as sodium lauryl ether sulphate, caustic soda liquid and flakes, and coconut diethanolamine, which, although available locally, many manufacturers prefer to import due to perceptions of relatively low quality in the domestic production of these ingredients.

**Best Practices for Raw Materials Supply from Benchmark Country (Russia)**

Russian Soaps and Detergents manufacturers benefit from the availability of raw materials from the country's highly developed Chemical industry, which provides them with inputs including phosphates, concentrates and reagents, which help reduce costs and decrease their dependence on imports.

In many cases, manufacturers of inputs such as active chemical materials and packaging belong to the same group of companies (conglomerates) as producers of Soaps and Detergents, which creates synergies in the value chain and further eases access to raw materials.

Many Soaps and Detergents manufacturers in Russia are also integrated vertically backwards to produce at least part of their raw materials, which increases the efficiency of operations and reduces risks related to raw material procurement.

Producers of Soaps and Detergents in Russia seek to attain economies of scale that allow them, among other benefits, to negotiate volume discounts with suppliers of raw materials and contribute to keeping their costs down

## - Research and Development

Only the leading companies engage in R&D activities for product development or improvements to formulas, ingredients or packaging. This contrasts with the situation of most players in the subsector, who, due to lack of financial capabilities and know-how of the process and benefits of research, see R&D as a non-essential expense that they do not allocate resources to to save costs.

**Challeges in the R&D Stage**

- Instead of performing R & D activities, most companies operating in the Soaps and Detergents subsector (except for leading players) usually copy formulas/ingredients available in the market (from international or domestic brands) and adjust them slightly for use in their products.

- Rises in testing fees charged by JSMO are a common pain point among manufacturers. JSMO's lack of capacity to process all testing requests in a timely manner, prompts it to sub-contract testing services at a significantly higher cost. JSMO partners with Royal Scientific Society (RSS) to carry out the required tests.

**Opportunities in the R&D Stage**

- Potential measures to improve R & D capabilities in the subsector include government support to establish centralised research/testing facilities that could be shared by competitors in the industry with costs distributed on a pro-rata basis.
- Mechanisms for the transmission of global expertise in R & D activities (through training, seminars and conferences) could help smaller players understand the benefits of R & D for the long-term development of their businesses.
- Financing support would be pivotal to keep R & D costs affordable for smaller manufacturers in the subsector. Subsidies could be granted for the use of laboratory/testing facilities.

**Best Practices for R&D from Benchmark Country (Russia)**

The most important incentives seeking to bolster R & D investment in the country are the "Super Deduction" programme (allows the deduction of 150% of eligible R & D expenses); "Investment Tax Credit" (arrangement for tax rescheduling for a value of up to 100% of fixed assets acquired for performing R & D activities); Reduced Profit Tax (from 20.0% to 15.5% for companies investing in certain types of R & D); VAT exemptions (for current R & D activities); and Tax Holidays (allow individual entrepreneurs undertaking R & D to apply a 0% tax rate for two years). Incentives are available for companies investing in any of Russia's six Special Economic Technology Innovative Zones (SEZ TIPs) or the Skolkovo Innovation Centre.

Support measures for R & D activities in Russia are part of the framework of the country's "Innovation Strategy 2020" launched by the government in 2011, which seeks to promote innovative practices related to skills development, business activities, R & D and infrastructure.

Overall, these R & D incentives have supported a focus on quality that has backed foreign demand for Russian Soaps and Detergents both in bulk and ready for retail sale.

## - Production

The production phase considers all activities to transform inputs (including raw materials, capital and labour) into finished goods. Production activities account for 78%[58] of total operating costs for companies in the Soaps and Detergents subsector, as seen in table 19.

**Table 19:** Industry norms for cost per tonne of Soaps and Detergents in Jordan

| METRIC | SHARE OF COSTS PER TONNE |
|---|---|
| **Labour & Fixed Costs** | **18%** |
| **Raw Materials** | **38%** |
| **Packaging** | **16%** |
| **Marketing** | **4%** |
| **Transportation & Clearance** | **3%** |
| **Maintenance** | **6%** |
| **Research & Development** | **2%** |
| **Profit Margin** | **13%** |
| **TOTAL** | **100%** |

Source: Euromonitor International from trade interviews
Note: Stated costs correspond to the average for the industry

The average number of employees per company in the sector is estimated at about 40. Nevertheless, the range of number of persons employed can vary considerably according to the size of the company, with one of the leading players having a workforce of 680 persons, while the smallest "artisanal" companies can have only 4-5 workers[59]. Over the period 2013-2018, the share of full-time workers (as opposed to part-time) increased, while some companies also reported having to turn to foreign labour to fill in certain positions (especially those requiring low-skilled personnel), reflecting rising activity and capacity utilisation in the subsector.

Notwithstanding rising domestic demand that supported growth of the subsector between 2013 and 2018, competitors continue to face operational, regulatory and financing challenges that put pressure on their profit margins. The most important challenges facing production activities, as acknowledged by interviewed representatives from the subsector are detailed below

58 | Euromonitor International from trade interviews, 2019
59 | Ibid

**Challeges in the Production Stage**

- Lack of capacity for investment results in a large share of companies (particularly smaller ones) having to adopt more inefficient labour-intensive processes for their production, due to lack of funds or incentives to invest in capital and machinery.

- Even companies that can invest in machinery and equipment for their production lines, must often delay machine renewal or investment in new technology due to financial constraints. This results in missed opportunities for business due to competitors' limited ability for capacity expansion to take up large orders.

- Excessive levels of red tape and lack of uniformity in the General Sales Tax (GST) refund process leads to considerable delays in the reimbursement of GST paid for raw materials and inputs (over the 90 days defined as per law), increasing companies' need for cash flow and short-term financing.

- Rising pressure on after-tax profit margins due to increasing competition in the industry; rising prices of utilities and fees for product testing and the expiry of subsidies for exported goods.

- Interviewed sources note that several products in the Soaps and Detergents subsector lack specifications (issued by the Jordanian Institute of Standards and Metrology), which negatively affects the quality of these products available in both domestic and foreign markets. Among the products suffering from lack of specifications are laundry floor detergent, "Animalprol" (cleaning agent for animal waste), and gel for ultrasound screening.

- The implementation of the GMP programme has been challenging for Soaps and Detergents manufacturers, which pointed out that authorities try to impose guidelines that were originally designed for pharmaceutical products (which, for example, led to some soap manufacturers moving their production lines to China), while there is also lack of alignment in the communication, requirements and applications for the GMP programme by government bodies

**Opportunities in the Production Stage**

- Many local manufacturers of Soaps and Detergents have ISO certifications for their manufacturing operations, which helps support the quality of products and manufacturing processes in the subsector. Nevertheless, the subsector would benefit from the establishment of an audit committee (with support from stakeholders) to help evaluate compliance with ISO standards by all members of the industry, which would streamline working capital requirements and improve operational efficiency (while helping current ISO certification holders to maintain their certified status).

- Notwithstanding the challenges surrounding the GMP programme, if correctly implemented, it provides considerable opportunities for Jordanian Soaps and Detergents manufacturers, by increasing quality standards across the industry, which would lead to greater competitiveness in both domestic and foreign markets.

**Best Practices for Production from Benchmark Country (Russia)**

Production of Soaps and Detergents in Russia enjoys several general tax incentives for private companies seeking to engage in manufacturing activities in the country. The most notable incentives for production activities in the country include cuts to the standard profit tax rates (from 20% to 0%), a reduction in the standard property rate (of up to 2.2%, and in some cases granting full exemption), lower standard contribution rates for social security (according to the country's regressive scale), and special VAT and customs regimes.

These incentives supported the strategy of Russian Soaps and Detergents manufacturers based on cost efficiency, economies of scale, and high quality (including compliance with international standards, ISO guidelines, and product certification), which backed strong foreign demand for the country's products in the subsector.

One area where Russian Soaps and Detergents companies stand out is in the production of products for private label, which is witnessing a rising share of total subsector exports.

In addition, the country's Soaps and Detergents subsector actively seeks to follow international trends such as lower levels of phosphates, "eco-friendly" products, and tailored formulations for different foreign markets, in the country's attempt to boost export volumes.

## - Packaging and Storage

According to Euromonitor International's calculations based on data gathered from trade interviews with industry representatives, packaging costs accounted for, on average, 15% of total manufacturing costs. Nonetheless, differences across companies in this area can be material, as for certain competitors focusing on bulk sales/private label, packaging's share of total manufacturing costs can be as low as 4-5%[60], while for other producers, featuring their own brands, this share can be as high as 25%[61].

Leading competitors in the Soaps and Detergents industry try to reduce their storage needs to a minimum by using electronic ordering systems, managing their own deliveries, and providing incentives for efficient stocking of their products by retailers.

**Challenges in the Packaging and Storage Stage**

- For importers of packaging materials, there are risks related to the availability and timeliness of product deliveries, potential customs delays, minimum order requirements,

**Opportunities in the Packaging and Storage Stage**

•For Jordanian companies exporting Soaps and Detergents under their own brand, there are opportunities to adopt the trend of recyclable packaging, which is driving demand at a global level (particularly if planning to export to developed markets such as the US and the EU).

•Vertical backward integration of packaging is an opportunity for Soaps and Detergents manufacturers to improve the efficiency and profitability of their operations

**Best Practices for Packaging and Storage from Benchmark Country (Russia)**

The approach to packaging for Russian Soaps and Detergents products is in line with the overall strategy of the subsector, where simple and affordable packaging is preferred to maintain cost efficiency and price competitiveness.

In addition, the use of vertical backwards integration for packaging or the use of packaging production from a company within the same group are common practices in the country's Soaps and Detergents subsector, allowing further cost saving and the ability to maintain better control over the value chain.

However, depending on the market being approached, the industry follows trends that generate demand in the targeted market. For example, Russian Soaps and Detergents exporters to EU countries seek to use recyclable packaging (even if it is more expensive than normal packaging) to spur sales among EU members (due to the popularity of this trend in the market), although the overall strategy of cost effectiveness is maintained.

60 | Euromonitor International from trade interviews, 2019
61 | Ibid

## - Distribution and Marketing

### Local Market

Soaps and Detergents in the Jordanian market are mainly distributed through retailers scattered across the country. While traditional retailers (including small markets, mini markets, and small grocery stores known as "bakalahs") still dominate in terms of distribution channels, modern retail formats (principally supermarkets, and to a lesser extent hypermarkets) are becoming more prevalent (with their distribution share of the subsector rising from 28.1% in 2013 to 31.5% in 2018)[62], especially in the country's largest urban areas such as Amman, Irbid and Zarqa. The expansion of modern retail channels favours the entrance of global brands from international Soaps and Detergents producers, which generally focus their distribution on modern retailers that can handle their volumes and partner with them in their marketing campaigns.

Retailers usually take charge of shipping and delivery from manufacturers (at an incremental cost of 5-10% over), although some manufacturers (particularly the largest ones) have their own fleets and personnel for delivery services, which they provide to retailers as a value add. Interviewed representatives from retailers also declared the margin they make on sales of Soaps and Detergents as ranging between 12% and 25%.

For domestically-manufactured Soaps and Detergents, retailers prefer to deal directly with the producer to minimise costs. However, for imported products, they establish relationships with one or more middlemen (including import agents, distributors or wholesalers). This further increases the cost of imported products, depending on the volumes traded, and the relative negotiating position of retailers and intermediaries.

Only the leading players can engage in extensive marketing of their brands (with the share of marketing expenses out of total operating costs reaching up to about 25% for these companies). Meanwhile, most competitors (mainly smaller players) perform very limited marketing activities (usually restricted to the distribution of samples or offering in-store promotions), because of financial constraints. Nevertheless, even leading local manufacturers find it difficult to compete with the vast marketing activities of global imported brands (which include both "above the line (ATL)" and "below the line (BTL)" activities), as well as perceptions of most Jordanian consumers that imported brands offer higher quality than domestically-produced products

### Exports

For Jordanian Soaps and Detergents destined to international markets, distribution channels depend on the type of product being sold (mainly whether it is sold in bulk or ready for retail sale). Nonetheless, Jordanian manufacturers generally prefer using the services of an export agent in both cases, which offer the product to retailers or specialised company packaging facilities (for exports of bulk products and some private label), or directly to retailer warehouses for distribution and sale (in the case of products ready for retail sale).

### Challenges in the Distribution and Marketing Stage

- Challenges posed by the "parallel trade" make it difficult for retailers to honour their exclusive distribution agreements with foreign brands.
- Lack of highly skilled marketing personnel further reduces local products' competitive position against imported products, and in international markets.

### Opportunities in the Distribution and Marketing Stage

- Given the nature of the end product (an fmcg relying on extensive marketing to end-users), the strengths and capabilities of local producers and the massive marketing capabilities of international players, an attractive opportunity would be the expansion of exports of products in bulk (whether or not destined for private label).
- Bulk exports of detergents from Jordan already represented 39.2% of total subsector exports in 2018, reflecting high demand for this type of product in foreign markets due to the quality and competitive prices that Jordanian manufacturers can offer.
- An emphasis on exports of Soaps and Detergents in bulk would allow Jordan to maximise its exports, while eliminating the need to engage in extremely high marketing expenses for the promotion of the product in foreign markets. This approach would also facilitate the sales process, which would become a B2B endeavour (for international retailers interested in bulk products and private label) rather than the more resource-intensive B2C approach

62 | Euromonitor International's Passport
63 | Euromonitor International from trade interviews, 2019
64 | Euromonitor International's calculations based on data from UN's COMTRADE, trade interviews

**Best Practices for Distribution and Marketing from Benchmark Country (Russia)**

Leading Russian companies in the Soaps and Detergents subsector have extensive export operations (for products in bulk and/or ready for retail sale) and engage in comprehensive marketing plans to promote their products in foreign countries (including marketing to international retailers and directly to consumers, through mass-media campaigns for the promotion of their own brands).

These marketing plans stress the competitive advantages of Russia's Soaps and Detergents, namely high quality at affordable prices (which are an important selling factors both for their products in bulk and for their brands).

Nevertheless, many of the country's smaller Soaps and Detergents companies, with established demand in the domestic market, often find it challenging to market their products to international buyers. This is due to skills shortages in areas such as sales and marketing, limited capabilities for B2B marketing, a lack of specific incentives targeted to exports (which are shortcomings that the Russian Soaps and Detergents subsector shares with Jordan), and would need government support to address these challenges.

In terms of distribution, the manufacturer is generally in charge of logistics and delivery to retailers, a process that is relatively efficient in the country's major urban areas, although the still incipient use of electronic ordering systems and the country's deficient transport infrastructure (especially out of the largest cities) remain challenges for the country's distribution systems.

## - End Consumers

Perceptions of Soaps and Detergents among domestic consumers are influenced by the vast difference in marketing spend between global and most domestic brands, general attitudes of the population towards imported products, and the different positioning chosen by manufacturers. Overall, global brands are perceived to offer the best-quality products due to consumer familiarity and trust in the multinational companies behind these brands, coupled with beliefs that international approval and testing procedures are stricter. Nevertheless, domestic brands still account for over three quarters of total consumption in the category, given their greater affordability and better availability in distribution channels (especially out of the country's major cities) compared to imported global brands, which dominate among the higher income deciles of the population.

In addition to the consumer segment, Soaps and Detergents manufacturers target the industrial segment with specialised products such as equipment cleaners, lime and scale removers, and concentrated detergents. Nevertheless, the industrial segment constitutes only a fraction (estimated at less than 5%) of the total production of Soaps and Detergents in Jordan, which explains the heavy focus of the country's manufacturers on the consumer segment

## - Soaps and Detergents Export Supply Chain

The supply chain for exported Soaps and Detergents includes the following players, as depicted in Chart 7 in section 6.6.1 "Value Chain Analysis" (Route "A" of the diagram):

1. Exports agents: Used by Jordanian exporters (either for exports in bulk or products ready for retail sale), who facilitate access to foreign markets (at an additional cost);

2. Foreign retailers: Used only by a small number of leading exporters (the ones with the capability to engage in direct negotiations with retailers abroad). They typically correspond to modern retail formats such as supermarkets/hypermarkets (which may use the product as private label), specialised stores (for either consumer or industrial detergents) and discounters;

3. Foreign packers: Used for Soaps and Detergents exported in bulk only, foreign packers provide packaging and labelling services to retailers, generally for private label products.

The breakdown of Jordanian Soaps and Detergents exports by HS code can be seen in Table 20.

65 | Euromonitor International research from trade interviews, 2019

**Table 20:** Composition of Soaps and Detergents Exports (by HS Code and share of subsector exports)

| | | | |
|---|---|---|---|
| **340220** | Surface-active preparations, washing preparations, auxiliary washing preparations and cleaning preparations for retail sale (excluding organic surface-active agents, soap and organic surface-active preparations in the form of bars, cakes, moulded pieces or shapes, and products and preparations for washing the skin in the form of liquid or cream) | **42.3%** | **-10.8%** |
| **340290** | Surface-active preparations, washing preparations, incl. auxiliary washing preparations and cleaning preparations (excluding those for retail sale, organic surface-active agents, soap and organic surface-active preparations in the form of bars, cakes, moulded pieces or shapes, and products and preparations for washing the skin in the form of liquid or cream) | **39.2%** | **4.7%** |
| **340540** | Scouring pastes and powders and other scouring preparations, whether or not in the form of paper, wadding, felt, nonwovens, cellular plastics or cellular rubber, impregnated, coated or covered with such preparations | **2.3%** | **-32.2%** |
| **3824909** | Other chemical products and preparations of the chemical or allied industries (including those consisting of mixtures of natural products), not elsewhere specified or included, other than for laboratory use or imported by factories as industrial inputs | **0.2%** | **-42.6%** |
| **330730** | Perfumed bath salts and other bath and shower preparations | **2%** | **226.4%** |
| **340120** | Soap in the form of flakes, granules, powder, paste or in aqueous solution | **4.1%** | **-43.4%** |
| **330510** | Shampoos | **0.6%** | **14.8%** |
| **330430** | Manicure or pedicure preparations | **0.1%** | **-15.7%** |
| **330300** | Perfumes and toilet waters (excluding aftershave lotions, personal deodorants and hair lotions) | **0.3%** | **-58.2%** |
| **330499** | Beauty or make-up preparations and preparations for the care of the skin (other than medicaments), incl.sunscreen or suntan preparations (excluding medicaments, lip and eye make-up preparations, manicure or pedicure preparations and make-up or skin care powders, incl. baby powders) | **6.4%** | **-26.8%** |
| **300590** | Wadding, gauze, bandages and the like, e.g. dressings, adhesive plasters, poultices, impregnated or covered with pharmaceutical substances or put up for retail sale for medical, surgical, dental or veterinary purposes (excluding adhesive dressings and other articles having an adhesive layer) | **2.5%** | **-35.3%** |
| **340119** | Soap and organic surface-active products and preparations, in the form of bars, cakes, moulded pieces or shapes, and paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent (excluding those for toilet use, incl. medicated products) | **0.1%** | **-56.1%** |

Source: Euromonitor International from trade interviews, secondary research

Exports of surface-active preparations sold in bulk (which recorded growth of 4.7% for the period 2014-2017) helped prevent a larger dip in exports in the subsector. By comparison, exports of surface-active preparations ready for retail fell by 10.8% over the same period, reflecting the competitiveness of Jordanian detergent exports in bulk. When considering exports of Jordanian Soaps and Detergents by market, the breakdown is as shown in Table 21.

**Table 21:** Composition of Soaps and Detergents Products Exports (by HS Code and Share of Subsector Exports)

| | | |
|---|---|---|
| Iraq | 62.3% | -45.3% |
| Saudi Arabia | 23.8% | 118.4% |
| Libya | 2.3% | -53.2% |
| USA | 1.5% | 9.6% |
| Kuwait | 1.3% | 138.6% |
| Qatar | 1.3% | 148.4% |
| Syria | 1.0% | -98.0% |
| UAE | 0.9% | 84.2% |
| Palestine | 0.9% | 0.1% |
| Oman | 0.8% | 47.3% |

Source: Euromonitor International from trade interviews, secondary research

## Challenges in Exports

The most important challenges regarding foreign sales include:

- The expiry of subsidies for exported goods and rising cost of utilities and fees, which are weighing on the competitiveness of Jordanian Soaps and Detergents in international markets;
- Inadequate skills of personnel employed in marketing and sales, which constrains opportunities for promotion and expansion of Jordanian Soaps and Detergents abroad;
- Shortcomings regarding the implementation of the GMP programme, as now the GMP certificate has become a requirement for exporting Soaps and Detergents from Jordan

66 | Ibid
67 | Ibid

### Key Learnings from Current Soaps and Detergents Exports

- There are significant opportunities for exports to countries within and outside the Middle East region, provided adequate levels of support are offered.

- Bulk exports are highly competitive in international markets in terms of both quality and price. This is a segment that could be emphasised (at least initially) by focusing on finding international partners keen on this line of products (eg foreign retailers interested in detergents and cleaning products for their private label), a strategy that would also take the burden of heavy marketing spending off Jordanian manufacturers (as it would be the foreign retailers performing direct marketing activities to consumers).

- Support from stakeholders in the Jordanian Soaps and Detergents subsector (for example, by providing training and technical assistance in R & D and Marketing, offering funds for financing, or offering in-depth studies on trends and how to access target export markets) would gradually help domestic manufacturers develop their own brands' capability of competing in international markets, with the longer-term view of capturing additional value in the Soaps and Detergents value chain and further support the country's export sector

### Potential Soaps and Detergents Export Markets

Vietnam has been chosen as the target export market for Jordanian Soaps and Detergents in an initial phase focusing on exports of products in bulk. The reasons behind this selection ares Vietnam's considerable market potential for the subsector (which led to a 94.9% rise in imports of Soaps and Detergents between 2013 and 2018)[68], the country's socioeconomic characteristics (with a large mass market featuring relatively low levels of disposable income), and its large demand for imports of detergents and cleaning products in bulk (which accounted for 25.5% of the country's total imports in the subsector in 2018)[69].

With a longer-term view of expanding Jordanian Soaps and Detergents brands to international markets, the Asia Pacific region stands out as the most attractive regional market for the subsector. Asia Pacific's market for Soaps and Detergents reached USD$49.3 billion in 2018 (the world's largest, equivalent to 30.3% of total global demand)[70]. It was also the fastest growing over the 2013-2018 period (expanding by 18.3% in value terms over that timeframe, compared to global average of -0.1%)[71], offering attractive opportunities to penetrate this market, especially if Jordanian companies can cater to global trends in the industry, such as offering "eco-friendly" products and recyclable packaging.

68 | United Nations' COMTRADE database
69 | Ibid
70 | Euromonitor's Passport
71 | Ibid

## - Conclusion and Recommendations

**Conclusion**

The structure of Jordan's Soaps and Detergents value chain creates a fast-growing and highly competitive market, but also provides for ample challenges for players in the subsector.

**Raw materials:** One of the main challenges is the lack of availability of certain inputs (including some active ingredients, enhancers and enzymes) at the required quality for the domestic market. As a result, manufacturers must source these raw materials through imports, which generates risks related to the availability and timeliness of delivery, exchange rate fluctuations, and terms of payment, although it also presents opportunities in the form of evaluating the possibility of producing these inputs locally or improving their quality (if already manufactured locally), which would support the development of the overall Chemical industry.

**Research and Development (R&D):** Issues include the lack of capabilities (both operational and financial) of most players in the subsector to perform R & D activities, rising fees charged by government bodies for the testing of products, and the low availability of highly-skilled R & D personnel.

**Production:** Little room for capacity expansion or investment in machinery and technology by most competitors in the subsector, delays and lack of uniformity in the application of rules for GST refunds, and increasing pressure on after-tax profits.

**Marketing and Distribution:** The most pressing issues constitute rising competition from counterfeit imports, inconsistencies in the application of the GMP programme which impacts companies' abilities to export their goods, and lack of support for international expansion and promotion of Jordanian Soaps and Detergents. Addressing these issues requires government action in areas such as improving control of Jordan's porous borders, better training of personnel in charge of the application of GMP requirements, and the provision of technical and financial support for the international sale of products in the subsector.

Overall, the Jordanian Soaps and Detergents subsector shows significant potential for export expansion, by initially focusing on exports of products in bulk to capitalise on the strengths of Jordanian products in the category. In the longer term, the goal should be for domestic manufacturers to develop brands capable of being competitive in foreign markets, which, together with adequate support from stakeholders, would help them to gain access to the world's largest markets, as well as capture greater value in the Jordanian Soaps and Detergents value chain.

**RECOMMENDATIONS FOR GIZ:**

**In the Value Chain Area:**

- Offer services to support importers or raw materials such as centralised buying, currency hedging and trade financing (the JDC could play an important role in this area, which would increase collaboration and synergies between companies and help make up for the lack of a physical production hub for Soaps and Detergents).
- Map the raw materials and inputs that could be manufactured domestically (e.g. active ingredients like sulfonic acid, glycols, triclosan), to develop those production activities within the Jordanian Chemical industry.
- Provide support for establishment of centralised research/testing facilities or use subsidies from the government or educational institutions to make the use of laboratory and testing facilities affordable (providing smaller players with training on the management of the R & D process).
- Support the bottom line of competitors in the industry through measures like the reduction of the tax burden, subsidised rates for utility services, and cuts to administrative or service fees.
- Focus on bulk exports over the short to medium term (3-5 years) to capitalise on the competitiveness of Jordanian products, thus providing a boost to exports for the subsector.
- This would require support from stakeholders in international sales and promotion (B2B) for Jordanian Soaps and Detergents sold in bulk to foreign buyers (e.g. international retailers with existing or prospective private labels).
- In the longer term, facilitate the introduction of sustainable solutions in line with global trends like 'eco-friendly' products and recyclable packaging to support domestic manufacturers in developing their own competitive brands.
- This shift would require an expansion of capabilities from cost efficiency and an attractive price/quality ratio (necessary for products in bulk to be competitive) to

include innovation and brand management (which are key factors for successful brands), for which the necessary skills and capabilities should be developed.

- Develop a programme (through the JDC) to increase collaboration between Soaps and Detergents manufacturers and domestic suppliers of raw materials to increase the quality of the inputs as well as the procurement and delivery process.

**In the Regulatory Area:**

• Provide policy and regulatory stability to increase certainty for Jordanian Soaps and Detergents players. This should be accompanied by a reduction of bureaucratic procedures related to the import process and GST refunds, as well as the consistent application of guidelines for these processes.

• Improve border controls to curb the flow of "parallel imports", which are negatively affecting domestic manufacturers through unfair competition.

• At the same time, consider the introduction of quality standards for imported Soaps and Detergents sold in Jordan, which would both help to level the playing field between domestic and imported brands and contribute to consumer protection.

• Work is needed to manage the implementation of the GMP programme to eliminate resistance from some companies and allow all industry players to enjoy the benefits of the programme. Key points in this area include:

- The establishment of guidelines that are clear and consistently applied by both companies and regulators;

- Thorough training so that players understand not only the technical aspects of GMP implementation, but also the benefits that the scheme offers in terms of short- and long-term performance;

- Reduction of red tape at JFDA level (eg by allocating more personnel to GMP audit functions), which would allow considerably shorter lead times for the audit process. This would eliminate a main point of resistance to the GMP scheme which is the lengthy audit periods (reportedly up to seven months) which delay the issuance of GMP certifications and have a direct impact on the bottom line of companies (as GMP certification is a prerequisite for exporting Soaps and Detergents).

**In the Financing Area:**

- Provision of affordable financing to players in the subsector, a reduction of the standard period for GST refunds (from 90 to 30 days), and support to businesses to help them reduce their costs (eg a reduction of the tax burden, special rates for utility services, and controls/subsidies on government fees).

- Consider options such as equity financing (especially for smaller players) to support capacity expansion, boost investment in new machinery and technology, and support businesses with their cash flows and financial management. This option, coupled with technical support, would allow financing institutions to participate in the upside potential of companies.

**In the Technical/Training Area:**

- Introduce vocational or career training for disciplines relevant to the Soaps and Detergents subsector (including a mandatory component of hands-on training in factories, offices or laboratories), while facilitating the hiring of foreign workers for low-skilled positions:

- Ideally, this would be encompassed within an overall strategy to reduce Jordan's brain drain, which has been noted as an important reason for the shortages of highly-skilled labour in the domestic economy (due to qualified Jordanians migrating to regions such as the GCC, the US and the EU);

- Offer manufacturers, technical and consulting support in obtaining GMP certificate, as well as eliminate inconsistencies in the application of the programme which generate uncertainty among manufacturers.

# Subsector Overview: Pesticides

## Snapshot

The Jordanian Pesticides subsector comprises a specialised range of products typically traded within the following categories: Insecticides; Herbicides; Fungicides; Acaricides; Termiticides; and Nematicides. According to representatives from pesticide manufacturers interviewed by Euromonitor International, the product portfolio of competitors in the industry can reach up to 200 SKUs, according to the capabilities and strategy of the individual company.

**Subsector Performance**

Pesticides production in Jordan is focused primarily on the export market, with an estimated 69% of total output in 2018 channelled to exports and the remainder satisfying domestic consumption. Over the period 2014-2018, the total production of pesticides dropped 16.7% in absolute value terms to USD49.8 million in 2018. The decline in total output from the Pesticides industry was the result of the following factors:

- A decrease in foreign demand for Jordanian pesticides from the Middle East region (the main export market for the country's pesticides) due to the impact of the political instability at a regional level, the sharp depreciation of the currencies in some major markets in the region (eg Libya, Egypt and Algeria), and the closure of Jordan's borders with Iraq and Syria in the mid-2010s;

- The slowdown of Jordan's Agriculture sector, whose annual real GVA growth eased from 13.2% during the period 2012-2015 to 6.2% over the period 2015-2018 (impacting domestic demand for pesticides for crops);

- The downward trend in average prices of pesticides in the Jordanian market (partly due to the rising inflow of inexpensive pesticides from China, and to a lesser extent, from India), which weighed on growth of the domestic Pesticides subsector in value terms;

- Increasing awareness among Jordanian authorities and farmers regarding the excessive use of pesticides for agricultural crops (and the subsequent risk that agricultural exports could be rejected in foreign markets due to high pesticide residues), which prompted a portion of Jordanian farmers to reduce their use of pesticides.

These factors increase uncertainty over the medium-term performance of the country's Pesticides subsector, with representatives from Jordanian pesticides companies interviewed by Euromonitor International recognising a challenging environment both domestically and abroad. Nevertheless, there are opportunities to improve efficiency in the Jordanian Pesticides value chain (as will be shown in this study) that could put companies in a more favourable position to face these impending challenges and help the development of the subsector.

While there is a higher concentration of pesticide manufacturing companies in the cities of Amman and Irbid, the industry lacks a recognisable hub for manufacturing operations. This reduces the efficiency of the subsector, by preventing competitors from benefiting from synergies and collaboration that could lead to higher productivity and lower costs.

72 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews
73 | Ibid
74 | Euromonitor International's Passport

## Key Stakeholders

The principal stakeholders in Jordan's Pesticides subsector are shown in the following chart.

**Chart 08:** Main stakeholders in Jordan's Pesticides subsector


Source: Euromonitor International's trade interviews, 2019

The roles of stakeholders that are common to Jordan's Chemical industry were detailed in section 2.1.6, while the relevant roles of stakeholders in Jordan's Pesticides subsector are outlined Table 22.

**Table 22:** Key Stakeholders specific to Jordan's Pesticide subsector

| | |
|---|---|
| Ministry of Agriculture — Policymaker / Regulator | In its role as a policymaker, the Ministry of Agriculture seeks to develop the economic, social and environmental dimensions of the country's agricultural sector. In its regulatory role, the Ministry is in direct charge of pesticide control and supervision, through its Plant Protection Directorate/Pesticides Division, while it also manages registration of pesticides (both domestically produced and imported) seeking to be sold in the country. |
| Ministry of Environment — Regulators | Responsibilities include the conservation of Jordan's ecosystems, reduction of the impact of climate change, improvement of public awareness of environmental protection, and the enhancement of institutional capacity. In its regulatory function, the Ministry issues guidelines on ingredients and processes applying to Jordanian industries (including Pesticides) to protect the environment. |
| Agricultural Materials Trading and Producers Association (AMTPA) — Industry Association | The Association encompasses producers and traders of products like fertilizers, pesticides and agricultural chemicals. It has the objective of introducing and promoting new technologies in the Jordanian agricultural sector, to improve its contribution to the national economy. Regarding pesticides, AMTPA seeks the appropriate and responsible use of crop protection through practices of Integrated Pest Management (IPM) and sustainable agriculture. |
| Royal Scientific Society (RSS) — Service Supplier/ Research Partner | The RSS is the most prominent applied research institution, consultancy and technical support private services provider in the country. It provides research services for projects both for the public and private sector, while it also offers testing and calibration services through its specialised laboratories. |
| National Fund for Enterprise Support (NAFES) — Foreign support agency | Established under the "Jordan-Japan Counterpart Funds" scheme, NAFES focuses on providing subsidies to high-potential small- and medium-sized enterprises in Jordan. Help is provided in the form of contact with Jordanian consultants and has an emphasis on the modernisation of management in the enterprises, as well as strengthening international competitiveness. |
| Euro Jordanian Action for Development of Enterprise (EJADA) — Foreign support agency | Set up with support from the EU, EJADA centres its activities on facilitating access to consulting services (from both Jordanian and EU experts) for projects carried out by qualifying Jordanian companies, with a subsidy of up to 90% on the services' cost. Areas of action for EJADA projects include strategy making, energy saving and support for exports, aimed at developing Jordanian industry. |
| Pesticides Manufacturers — Competitors | This group includes companies engaged in pesticide development and production in Jordan. An in-depth analysis of these competitors is included in this section of the report. |

Source: Euromonitor International research from trade sources, 2019

The most important challenges noted by interviewees in Jordan's Pesticides subsector include the expiration of export subsidies at the end of 2018 (which will reduce the competitiveness of the country's pesticides in international markets), the inflow of cheap pesticide imports (mainly from China), and the shortage of skilled personnel in areas such as chemical engineering and marketing and sales.

In addition, players in the industry note the opportunity to enhance the role of the Agricultural Materials Trading and Producers Association (AMTPA), the industry association that includes pesticides companies. In their opinion, while the association currently has visibility through the organisation of some industrywide events, it has not had enough impact in supporting the day-to-day activities of competitors in the Pesticides subsector

**Best Practices for Subsector Governance from Benchmark Country (India)**

This section outlines best practices on governance of the Pesticides subsector for India. The industry has multiple stakeholders playing well-defined roles to support more than 100 Pesticides manufacturers. India has centralised ministries and departments defining the regulations governing the manufacturing and use of pesticides. This, however, is customised and used by the state governments based on the specific pesticides being produced or consumed in that region.

Three main entities under three different ministries regulate Pesticides manufacturing and consumption in India:

- Central Insecticides Board and Registration Committee (CIBRC): Operating under the aegis of the Union (Central) Ministry of Agriculture, it approves and regulates the introduction of new pesticides;
- Food Safety and Standards Authority of India (FSSAI): Operating under the Union (Central) Ministry of Health and Welfare, it regulates pesticide levels in food and sets limits for maximum residue levels. This is defined for specific crops in collaboration with several other entities such as state-run Agricultural Departments and Universities, the National Horticulture Board and Spices Board of India;
- Agricultural and Processed Food Products Export Development Authority (APEDA): Operating under the Union (Central) Ministry of Commerce and Industry, it sets the guidelines for establishment of organic farms.

Several non-government bodies monitor the efficacy of controls established for pesticide content in crops and represent either the public or the manufacturers to the regulatory bodies:

- Pesticide Manufacturers and Formulators Association of India (PMFAI): A representative body for Pesticides manufacturers to both central and state regulatory departments;
- Institute of Pesticide Formulation Technology: Under the aegis of the Ministry of Chemicals and Fertilizers (Department of Chemicals and Petro-Chemicals), it assists in the development, quality control and ad-hoc field tests of both conventional and new pesticide formulations;
- Centre for Science and Environment (CSE): A not-for-profit organisation that conducts research, identifies gaps and advocates changes for effective implementation of policies;
- Other non-governmental and not-for-profit organisations include Crop Care Federation of India, Pesticide Action Network of India, Hazards Centre, etc, which check on violations in using expired or banned content in pesticides.

India ranks fourth in the crop protection industry after the US, Japan and China (in terms of total production). The industry constitutes over 125 technical-grade manufacturers, over 800 formulators and 145,00 distributors in India. In total, they offer up to 60 different technical-grade types of pesticides. As of 2017, over 50% of total local production was exported to various countries across the world.

Barring a handful of only 15 large players in the sector, the crop protection industry mainly comprises Small and Medium Sized Enterprises (SMEs). The Government of India launched the "Make in India" initiative to attract foreign investors into the country. Backing this, the government introduced 100% Foreign Direct Investment (FDI) in the Chemical industry and reduced excise duty from 14% to 10% as well as implementing stringent anti-dumping laws. This resulted in several SMEs being established across sectors. SMEs in India contribute about 30% of the country's economic output and employ almost 111 million people. However, insufficient access to financing remains a key problem for SMEs across industries.

The Ministry of Micro, Small and Medium Enterprises in India defines the regulations governing the establishment and operations of SMEs in India. SME Chamber of India is an organization that works as an interface between SMEs and the government body supporting on a wide spectrum of activities from recommending policy changes to offering marketing platforms across sectors. India has a plethora of banks and financial institutions offering highly competitive financial support for new and aspiring SMEs. Operating as a one-stop destination, the SME Chamber of India also supports SMEs in identifying the right source of finance (banks/venture capital/ financial institutions) and term loans for their business. The chamber also collaborates with different entities to obtain approvals for the participation of SMEs in international exhibitions and wherever possible, arranges for funding support as well.

## Competitive Landscape

The Jordanian Pesticides subsector is moderately concentrated, with about seven major competitors as of 2018[75], most corresponding to relatively large and medium-sized companies (ie 50 workers or more). The reason for this structure is the high fixed asset investment required for pesticide manufacturing operations, the level of complexity and specialisation of the products (which, for example, require most companies to have their own fully-equipped laboratories to compete successfully), and strict regulations and standards governing products in the industry (which rules out operations by small or "artisanal" competitors).

According to Euromonitor International's calculations based on data from the Jordan Chamber of Industry and trade interviews, total employment in the country's Pesticides subsector was around 860[76] people in 2018, while total installed capacity reached about 8,600 metric tonnes[77] in the same year. The leading players operating in the subsector include VAPCO Manufacturing Co Ltd, Arab Pesticides and Veterinary Drugs Mfg Co (MOBEDCO) and MEDMAC for Manufacturing Agricultural Chemicals and Veterinary Products Ltd.

All competing players in the industry are engaged in export operations to expand their business, capitalising on the positioning of Jordanian pesticides as "good quality at affordable prices" in international markets. However, competition in the domestic market has been gradually increasing because of rising imports of inexpensive Chinese-made pesticides that appeal to price-sensitive Jordanian farmers (which constitute the main market for domestic sales of pesticides) and the established presence of Europe-based companies such as Syngenta, BASF and Bayer, which are popular among buyers at the higher end of the market (large farmers or farming companies).

In terms of geography, domestic demand is centred on the country's main agricultural areas: the Jordan Rift Valley (north of the Dead Sea), Side Wadis (linked to the Jordan River Basin) and Mafraq. However, the proximity of these areas to the cities of Amman and Irbid (which also concentrate a large share of pesticide production facilities in the country) results in retail and distribution activity of pesticides in Jordan taking place mainly in these two cities. Outside these areas, demand for pesticides is very limited due to their special topography and climate which do not favour agricultural activity, as well as the country's critical situation in terms of water scarcity.

Due to the relatively larger average size of companies operating in the Jordanian Pesticides subsector in relation to other subsectors (eg Dead Sea Products or Soaps and Detergents), pesticide producers have comparatively better access to financing, which is used to fund large capital investments as well as working capital. Nevertheless, interviewed representatives noted the need for financing for large capital investments as well as the significant costs involved in pesticide registration in foreign markets

## Labour Market Needs

The viewpoint of Pesticides manufacturers regarding the labour market situation in their companies was as follows:

a) While companies recognised that there is no shortage of graduates with diplomas, their issue was the perceived gap between the theoretical knowledge of graduates and their on-the-job skills for certain positions. As a result, companies are required to invest additional time and resources in personnel training, which further increases their costs;

b) The main positions where Pesticides manufacturers identified skill gaps were Chemical Engineers, Agricultural Engineers, and Marketing and Sales personnel, corresponding to the main areas of focus to implement measures to increase the availability of highly-skilled personnel in the industry.

75 | Euromonitor International research from trade interviews, secondary sources
76 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews
77 | Ibid

## Market Demand and Supply - Production

Total production of pesticides in Jordan recorded a decline during the period 2014-2018 (as shown in Table 23), based on Euromonitor International's calculations taking into account data from the Jordan Chamber of Industries and trade interviews.

Due to the reasons explained in Section 7.1, production in value terms is estimated to have fallen from USD59.8 million in 2014 to USD49.8 million in 2018.[78] As a result, total capacity utilisation in Jordan's Pesticides subsector is considered to have decreased from about 94% to 80% over the same period. Total output of the country's Pesticides subsector is expected to remain under pressure over the medium term (2019-2023), due to subdued foreign demand for Jordanian pesticides in the Middle East region; increasing competition from imports; and increasing awareness on the right use of pesticides in the domestic market.

**Table 23:** Production of Pesticides in Jordan 2014-2018 (USD '000)

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Total production | 59,764 | 50,285 | 53,247 | 58,948 | 49,800 |

Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

## - Imports and Exports

The Jordanian Pesticides subsector is predominantly geared towards exports, which represented about 69% of total domestic production for the subsector in 2018, according to Euromonitor International's calculations based on data from the Jordan Chamber of Industries and trade interviews. However, reduced demand for Jordanian pesticides from markets in the Middle East and North Africa region (which received around 80% of Jordan's pesticides exports in 2018)[80]is expected to continue weighing on exports over 2019-2023. While exporters in other subsectors, such as Dead Sea Products and Soaps and Detergents have smoothed the impact of weaker regional demand by finding alternative export markets, the expensive and lengthy process for pesticide registration in most foreign countries limits this possibility for exporters in Jordan's Pesticides subsector.

Imports also registered a gradual decline in value terms during the period 2013-2018 to reach USD23.1 million by the end of that period[81] (as seen in Table 24). Overall, imports covered approximately 56% of total domestic demand for pesticides in 2018[82], with the EU, China, India and Saudi Arabia among the main sources of pesticides imports. The medium-term outlook for imports is also a cautious one, because of softer domestic demand for pesticides and the downward trend in average prices of pesticide imports into Jordan (driven especially by the growing share of inexpensive Chinese products in overall pesticide imports).

78 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews
79 | Ibid
80 | Euromonitor International's calculations based on data from United Nations' COMTRADE
81 | Ibid
82 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews

**Table 24:** Imports of Pesticide into Jordan 2014-2018 (USD '000)

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Total imports | 30,936 | 28,366 | 26,873 | 23,827 | 23,146 |

Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

**Table 25:** Exports of Pesticide from Jordan 2014-2018 (USD '000)

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Total exports | 49,604 | 34,194 | 33,013 | 36,548 | 34,362 |

Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

## - Consumption

Consumption of pesticides in the domestic market is estimated to have decreased by 7% in value terms during the period 2014-2018 to reach USD41.4 million in 2018[83]. Prospects for domestic demand for pesticides in Jordan over the medium term are volatile, depending on several factors such as the performance of the country's agricultural sector, increasing awareness over the excessive use of pesticides on crops, and a shift to inexpensive imported Chinese products by price-sensitive farmers. Over the longer term, Jordan's critical water scarcity (which is exacerbated by the country's surging population growth) will put pressure on growth of the Jordanian agricultural sector and therefore on overall domestic demand for pesticides.

**Table 26:** Domestic Consumption of Pesticides in Jordan 2014-2018 (USD '000)

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Domestic consumption | 44,621 | 45,566 | 46,574 | 46,970 | 41,428 |

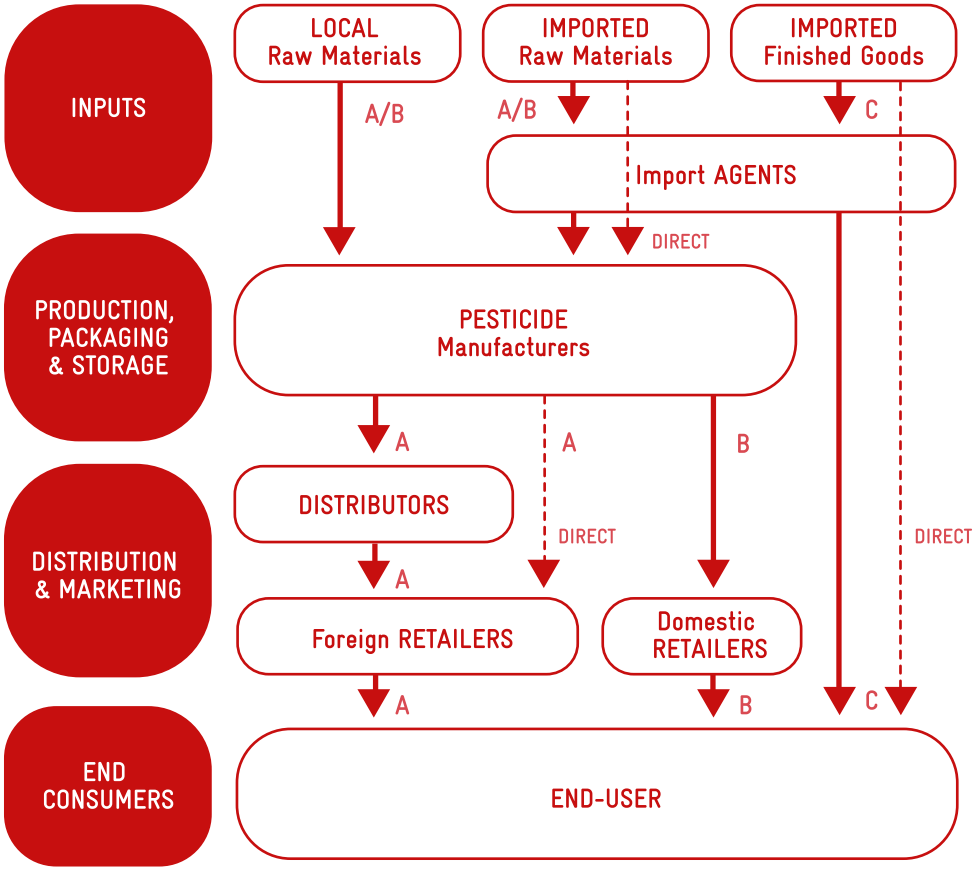
Source: Euromonitor International's calculations based on trade interviews, secondary research
Note: Values are expressed in current USD terms

83 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews

## Value Chain Analysis – Overview

The value chain for Jordan's Pesticides subsector is in general lean, due to company efforts to remain cost-efficient and maintain the competitiveness of their products. The typical outline of the country's Pesticides value chain, as stated by representatives from manufacturing companies, can be seen in Chart 9 below.

**Chart 09:** Pesticide Products – Value Chain Flow




Source: Euromonitor International from trade interviews, secondary research

The description for each of the three activity flow paths of the value chain can be found below:

A. Domestically-produced finished goods destined for export markets, which represented around 69% of total subsector production;

B. Domestically-produced finished goods to be sold in the domestic market, accounting for 31% of total subsector production;

C. Imported finished goods for sale in the domestic market, which covered approximately 56% of total domestic demand for Pesticides in 2018.

Each of the three paths in the country's Pesticides value chain is analysed in depth in the following sections.

84 | Euromonitor International's calculations based on data from the Jordan Chamber of Industries, trade interviews
85 | Ibid
86 | Ibid

## - Sourcing: Raw Ingredients/Materials

Raw materials used in the pesticides manufacturing process in Jordan come from two sources:

**Domestic Sources**
Jordanian pesticides manufacturer representatives interviewed by Euromonitor International recognised that, while they try to source their raw materials from domestic producers when possible, there is a lack of domestic supply of most active and inert ingredients for pesticide manufacturing (due to reasons stated in the box "China and its Role in the Raw Material Stage of the Global Pesticides Value Chain" below), with most manufacturers only able to procure packaging and labels locally;

**Imported Sources**
As a result, producers in the Jordanian Pesticides subsector are highly reliant on imports for their manufacturing operations. According to interviewed sources, the share of imported products out of total raw material requirements ranges between 80-100% (depending on the manufacturer). These imports include inputs such as active ingredients (eg pyrethrins, deltamethrin and fipronil), inert ingredients (eg substances used as solvents, surfactants and preservatives), and packaging materials. China is the main source of most active and inert ingredients used by Jordanian pesticides manufacturers, although a small share of these can also be sourced from countries including India, Saudi Arabia and the EU.

**China and its Role in the Raw Material Stage of the Global Pesticide Value Chain**

Pesticides are highly complex and specialised chemical products with formulation based on a combination of active ingredients (ie chemicals that kill, control or repel pests) and inert ingredients (ie chemicals whose purpose is to enhance the properties/effectiveness of the pesticide by, for example, extending its shelf life, helping it spread more evenly during application, or attracting the pest). Due to their high cost, both active and inert ingredients generally account for over 95% of the total cost of raw materials for pesticide products for retail sale, with the remainder corresponding to packaging materials.

The highly specialised and complex nature of active and inert ingredients for pesticide manufacturing (a list of which can be found in Table 27) requires extremely high capital investment in specially designed machinery for their production. This makes it pivotal for active and inert pesticide ingredient manufacturers to reach large economies of scale, to recover the fixed costs incurred in setting up operations.

The rise of China as a power in the global Chemical industry (reflected by the increase in share of the country's chemical products output, from 6.2% of total global output in 1997 to 40.5% in 2018) had a major impact on global market dynamics for active and inert pesticide ingredients. Due to the country's competitive advantages that fit key success factors in this segment (including large economies of scale, inexpensive labour, and government support for investment in fixed assets), China has become the dominant player in active and inert pesticide ingredient manufacturing, taking up production that was previously done in developed economies such as the US and the EU, which now import an important share of their pesticide raw material requirements from China

As a result, China has become the main player at the raw materials stage of the global Pesticides value chain, sourcing most active and inert ingredients for pesticide manufacturing worldwide. This was evident when, due to the implementation of stricter government regulations to the country's Pesticides subsector in 2017, an important share of Chinese pesticide plants (producing both raw materials and finished goods) had to shut down their operations, which sent shockwaves through the global Pesticides value chain and resulted in higher costs for raw materials for pesticides manufacturers across the world.

As the Chinese Chemical industry grows and reaches larger economies of scale, China's role at the raw materials stage of the global Pesticides subsector is expected to consolidate. This has an impact, for example, on economies such as Jordan (and the broader Middle East region), which find the high costs associated with setting up pesticide ingredients production prohibitive (even if they have available raw materials), while they also lack the economies of scale to successfully compete with China. Hence, pesticide manufacturers in these economies are expected to continue relying on China as the source of most raw materials for their operations.

The dependence on imported products at the Raw Materials stage of the value chain generates risks related to cost and timeliness of input shipments, potential delays due to excessive bureaucratic procedures for import clearance, and exchange rate risks. Given China's hold on global pesticide raw material supply and the recent overhaul of the country's pesticide regulations (which led to the closure of an important number of pesticide production plants), Jordanian pesticides producers note disruptions in the supply and/or price increases for most active and inert ingredients imported from that country, which is putting additional pressure on profit margins.

Given uncertainties in the supply of raw materials from China and the lack of options in terms of alternative suppliers and/or current domestic production of active and inert pesticide ingredients, short-term support in this area would revolve around helping inventory management for domestic manufacturers. For example, short-term funding could be provided for Jordanian pesticides producers to stock higher levels of imported active and inert ingredients in order to reduce risks related to supply disruptions for these ingredients from China.

In the longer term, Euromonitor International has identified (based on interviews with experts in the Jordanian Pesticides subsector) a list of active and inert ingredients that could potentially be manufactured in Jordan (due to the local availability of raw materials for their production). These results are presented in the following Pesticide Ingredient Evaluation Table, which aims to shortlist the active and inert pesticide ingredients that could potentially be manufactured in Jordan in an economical way, to develop the domestic Chemical industry and reduce pesticide producers' dependence on imports.

**Table 27:** Pesticide Ingredient Evaluation Table

| Ingredient (1) | Active / Inert (2) | % Share in Jordan's Pesticide Production (3) | Current Local Ingredient Availability (4) | Availability of Raw Materials (5) | Possible to produce economically (6) |
|---|---|---|---|---|---|
| 2,4-D | Active | 70% - HIGH | NO | YES | NO |
| Acephate | Active | Around 30% - | NO | YES | NO |
| Bacillus thuringiensis (Bacteria based) | Active | LOW <15% | YES | YES | YES |
| Bendiocarb | Active | 30% - MEDIUM | NO | YES | NO |
| Bifenthrin | Active | 45% - HIGH | NO | YES | NO |
| Boric Acid | Active | LOW – 20% | NO | YES | YES |
| Bromadiolone | Active | 60-65% HIGH | NO | NO | NO |
| Capsaicin | Active | 20% LOW | NO | YES | NO |
| Captan | Active | 70% HIGH | NO | YES | NO |
| Chlorpyrifos | Active | 70% HIGH | - | YES | NO |
| Citronella (Oil of Citronella) | Inert | Very Low <5% | NO | YES | YES |
| Copper Sulphate | Active | 60% - HIGH | NO | YES | YES |
| Cyfluthrin | Active | 50% - MEDIUM | NO | YES | NO |
| d-Phenothrin | Active | 20% - LOW | NO | YES | NO |
| Deltamethrin | Active | 70% - HIGH | NO | YES | NO |
| Diatomaceous Earth (Bacteria based) | Active | Not Used in Jordan | NO | YES | YES |
| Diazinon | Active | 70% - HIGH | NO | YES | NO |

| | | | | | |
|---|---|---|---|---|---|
| **Dicamba** | Active | 30% - MEDIUM | NO | YES | NO |
| **Fipronil** | Active | 50% - MEDIUM | NO | YES | NO |
| **Glyphosate** | Active | 80% - HIGH | NO | YES | NO |
| **Hexaflumuron** | Active | 10% - VERY LOW | NO | YES | NO |
| **Hydramethylnon** | Active | 50-60% - MEDIUM | NO | YES | NO |
| **Hydroprene** | Active | Not used in Jordan | NO | YES | NO |
| **Imidacloprid** | Active | 60% - MEDIUM | NO | YES | NO |
| **Iron Phosphate** | Active | <5% VERY LOW | NO | YES | NO |
| **Lambda-cyhalothrin** | Active | 70% - HIGH | NO | YES | NO |
| **Malathion** | Active | 60% - MEDIUM | NO | YES | NO |
| **Methoprene** | Active | 20% - LOW | NO | YES | NO |
| **MGK-264 (II)** | Inert | Not used in Jordan | NO | YES | YES |
| **Naled (II)** | Inert | Not used in Jordan | NO | YES | YES |
| **Naphthalene** | Active | Used in Veterinary in Jordan | NO | YES | YES |
| **Neem Oil – Not Chemical** | Active | 60% - High | YES | YES | YES |
| **Paradichlorobenzene** | Active | 20% - Low | NO | YES | NO |
| **Permethrin** | Active | 60% - Medium | NO | YES | NO |
| **Picaridin** | Active | 10% - Low | NO | YES | NO |
| **Piperonyl Butoxide** | Active | 60% - High | NO | YES | NO |
| **Potassium Salts of Fatty Acids** | Active | 60% - High | YES | YES | YES |
| **Pyrethrins** | Active | 60% - High | NO | YES | NO |
| **Pyriproxyfen** | Active | 60% - High | NO | YES | NO |
| **Resmethrin** | Active | 20% - Low | NO | YES | NO |
| **Spinosad** | Active | 15% - Low | NO | YES | NO |
| **Sulphur** | Active | 60% - High | NO | YES | YES |
| **Sulfuryl Fluoride** | Active | 30% - Low | NO | YES | NO |
| **Triclopyr** | Active | 30% - Low | NO | YES | NO |
| **Zinc Phosphide** | Active | 60% - HiGH | NO | YES | NO |
| **Zinc Sulphate** | Active | 50% - MEDIUM | NO | YES | NO |

Source: Euromonitor International research from expert interviews, secondary sources
Notes: Column (1) contains the name of the most common active and inert ingredients used in pesticide manufacturing in global markets, taken from secondary sources and expert interviews.
Column (2) indicates the type of ingredient (Active/Inert)
Column (3) describes the estimated share of the given ingredient out of total pesticide production in Jordan. An ingredient with a high share will have a larger impact in terms of volume and cost savings should the ingredient be manufactured locally
Column (4) displays the Current Local Availability of the ingredient, that is, if the ingredient is being currently manufactured in Jordan.
Column (5) refers to whether or not there is local availability of raw materials necessary for the production of this ingredient in Jordan.
Column (6) also gives an assessment of whether it would be possible to produce the ingredient economically in Jordan, in order to compete with the advantages provided by China's large economies of scale in pesticide ingredient manufacturing.

The results of the evaluation identified the following short-list of pesticide ingredients not currently being produced in Jordan, where local manufacturing operations could be developed

**Table 28:** Shortlisted Pesticide Ingredient Products for Domestic Manufacturing

| INGREDIENT | ACTIVE / INERT | OBSERVATIONS |
|---|---|---|
| **Boric Acid** | **Active** | Currently some Jordanian Chemical companies are already performing research on the feasibility of producing boric acid domestically |
| **Citronella (Oil of Citronella)** | **Inert** | It can be produced locally at competitive costs, although it is still not an ingredient predominant in pesticide formulations by local manufacturers |
| **Copper Sulphate** | **Active** | It is affordable to produce locally and it currently has widespread use in Jordanian manufacturers' pesticide formulations |
| **Diatomaceous Earth** | **Active** | A biological pesticide, it is still currently not present in formulations by Jordanian manufacturers |
| **MGK-264** | **Inert** | Potential to be produced economically but still not used by Jordanian manufacturers |
| **Naled** | **Inert** | Potential to be produced economically but still not used by Jordanian manufacturers |
| **Naphthalene** | **Active** | In Jordan this ingredient is used for the production of veterinary products; in order to be used for pesticides this needs to be mixed with other active ingredients |
| **Sulphur** | **Active** | A highly used ingredient for Jordanian pesticide companies, it is already produced in GCC countries but still not in |

Source: Euromonitor International research from expert interviews, secondary sources

**Challenges at the Input Stage**

- Due to China's role in the Pesticides raw material global value chain, most inputs necessary for pesticide production are not available from domestic sources, which leaves Jordanian pesticides producers no option but to import these inputs for their manufacturing operations (which increases procurement costs).
- Lack of consistency in the application of import procedures by Jordan Customs generates delays in import clearance and increases costs for pesticide companies.
- The implementation of stricter pesticide regulations by China since 2017, which led to the closure of several raw material-producing plants in that country, resulted in lower supplies and higher prices for Chinese-made raw materials.

**Opportunities at the Input Stage**

- Provide facilities for currency hedging and trade financing for manufacturers to increase the efficiency of their import operations and reduce risks related to international trade.
- Consider inputs (both active and inert ingredients) that have been identified as having highest potential for local production and support domestic Chemical companies with financing and technical advice to develop these areas (which would also provide further opportunities to increase exports from Jordan's Chemical industry).
- Offer short-term credit for working capital to raw materials importers to reduce uncertainties related to inventory management.

**Best Practices for Raw Materials Supply from Benchmark Country (India)**

Despite reasonable availability of the active ingredients required for pesticide manufacturing, Indian pesticide manufacturers have also been largely depending on technical-grade active ingredients sourced from China. However, the closure of several Chinese pesticide ingredient manufacturers since 2017 (due to the implementation of stricter pesticide regulations) resulted in severe shortage of supplies and significantly higher raw material costs.

To reduce dependency on global fluctuations, large Indian pesticide manufacturing companies are simultaneously developing SMEs in the same region which have access to certain raw materials that can be manufactured at competitive costs. This would be beneficial in both to help the company reduce raw material costs and develop SMEs in the region.

To support this, the Government of India, through its "Make in India" initiative, is also considering reducing imports of products that can be manufactured locally in India

## - Research and Development

Due to the complexity and level of specialisation of pesticide products, as well as strict regulations and standards in both domestic and international markets, R & D is a vital part of Jordanian pesticides manufacturers' operations. It is also used to support the quality standards that are part of Jordanian pesticides products' competitive advantage in foreign markets, as well as to perform research related to the latest trends in the global Pesticides subsector.

**Research and Development as a Competitive Advantage for Jordan's Pesticides Subsector**

All existing competitors in Jordan's pesticide subsector have dedicated R & D departments used for new product formulation, testing, and improvement of existent product formulas, although they may also outsource certain specific services (principally to foreign laboratories).

While it is not mandatory for laboratories within pesticide company factories to be accredited, most competitors apply principles from international standards such as ISO, FAO, WHO and GLP to maintain product quality. Some clients from foreign markets (e.g. Saudi Arabia, Egypt and Yemen) also visit manufacturer laboratories to verify that they meet infrastructure and process quality standards.

In addition, all laboratory equipment used by pesticide companies must be accredited by Jordan's Accreditation Unit (JAU) to certify the equipment meets standards for testing, calibration and maintenance.

In order to test their products, Jordanian pesticides companies generally collaborate with local farmers, whose feedback is used to improve the formula or ingredients of the product. Some companies even set up their own farms to conduct testing of pesticide formulations, gaining greater control on the quality and timeliness of the process.

In general, pesticide manufacturers in Jordan acknowledge the local availability of highly-skilled labour to perform R & D functions (although procuring their services comes at a salary premium).

As a result, the share of R & D spending for companies in Jordan's Pesticides subsector, is estimated at about 5%, which is relatively high compared to other subsectors, such as Dead Sea Products and Soaps and Detergents, but has been an important factor enabling Jordanian pesticides products to maintain their "good quality at affordable prices" positioning in foreign markets.

**Challeges in the R&D Stage**

- The high costs associated with setting up laboratories, equipment and testing devices, as well as obtaining international certifications (eg ISO), or, in the case of companies that outsource some of their R & D and testing activities, the high fees for these services.
- Skills gaps among graduates in careers such as chemical engineering between their theoretical learning and their actual ability to perform required tasks.
- According to Jordanian pesticides manufacturers' interviews, the Jordanian government limits the number of new products that can be submitted for approval to three or four per year. This has an impact not only on the R & D pipeline but also on the overall sales and profitability of companies in the Pesticides subsector.
- Likewise, members' trade interviews highlighted the limitations imposed by the Jordanian government, in which testing may not be performed on their actual product but instead on required samples from a similar global product (whose patent protection period has expired).

**Opportunities in the R&D Stage**

- The introduction of incentives (in the form of tax deductions, subsidies or rebates) for R & D spending would support this critical activity and help Jordanian pesticides manufacturers achieve the required positioning for their products.
- The creation of agreements between pesticide manufacturers, universities and the government to provide graduates with opportunities for practical experience would help address the skills gaps affecting this portion of the value chain.
- Providing financing at the R & D stage would offer considerable support to pesticide manufacturers in facing the high cost of capital investment in laboratory set up and operation; the expense of different research projects in their pipeline; and the considerable costs related to pesticide product registration in international markets

**Best Practices for R&D from Benchmark Country (India)**

Pesticides production, which is classified within the Chemical industry in India, has been driven by the "Make in India" initiative. This initiative, besides inviting investment in the subsector, also provides incentives for investment in Research and Development. For private sponsored research, a weighted tax deduction of 200% is granted for any sum paid to any authorised private laboratory for scientific research in the field of pesticides. For in-house R & D activities, a weighted tax deduction of 150% of expenditure incurred (excluding the cost of land or building) is offered on scientific research conducted. Besides this, some states in India offer additional incentives in the form of investment subsidies, concessional rates of interest on loans, etc.

Indian Council of Agricultural Research (ICAR), State Administered Universities (SAUs) and private sector research is also taken up by other government bodies and universities such as CSIR, UGC, IITs and IIMS. A central body in the Indian Council of Agricultural Research evaluates each new initiative before it is implemented.

With over 40 GLP certified laboratories in the country, several private R & D entities are offering Contract Research at competitive rates for global pesticides manufacturers.

While most public research is funded through block grants sanctioned by the Indian Council of Agricultural Research (ICAR), competitive funding is also taking centre stage to channel funding to the most critical and high-priority initiatives that aim to improve quality.

## - Production

The production stage of the value chain includes all those activities performed to transform inputs (comprising raw materials, capital and labour into finished goods). These activities represent over 90%[87] of total operating costs for companies in the industry, as observed in Table 28.

**Table 28:** Industry norms of the cost per tonne of Pesticide in Jordan

| METRIC | SHARE OF COSTS PER TONNE |
|---|---|
| **Labour & Fixed Costs** | **25%** |
| **Raw Materials** | **47%** |
| **Packaging** | **4%** |
| **Marketing** | **2%** |
| **Transportation & Clearance** | **1%** |
| **Maintenance** | **1%** |
| **Research & Development** | **5%** |
| **Profit Margin** | **15%** |
| **TOTAL** | **100%** |

Source: Euromonitor International from trade interviews
Note: Stated costs correspond to the average for the industry

87 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews

Companies operating in Jordan's Pesticides subsector employ an average of 95 workers[88]. From trade interviews conducted by Euromonitor International, the headcount ranged between 45 and 300, according to the installed capacity of the company. The share of labour and fixed costs as a proportion of total operating costs for pesticides producers (25%) tends to be higher than for companies in other subsectors such as Dead Sea Products (20%) and Soaps and Detergents (19%)[89],reflecting the higher requirements for qualified personnel, as well as the high capital investment for companies operating in the Pesticides subsector.

Likewise, the larger average size of Pesticides companies (compared to Dead Sea Products and Soaps and Detergents) allows them to attain better economies of scale, which are critical for international competitiveness of their products. Nevertheless, there were still challenges associated with production activities noted by representatives of Pesticides manufacturers, as detailed below.

**Challenges at the Production Stage**

- Increasing cost pressures affect Jordan's Pesticides manufacturers. In addition to higher utility costs, interviewed representatives were particularly concerned over the impact of the expiry of Jordan's income tax subsidy scheme for exported goods at the end of 2018, which was an important factor undermining the competitiveness of Jordanian products in foreign markets.
- Notwithstanding the better economies of scale of companies in the Pesticides subsector, the industry would still benefit greatly from higher availability of financing to support large outlays related to investment in fixed assets, R & D, and registration of products in foreign countries
- Shortages of qualified professionals in areas such as Chemical Engineering, Agricultural Engineering, and Marketing and Sales, which is particularly important for this industry given its focus on product quality for exports markets.
- Rising competition from inexpensive imports (particularly from China) which are catering to price-sensitive farmers and reducing average prices of pesticides in the domestic market and putting pressure on margins.
- In addition to competition from legal imports, trade interviews highlighted the presence of "parallel" imports that pay neither taxes nor have been registered for sale in the domestic market, which gives these products a significant advantage in terms of price.

**Opportunities in the Production Stage**

- Nevertheless, the development of new products and technology (resulting from R & D investment) by domestic players constitutes an opportunity for Jordan's Pesticides subsector, which is allowing local producers to catch up with global brands in terms of innovation (e.g. through the manufacturing of micro-capsulated and nano-capsulated pesticides).

- Although pesticide production in Jordan is not bound by GMP guidelines, domestic manufacturers are voluntarily applying international quality standards such as ISO, GMP, Good Laboratory Practice (GLP), and WHO standards to maintain the quality of their products.

**Best Practices for Production from Benchmark Country (India)**

India is the world's fourth largest manufacturer of pesticides, leveraging its competencies in generic pesticide manufacturing, low conversion costs compared to global benchmarks and availability of technically trained manpower.

As of March 2018, India had a production capacity of 292,440 tonnes but with an estimated utilisation of only 64%. This is mainly due to low levels of farmer awareness, which results in lower per hectare pesticide consumption, as well as imports of finished pesticides from China catering to the local market resulting in overcapacity of several players in the market. To improve operational efficiency and optimise costs, manufacturers are considering experimenting with contract production for countries that require pesticides but have to incur high labour and logistics costs in order to manufacture them.

With an estimated 50% of total production output directed towards exports, the government provides a number of export incentives, such as the Duty Drawback scheme, Merchandise Export from India scheme and Export Promotion Capital Goods scheme.

In addition, each State offers separate investment incentives including tax waivers, land subsidies, power tariff incentives and special subsidies for development of backward areas.

Companies also constantly invest in benchmarking best practices in production processes and regularly undertake training of their employees to improve efficiency and ensure consistency in product output to maintain high product quality and competitive prices.

88 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews
89 | Ibid

## - Packaging and Storage

Due to the high cost of active and inert ingredients required for pesticide manufacturing, packaging accounts for a relatively small share of total production costs in Jordan (estimated at 4%)[90]. Nevertheless, packaging still requires special attention as the requirements for pesticide packaging are specialised (eg plastic bottles Coex or high-density polyethylene with three or four layers of plastic specifically for chemicals), reducing available supplier options when sourcing packaging material.

According to interviewed industry representatives, there are two factories in Jordan with the ability to produce this specialised packaging, allowing most Jordanian pesticides manufacturers to source their packaging locally. The general practice in the country's Pesticides subsector is to handle all packaging and storage in-house to maintain quality standards and due to the sensitive nature of the product (containing elements with high toxicity).

**Challenges and Opportunities in the Packaging and Storage Stage**

- As packaging material used by Jordanian pesticides companies is generally imported, this generates risks regarding the availability and timeliness of deliveries, potential customs delays, and minimum order requirements of foreign suppliers.
- The special conditions required for pesticides storage facilities (eg dedicated temperature-controlled areas that are well ventilated with low humidity) add to infrastructure costs for pesticide manufacturers.

**Opportunities in the Packaging and Storage Stage**

- Pesticide manufacturers operating in the country could benefit from the vertical backwards integration of packaging materials production, especially given their focus on quality and the better economies of scale (both of which factors would increase the benefits of running their own packaging supply).

**Best Practices for Packaging and Storage from Benchmark Country (India)**

Leading Indian pesticide companies are focusing on following global trends in the packaging of agrochemicals, considering the "TRIPLE S" Principles: Standardisation, Safety and Sustainability.

While some Indian pesticide manufacturers still have to import their packaging materials (mainly from China), the trend is towards local sourcing of packaging needs (seeking domestic suppliers of both standard and customised pesticide containers) in order to save costs.

In addition, leading players are seeking to adopt a model of "tolling" for their filling and packaging activities, whereby they organise the delivery of raw materials to third parties (or "tollers") in close geographical proximity, who take care of the filling of pesticides into the packaging and then deliver them as an integrated part of the value chain.

Due to the flexibility and cost competitiveness of "tollers", Indian pesticide manufacturers are able to save costs in filling and packaging activities (although they take strict measures to ensure the quality of these processes). It also means they have more resources to focus on their core areas of R & D, Marketing and Sales, and Post-Sale Services.

90 | Euromonitor International's calculations based on data from the Jordan Chamber of Industry, trade interviews

## - Distribution and Marketing

**Local Market**

Distribution of pesticides in the domestic market is generally performed through specialised retailers selling goods to the agriculture sector (eg fertilisers, agrochemicals, farming equipment), industrial goods retailers, and "agrivets". Selling points for these retail channels are generally concentrated in the cities of Amman and Irbid, which allow retailers to cover demand from the Jordan Rift Valley area (the country's main agricultural region), offering buyers a selection of both domestic and imported brands.

According to interviewed sources, pesticide manufacturers in Jordan usually prefer to handle distribution to domestic selling points themselves (charging an additional 5% of the selling price for retailers). On top of this, retailers add a mark-up in the range of 25-40% (according to interviewed representatives from retail companies), which adds up to the price of pesticides sold in the domestic market. Nevertheless, interviewed retailers also noted a decline in the average mark-up to end-buyers towards the end 2013-2018, to spur sales amid weakening domestic demand for pesticides.

For locally-manufactured products, retailers of pesticides typically engage in direct relationships with manufacturers, a structure made possible by the geographical proximity of most manufacturing and retailing facilities for pesticides around the urban areas of Amman and Irbid. For imported products, activity is generally channelled through an import agent that often manages a portfolio of imported agricultural products (e.g. fertilisers, pesticides and agrochemicals) for domestic distribution. In this case, imported products may pass through additional middlemen (distributors or wholesalers) before reaching the retailer for sale.

Marketing activities for pesticides at domestic level have a B2C component (directed to small farmers) usually consisting of promotions, flyer distribution and discounts; and a B2B component (directed at large farmers and institutional channels) including customer relationship building, incentives for purchasing in volume, and account management. Government institutions are an important institutional channel for pesticides (for the health and agricultural sector), and public health pesticides are prominent within Jordanian pesticides manufacturers' product portfolios.

The general practice for pesticide sales and marketing at a domestic level is to divide the country into different (typically four) sales areas and ensure complete coverage of these areas on a periodic basis. For example, one leading Jordanian pesticides manufacturer has a programme for visiting all domestic customers once per week across Jordan, gaining feedback from clients, getting new orders, and giving visibility to the product. Before any pesticide can be sold in the domestic market, it has to be registered with the Ministry of Agriculture, according to the details explained in the box below.

**Pesticide Registration Process in Jordan**

Registration with the Ministry of Agriculture is necessary for all domestically-produced and imported pesticides to be traded legally within the country. The necessary steps required by a pesticide manufacturer to register any given product are as follows:

- The Registration Department within a pesticide company prepares and sends a dossier with the technical specifications and analysis of the product to the Ministry of Agriculture;
- The assessment of the dossier is carried out by a Registration Committee composed of members from the Ministry of Agriculture, Ministry of Environment, Ministry of Health, University of Jordan, and Agricultural Engineering Association. The assessment period for the dossier typically takes between four and five months;
- During this assessment period, the R & D Department of the pesticide company develops the product according to the dossier specifications, including all required testing;
- Once the product is developed, samples are taken by the company's Sales Department and sent to collaborating farmers who perform trials and offer their feedback on the product;
- After the Registration Committee has completed assessment of the dossier with a positive outcome, a sample of the product is sent to the Ministry of Agriculture for testing;
- If the testing is successful and the product specifications conform to those of the approved dossier, the Ministry of Agriculture gives approval for the registration of the product. Overall, the registration process typically requires a period of six months to one year;
- In addition, the Ministry of Agriculture also carries out random checks on stocks of pesticides held by retailers and manufacturers in order to verify that they still conform to the specifications approved during registration

**Export Market**

In the case of Jordanian pesticides destined for international markets, marketing and sales activities usually start by establishing contacts and networking in a market of interest to determine the potential to sell the product in that market. Once the decision to enter a market has been made, Jordanian companies rely on trade fairs and exhibitions to search for a distributor (or on occasion an agent) to be their main sales point in the foreign market. The distributor oversees product handling and distribution, promotion, and marketing activities. To have better control over this portion of the value chain, some Jordanian pesticides companies have vertically integrated forwards to set up their own distribution companies (mainly in regional markets), which also allows them to increase efficiency of international distribution operations and guarantee the availability of their products in target countries.

**Challenges in the Distribution and Marketing Stage**

- The lengthy and expensive process for pesticide registration in most foreign countries curbs Jordanian pesticides manufacturers' opportunities to expand their export markets.
- The "parallel trade" of imported pesticides that neither pay taxes nor are registered for local sale erodes market share of domestically-produced pesticides (especially among price-sensitive farmers).
- High mark-ups charged by pesticide retailers for sales in the domestic market further reduce the competitiveness of domestically-produced pesticides compared to imported products.
- Shortage of qualified marketing personnel is a constraint especially given the focus of the subsector on exports and international expansion.

**Opportunities in the Distribution and Marketing Stage**

• Domestic pesticide companies have identified exports as the main avenue for growth of the Jordanian Pesticides subsector, given the limited size of the domestic market and the international competitiveness of Jordanian pesticides products. Nevertheless, the high costs involved in pesticide registration in major global pesticide markets such as the US and the EU, combined with stricter environmental regulations in these developed markets, make it advisable to focus first on fast-growing markets with large agriculture sectors and greater facilities for pesticide registration (eg African markets). This would allow the Jordanian Pesticides subsector to capitalise on the strong positioning of its products as "good quality at affordable prices" which has proven to be competitive in international markets, while allowing Jordanian pesticides manufacturers to develop the larger economies of scale necessary for considering expansion into more regulated markets over the longer term.

**Best Practices for Distribution and Marketing from Benchmark Country (India)**

Product launch initiatives are extensively undertaken by well-established Indian pesticides companies through structured campaigns. These are used to identify the target market and customers, create brand awareness and interest in the new product to be introduced, and engage with all stakeholders to create a deeper understanding of the product and its uses. Post-launch, companies carry out exhaustive branding activities and training of field executives. These marketing activities are usually conducted as focus group campaigns involving retailers and farmers in each region.

For export markets, companies assess the eligibility of meeting the product requirements of the import country, participate in international exhibitions and identify export agents through whom they can enter the market.

As product quality and concentration levels are key to gauging the effectiveness of a product, most companies engage in staying connected with customers in both domestic and export markets. Once the product is introduced in the target country, companies either invest in setting up a local marketing office or explore strategic partnerships that can support both the marketing and distribution of products in the export country.

In the domestic market, most companies operate a hub-and-spoke model to distribute their products across the country. To do this, they identify and partner with key distributors in each state as well as several regions within a state to ensure last-mile connectivity. Companies that have only a limited manufacturing presence, tend to operate stocking points to hold and distribute stocks on and order receipt basis. All these touchpoints are generally well integrated through an Enterprise Resource Planning (ERP) system customised to cater to the organisation's needs.

The manufacturer is responsible for delivery and logistics to the next level in the value chain, which could be a distributor/retailer/importer. Orders are generally rolled-up through a bottom-up approach from the retailer/importer through the distributor (as applicable) to the manufacturer for a period of three months on a rolling basis. This facilitates efficient production planning and stock management even during high-demand seasons.

## - End Consumers

End-users of pesticides include both the consumer segment and institutional segment. The former includes both small farmers (families with land plots generally smaller than 3.0 hectares. basing their production on seasonal vegetables for own consumption and sale in the domestic market) and large farmers or farming companies (which may own plots as large as 500 hectares. whose production is destined predominantly for export markets). The institutional segment includes government institutions such as the Ministry of Agriculture, Ministry of Health and local governments, which acquire pesticides in large volumes for agricultural Pest Management Programmes as well as for Public Health Programmes. It is estimated that public health pesticides account for about 20% of the country's total pesticide production, of which 80% is channelled to government institutions and the remaining 20% to the private sector (eg hospitals, restaurants, pest control companies).

According to managers from Jordanian pesticides companies interviewed by Euromonitor International, the main criteria considered by the consumer segment when purchasing pesticides are price and quality of the product, with small farmers placing more emphasis on price, while large farmers and farming companies tending to place more importance on quality. Regarding the institutional segment, government institutions generally open tenders to bidders utilising an economic and technical evaluation system, in which the bids that conform to minimum required technical specifications are typically shortlisted, and from these, generally the bid that is more advantageous in terms of price is selected. For exported products, Jordanian pesticides companies (through their distributors) generally focus on the consumer segment, which finds Jordanian products appealing due to their good quality (compared to Chinese-made brands) and affordable prices (lower than European products).

## - Pesticides Export Supply Chain

As described in route "A" of Chart 9 in Section 7.6.1, the following players perform activities in the pesticides value chain destined for exports markets:

**1. Distributors:** Typically carry out distribution, promotion and marketing activities for Jordanian pesticides in foreign markets, with some manufacturers engaging in vertical forward integration to set up their own distributors in foreign markets;

**2. Foreign Retailers:** Some Jordanian pesticides companies establish direct contacts with foreign retailers, a practice specially used for exports to neighbouring countries (eg Iraq and Syria).

The composition of Jordanian pesticides exports by HS codes is outlined in the table below.

**Table 29:** Composition of Pesticide Exports (by HS Code and share of subsector exports)

| | | | |
|---|---|---|---|
| **380891** | Insecticides (excluding goods of subheading 3808.50) | **65.0%** | **-31.4%** |
| **380893** | Herbicides, anti-sprouting products and plant-growth regulators (excluding goods of subheading 3808.50) | **24.0%** | **-27.4%** |
| **380894** | Disinfectants (excluding goods of subheading 3808.50)a | **7.0%** | **-40.1%** |
| **380899** | Rodenticides and other plant protection products put up for retail sale or as preparations or articles (excluding insecticides, fungicides, herbicides, disinfectants, and goods of subheading 3808.50) | **2.1%** | **68.7%** |
| **380892** | Fungicides (excluding goods of subheading 3808.50) | **1.8%** | **-62.4%** |

Source: Euromonitor International from trade interviews, secondary research
Notes: (1) Growth expressed in value terms. (2) Goods of subheading 3808.50 include those containing one or more of the following substances: aldrin (ISO); binapacryl (ISO); camphechlor (ISO) (toxaphene); captafol (ISO); chlordane (ISO); chlordimeform (ISO); chlorobenzilate (ISO); DDT (ISO) (clofenotane (INN), 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane); dieldrin (ISO, INN); 4,6-dinitro-o-cresol (DNOC (ISO)) or its salts; dinoseb (ISO), its salts or its esters; ethylene dibromide (ISO) (1,2-dibromoethane); ethylene dichloride (ISO) (1,2-dichloroethane); fluoroacetamide (ISO); heptachlor (ISO); hexachlorobenzene (ISO); 1,2,3,4,5,6-hexachlorocyclohexane (HCH (ISO)), including lindane (ISO, INN); mercury compounds; methamidophos (ISO); monocrotophos (ISO); oxirane (ethylene oxide); parathion (ISO); parathion-methyl (ISO) (methyl-parathion); pentachlorophenol (ISO), its salts or its esters; phosphamidon (ISO); 2,4,5-T (ISO) (2,4,5-trichlorophenoxyacetic acid), its salts or its esters; tributyltin compounds. Also dustable powder formulations containing a mixture of benomyl (ISO), carbofuran (ISO) and thiram (ISO).

Insecticides and herbicides dominate exports of pesticides from Jordan, accounting for 89.0% of total exports in the category in 2018. However, exports from these two products suffered from unfavourable external demand over 2014-2018, which negatively affected the performance of the entire pesticides category. The breakdown of exports by destination market can be observed in Table 30.

**Table 30:** Composition of Pesticide Exports (by Market Code and Share of Subsector Exports)

| | | |
|---|---|---|
| **Saudi Arabia** | **14.7%** | **-29.3%** |
| **Algeria** | **14.0%** | **-27.3%** |
| **Egypt** | **11.4%** | **6.9%** |
| **Sudan** | **9.1%** | **40.8%** |
| **Iraq** | **6.3%** | **-74.6%** |
| **Oman** | **5.4%** | **81.1%** |
| **Kuwait** | **3.9%** | **92.3%** |
| **Qatar** | **3.6%** | **62.0%** |
| **United Arab Emirates** | **2.8%** | **14.0%** |
| **Yemen** | **2.0%** | **-78.2%** |

Source: Euromonitor International from trade interviews, secondary research

91 | https://www.epa.gov/sites/production/files/2018-10/documents/studies-cost-estimates-sep-2018.pdf

**Challenges in Exports**

Representatives of Jordanian pesticides manufacturers interviewed by Euromonitor International noted the following as the major challenges affecting their export operations:

- Reduced price competitiveness in foreign markets due the expiry of the tax subsidy scheme for exported goods, which threatens their market share against foreign competitors;

- The high cost and long lead times for pesticide registration in some major global markets, which limits Jordanian companies' ability to access these markets. For example, the registration of a single pesticide product in the US can cost over USD2 million and take more than six years for approval, requiring considerable financial capabilities from companies accessing that market;

- At the same time, tightening pesticide regulations in major markets such as the US, the EU and China further hamper Jordanian companies' ability to enter those markets;

- Shortage of skills in the areas of marketing and sales, which are critical for Jordanian pesticides companies' strategy to focus on exports markets.

**Key Learnings from Current Pesticides Exports**

Jordanian pesticides are already competitive in international markets based on a positioning of "good quality at affordable prices" which supports demand in foreign countries.

Based on significant investment in resources needed to access major global markets such as the US and the EU and tightening environmental regulations in these markets, the best opportunity for international expansion of Jordanian pesticides products over the medium term (2019-2023) would be to focus on fast-growing markets with large agriculture sectors and relatively easier registration procedures, e.g. African markets.

The country's pesticides manufacturers would benefit from support from various stakeholders in the industry to increase their export operations. This would include training on best practices for personnel working in the production, R & D and marketing and sales areas of pesticides companies, financial help (either through credit or rebates) for the registration of pesticide products in international markets, and advice on strengthening the role of the Jordanian pesticides industry association (to become a hub for market information, best practice expertise and a bridge to international expansion opportunities).

**Potential Pesticides Export Markets**

The chosen export market for Jordanian pesticides manufacturers to focus on in the medium term is Kenya. This selection is supported by the country's large and fast-growing agricultural sector (among the leaders in Africa for both criteria), the strong expansion in imports of pesticides into the country (48.5% in volume terms over 2013-2018), and the composition of Kenya's pesticide imports (where insecticides and herbicides, the two main types of pesticides produced by Jordan, accounted for about three quarters of total imports in 2018).

Despite the stringent testing requirements to be met by aspiring exporters of pesticides, registration of pesticides in Kenya compares favourably in terms of time and cost to that of developed markets such as the US and the EU (although it can take longer than some neighbouring African countries). According to data from the Pest Control Product Board (PCPB) of Kenya, registering a pesticide in the country typically costs about USD2,000 per product after all required tests are completed and takes up to four years

## - Conclusion and Recommendations

**Conclusion**

The Jordanian Pesticides subsector presents significant opportunities to expand its international reach, provided adequate support is offered to face challenges that are affecting the industry across stages of the value chain.

**Raw Materials:** The need to import most raw materials necessary for pesticide production is the main challenge present at this stage of the value chain, due to the lack of availability of domestically-produced inputs (including active and inert ingredients), most of which are imported from China. This creates risks related to the cost and timeliness of deliveries, negotiations with foreign suppliers, and exchange rate risks. The drop in supply of raw materials from China (due to the implementation of stricter pesticide regulations in 2017) increased these risks by boosting the cost of most ingredients imported by Jordanian pesticides manufacturers. However, this situation also opened opportunities for the domestic Chemical industry to produce these raw materials, based on feasibility and potential available and explore alternate sources from other countries.

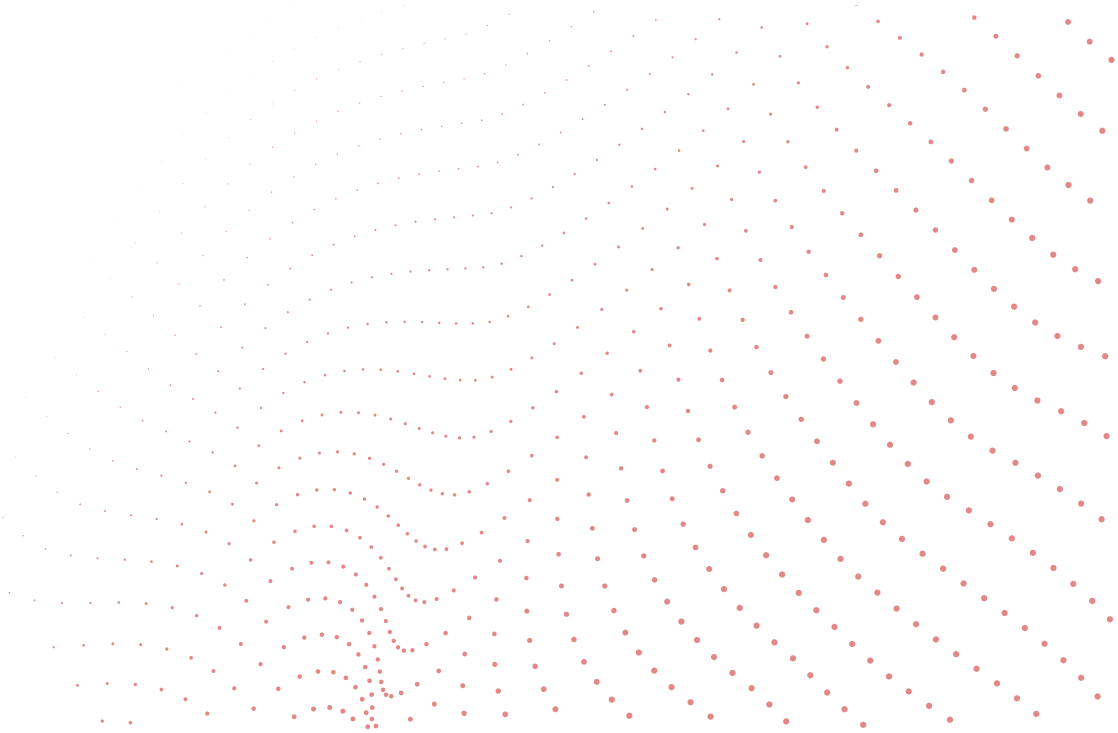
**Research and Development (R&D):** The high costs related to investment in R & D infrastructure and on getting international certifications (e.g. ISO) to ensure the quality of the R & D process as well as limitations imposed by the government (including a cap on the number of products that can be submitted annually for approval) impacts the pipeline of domestic pesticide manufacturer projects and their possibilities for portfolio expansion.

**Production:** Challenges include the expiration of the tax subsidy scheme for exported goods (impacting the price competitiveness in international markets), increasing competition from imports of inexpensive pesticides (through legal and "parallel" imports), and shortages of skilled labour in qualified positions (Chemical Engineering, Agricultural Engineering and Marketing and Sales).

**Marketing and Distribution:** The main constraint relates to the complex and expensive procedures necessary for pesticide registration in most foreign markets, which curbs Jordanian companies' capacity for international expansion. This area would require a strategy of targeting specific markets with high growth and lower levels of regulation (e.g. African markets), as well as financial support to help with the industry's development of export markets

Addressing these challenges would allow Jordanian pesticides to build on their already competitive position in international markets, amid global market dynamics characterised by availability of competitively-priced products from Southeast Asia and a trend of stricter pesticide regulations in developed countries.

Therefore, the following recommendations are presented that would help support the Jordanian Pesticides subsector in enhancing its competitiveness and getting closer to realising its full potential.



**Recommendations For GIZ**

**In the Value Chain Area**

- Introduce services to support pesticide manufacturers in their import of raw materials, such as currency hedging and trade financing, to enhance the efficiency of their operations and mitigate risks related to imports.

- Consider initiating a plan for the development of raw materials (active and inert ingredients) that have been identified as having the greatest opportunity for domestic production, to reduce the Jordanian Pesticides subsector's dependence on imported inputs and enhance economic growth through exports of these raw materials.

- Provide incentives such as subsidies, rebates and tax deductions to support the considerable R & D outlays necessary for the Jordanian Pesticides subsector to maintain its competitiveness, as well as the significant cost of registration in foreign countries.

- Offer technical support for short-term (eg seasonal) and long-term (eg market trend-based) forecasting of market demand for pesticides, which would allow companies to have better inventory management, maintain product availability, and lead to more informed decision- making.

- Strengthen the role of the pesticides industry association to adopt a role as a hub for market information, expertise for best practices, and as an advisor for international expansion.

- Provide consulting services for in-depth study of potential markets to access by Jordanian pesticides exporters, with a focus on fast-growing markets with comparatively lower pesticide registration requirements (eg the African market).

- Once the target market has been determined and products have been registered, give advice and collaborate (through financial and technical support) on market access with measures such as setting up distributors (vertical forward integration), marketing strategies (given the positioning of "good quality at affordable prices") and supporting promotional activities in the target market

**In the Regulatory Area:**

- Step up "parallel" import controls on pesticides to level the playing field with domestic pesticide products, which in any case, incur high costs deriving from taxes and registration.

- Ease limitations in terms of domestic registration of new pesticide formulations (including the cap on the number of new products allowed to be submitted for approval per year), to support the expansion of domestic pesticide manufacturer portfolios

**In the Financing Area:**

- Increase the availability of financing at affordable interest rates to help companies with the considerable cost of product registration in international markets, large investments in R & D and technology (eg the introduction or upgrading of Enterprise Resource Planning systems) and working capital.

- Given the structure of cash flows from new pesticides being introduced to international markets (where each single product requires a lengthy and costly registration before generating income), consider the introduction of a project financing model (with each product being considered a different project and its associated repayments depending on its individual future cash flow), which would also allow pooling of the risk (in case an individual product is not successful at registration)

**In the Technical/Training Area:**

- Create agreements between pesticide companies, universities and the government to create programmes to provide hands-on experience to graduates in subjects relevant to pesticide manufacturing (eg Chemical Engineering, Agricultural Engineering, Marketing), which would at the same time provide graduates with a potential career path.

- Offer training on best production practices to personnel working in the production, R & D and marketing areas of pesticide manufacturers.

- Provide manufacturers with financial and technical support for the adoption of international quality standards (eg ISO, GMP, WHO and GLP), to maintain the quality of domestically-produced pesticides.

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# Export Profiles

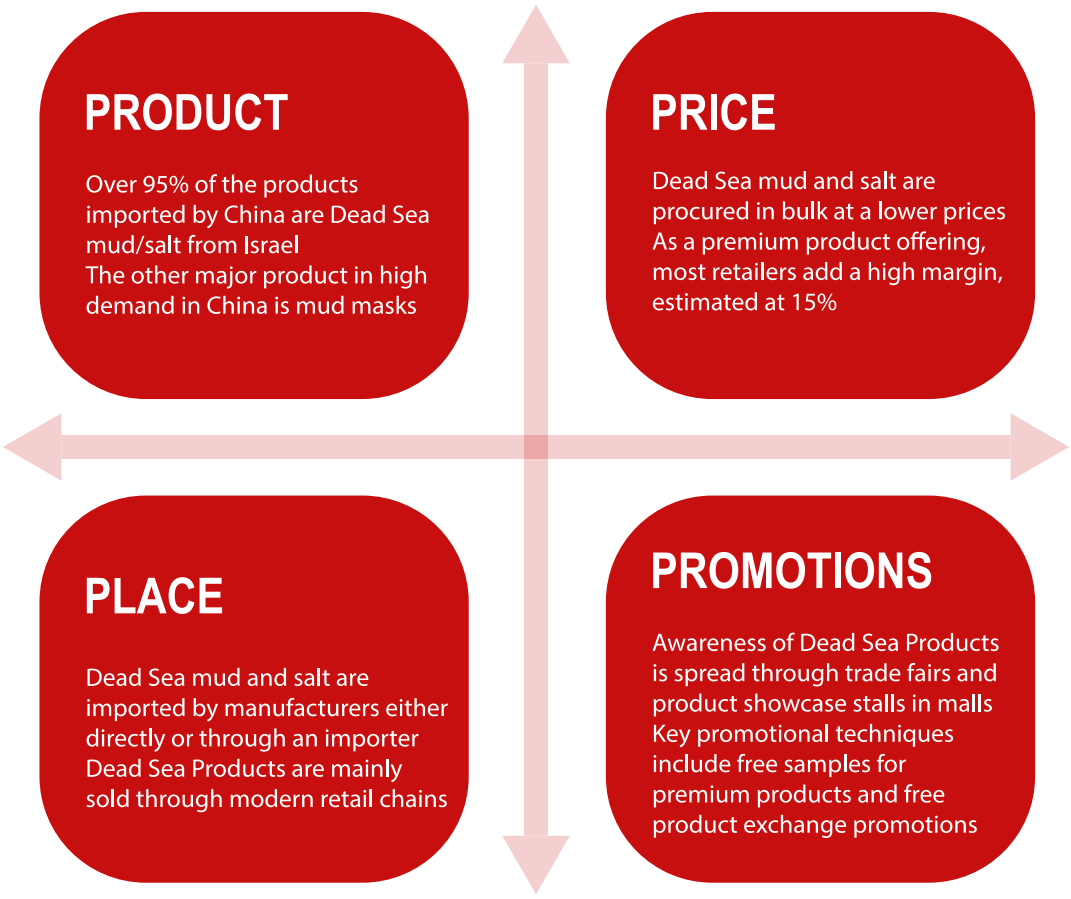
## Dead Sea Products Export Profile (China) - Background

Despite a slowing economy in China, rising consumer expenditure resulted in a robust compound annual growth rate (CAGR) of 8.6% for the Beauty and Personal Care sector for the period 2013-2018, led primarily by Skin Care products.
Dead Sea Products started growing as a segment since 2014, with AHAVA from Israel being a pioneer in promoting its range of products in China. With time, local cosmetics manufacturers began procuring Dead Sea mud and salt to be used for local manufacturing of Dead Sea Products. This resulted in the market growing to reach a value of USD466 million in 2018. This trend is likely to continue driving the market to post a CAGR of over 34% to reach an estimated USD2 billion by 2023.

## - Market Highlights

- While demand for Dead Sea Products continues to rise, many local cosmetics manufacturers are now looking to gain access to Dead Sea mud and salt to introduce new products in the market at competitive prices.
- The sector is characterised by a few, well-established players. AHAVA products lead the market with an estimated value share of over 65%. Products made by local manufacturers are expanding the product offering from its existing premium positioning to have mass market appeal.
- One major trade fair is held for Dead Sea Products in China, while several companies partner with malls or premium stores to set up stalls at different times of the year to promote Dead Sea Products
- The process of export company registration at the customs department and new product registration at the China Food and Drug Association (CFDA) takes an estimated 3-4 months.

**Chart 10:** Marketing mix of Dead Sea Products in China




Source: Euromonitor International from trade interviews, secondary research

## - Access to Market

- The Dead Sea Products subsector operates with a short supply chain. Importers/ manufacturers work either as, or optionally through, a distributor to sell products to retailers.
- All cosmetics products are imported into China through Shenzhen and Tianjin ports.
- Dead Sea Products, driven by their premium positioning, are mainly sold in Tier-1 and Tier-2 cities.
- End-product sales through retail chains are observed to be split equally between online and offline retailers. Hence, ensuring availability of end-products through both online-based distributors and store-based retailers is key to penetrating the Chinese market

## - Recommendations and Next Steps

**Short-Term/Immediate Actions**

- Leverage the know-how of current exporters of Dead Sea Products from Jordan to China;
- Actively participate in Dead Sea Products and other cosmetics trade fairs held in major Chinese cities to promote the quality of Dead Sea Products from Jordan;
- Identify importers with a well-established network of local cosmetics manufacturers producing Dead Sea Products from mud and salt as well as retailers selling premium skin care products for primary access to the market;
- Importer must register export company at customs either directly or through dedicated agents;
- Dead Sea Products planned for export must be registered with the CFDA and certification for appropriate labelling obtained once the product complies with Chinese Inspection and Quarantine (CIQ);
- Given the high quality of Dead Sea mud and salt in Jordan, it is recommended to penetrate the market by supplying Dead Sea mud and salt to local manufacturers in China. Once the brands are well established, exporters from Jordan can also explore penetrating the mud mask market;
- Introduce ready-to-market products, such as mud masks and facial creams, backed by strong direct marketing in partnership with importers to improve brand awareness

**Long-Term Action**

- In line with the growing market potential, companies could evaluate establishing a local marketing/representative office;
- Alternatively, companies could also partner with a local manufacturing facility to achieve cost efficiency and produce and/or promote its products further and deeper into China and its neighbouring East-Asian countries.

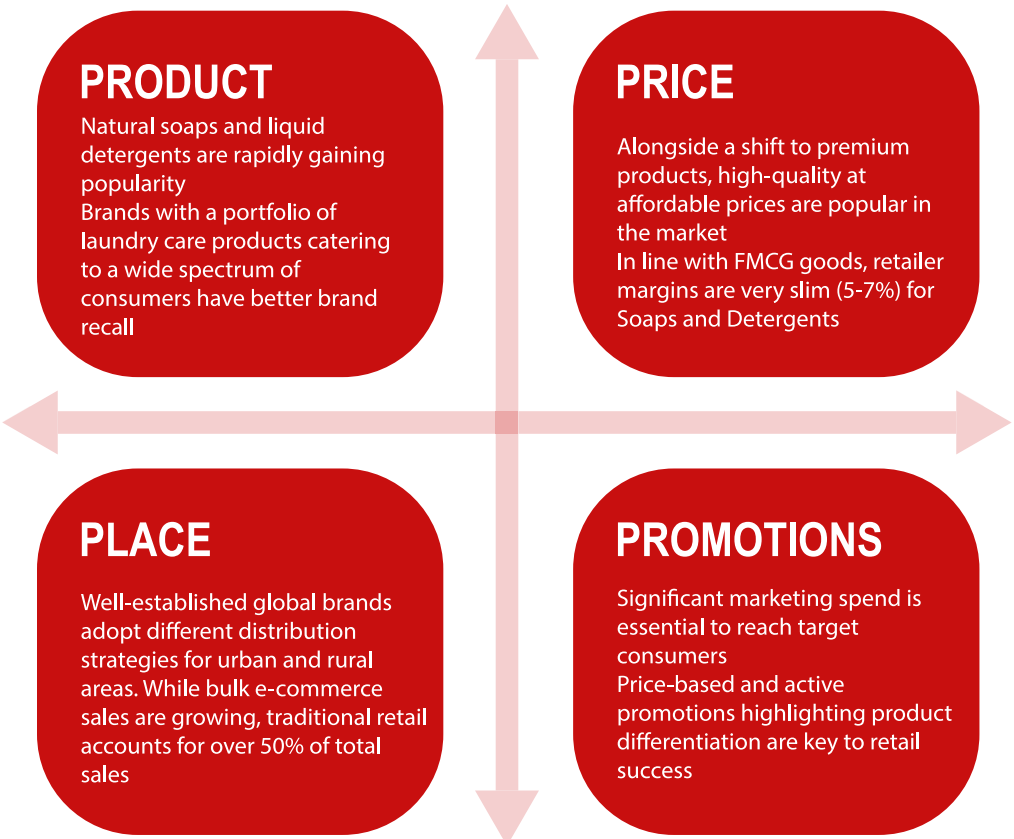
## Soaps and Detergents Export Profile (Vietnam) - Background

Vietnam is one of the fastest growing economies among the ASEAN countries. Backed by strong economic growth and rising income levels, the Home Care sector registered a compound annual growth rate (CAGR) of 8.8% for the period 2013-2018 led mainly by laundry care products (60.5% value share).
Increased sales of Soaps and Detergents was mainly driven by growing demand for laundry detergents in the region. Rapid demographic expansion resulted in the introduction of new product varieties by both local and multinational companies catering to specific consumer segments. This resulted in the market growing and reaching a value of USD1.2 billion in 2018. This trend is likely to drive the market further to expand at a CAGR of over 5% to reach an estimated USD1.6 billion by 2023.

## - Market Highlights

- The increasing focus on high potential/new retail formats, driven mainly by e-commerce and small-scale retailers augmented growth of the Soaps and Detergents subsector, with bulk sales dominating this channel.
- Despite the growing number of players, Unilever and Procter and Gamble continue to dominate the subsector with wide product portfolios, aggressive marketing campaigns and robust distribution networks.
- While soaps trends remain stable favouring multinational brands, increasing consumer expenditure per household is resulting in consumers' shifting preference to higher-quality brands in detergents.
- Imported and locally-manufactured products tend to be impacted by currency fluctuations as some raw materials for local manufacturing are also imported.
- The current market scenario with global players dominating the mass market, combined with a wide portfolio of products existing in the market, makes product differentiation and aggressive marketing a priority for new companies looking to penetrate the market.

**Chart 11:** Marketing Mix of Soaps and Detergents in Vietnam




Source: Euromonitor International from trade interviews, secondary research

## - Access To Market

- The Soaps and Detergents subsector operates with a short supply chain. Importers/Manufacturers work either as, or optionally through, a distributor to sell products to retailers of different formats.
- Key channels contributing significantly are traditional groceries and supermarkets.
- Estimated shipment time for products from the Middle East to Vietnam is 35 days. Products are then examined by customs before being picked up for local transportation by the importer.
- Considering the high demand for Soaps and Detergents, manufacturers and distributors generally operate warehouses to stock up to 15% of the total import/production value.
- Well-established companies either have a local facility or have partnered with Vietnamese manufacturers to achieve lower costs and offer affordable products to the large mass-market consumer segment.
- Hai Phong, Qui Nhon and Ho Chi Minh City are the key ports for trading fmcg goods in Vietnam.

## - Recommendations and Next Steps

**Short-Term/Immediate Actions**

- As all product segments are catered to by leading multinational brands (Unilever and Procter and Gamble), importers/distributors with a well-established network of grocery retailers/ convenience stores in Tier-2 and lower-tier cities are the primary buyers new market entrants should approach;
- Approval of significant marketing spend is required to promote the product, its offering and differentiation in the market;
- An agent should be identified to facilitate the customs and product registration process in Vietnam. Vietnam currently imports fertilisers in bulk from Jordan, which confirms an established route with customs and importers. Soaps and Detergents manufacturers could leverage this knowledge to expedite company registration and market entry;
- Given the country's wide demographic and socioeconomic spread, companies should approach the market with product offerings catering to the entire income spectrum;
- Based on the brand recall established in target markets (Tier-2 and lower cities), companies could introduce separate brands or extend their current product offering to Tier-1 cities

**Long-Term Action**

- Based on the success of products launched and established in Vietnam, Jordanian companies could explore the feasibility of a partnering with a local manufacturer to reduce costs and increase both market penetration and profit margins for the company.

## Pesticides Export Profile (Kenya) - Background

Despite political instability and significant fiscal deficits in the country, Kenya is slated for strong economic growth, driven largely by the agriculture sector which contributes over 25% of the country's GDP. Given Kenya's strong access to basic chemicals, the Chemical industry registered a compound annual growth rate (CAGR) growth of 4.9%, in value terms for the period 2013-2018, led mainly by Pesticides and Agrochemicals products.

Use of pesticides in Kenya has been driven, in recent years, by the increasing education of farmers on the correct use of pesticides and a shift to irrigation-led farming. This resulted in the market growing marginally at a CAGR of 1.1% from USD171.7 million in 2013 to USD181.5 million in 2018.

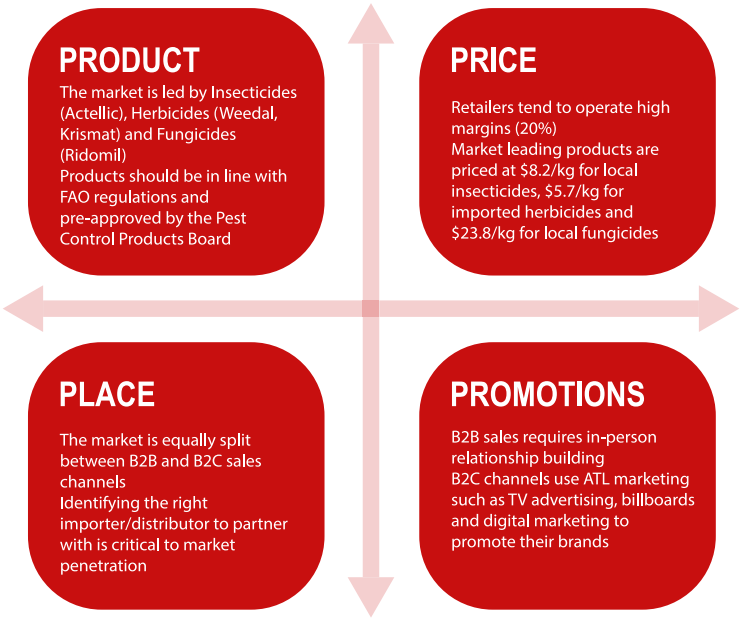
However, an estimated 15% of total market consumption is catered to by counterfeit products from the neighbouring countries of Tanzania and Uganda, and the introduction of 16% value-added tax (VAT) on pesticides is likely to augment the penetration of counterfeit products in the country.

Backed by the swift adoption of mechanisation and technology, agricultural produce from Kenya is estimated to post a CAGR of 8.1% for the period 2018-2023 reaching an estimated value of USD46.5 billion. The Pesticides subsector is therefore slated to expand at a CAGR of 5.1% in value terms, to reach USD232.2 million in 2023.

## - Market Highlights

- The subsector comprises around 85 agrochemical companies dealing in manufacturing or importing pesticides for use in Kenya.
- Half of the pesticides imported are fungicides, 20% are insecticides, 20% are a combination of herbicides, acaricides, rodenticides and nematicides, while the remaining imports comprise other pesticides and disinfectants.
- Kenya is aggressively implementing precision agriculture and automating several processes including a transition from rain-fed to irrigated agriculture and an increasing focus on drought-resistant crops. The growing focus on agriculture is likely to augment demand for pesticides and agrochemical products.
- China leads in the export of pesticides and active ingredients to Kenya, followed closely by India. Lower-priced products and long-standing relationships between these countries and Kenya has helped to establish their products in the market.
- Despite strong imports, the market is led by local manufacturers offering high-quality products at affordable prices thereby maintaining a high level of competitiveness in the market.
- Kenya has a detailed and lengthy registration process for the import of pesticides and its variants, which is estimated to take several months or even years. Both chronic and acute tests are mandatory for all new products introduced into the country. This becomes a significant trade barrier as many countries, including Jordan, find chronic test compliance to be very expensive.
- Imported and locally-manufactured products tend to be impacted by currency fluctuations as major raw materials for local manufacturing are also imported.
- Most companies thrive on long-term relationships established with their customers. While ensuring product approvals is a priority, developing trust among local players is key to penetrating an otherwise well-established and highly competitive market

**Chart 12:** Marketing mix of Pesticides in Kenya




Source: Euromonitor International from trade interviews, secondary research

## - Access to Market

- The Pesticides subsector operates with a short supply chain. Importers/manufacturers work either as, or optionally through, a distributor to sell pesticides to B2B consumers or retailers.
- Product demand and key distribution channels are equally split between fumigation companies, large farms and agrovet stores.
- Estimated shipment time for products from the Middle East to Kenya ranges between 30-45 days. Customs clearance is usually fast if all required documents are submitted and the product is deemed safe for consumption. Added to this, with new standard gauge rail (SGR) operating from Mombasa Port to Nairobi and beyond, local shipment time has dropped from 10 hours by road to four hours by rail.
- Most distributors operate warehouses with all requisite compliance to ensure complete safety for storage of pesticides and similar hazardous chemicals.
- Most local manufacturers also operate a "managed services" division that offers import and distribution services to companies seeking to penetrate the market in Kenya. This helps them attract additional revenue and know-how by distributing imported products.
- Mombasa is the key port for trade of chemical products in Kenya.
- Key regions with increased sales of pesticides include Central and Mount Kenya, Western Kenya and the Rift Valley which are prominent agricultural regions

## - Recommendations and Next Steps

**Short-Term/Immediate Actions**

- As a first step, aspiring exporters from Jordan should connect with the Pest Control Products Board (PCPB) to obtain the list of tests to be conducted for products imported from Jordan. The company would also have to register its trade and products with the Kenyan customs authority:
  Most products require both chronic and acute test compliance to export pesticides into Kenya. Jordanian companies should study the requirements, evaluate feasibility, complete the necessary tests and finalise the products to be exported to Kenya;
  Based on the current establishments, the process of penetrating the market is expected to take at least a year, if not more, depending on product complexity.
- Exporting companies should evaluate available distributors to decide between using the managed services of a local manufacturing facility or working with an importer-cum-distributor. If market entry is found to be feasible, partners could help expedite the registration process;
- Once required approvals are available, companies could also evaluate an option of establishing a local storage centre in Kenya, which is accessible to distributors.

**Long-Term Action**

- Based on capital available for investment, companies looking to remain invested in Kenya, could explore establishing a facility that imports the required semi-finished pesticides or agrochemical products in bulk, reformulating them as required to make finished products, re-packaging and selling them as a locally-manufactured product to gain manufacturing subsidies

# SWOT Analysis

Following the exhaustive analysis of the three selected subsectors for study within the Jordanian Chemical industry (Dead Sea Products, Soaps and Detergents, and Pesticides), the following inferences can be made regarding competitive positioning (within the SWOT framework) as a base for strategic planning.

## Strengths and Weaknesses

**Table 31:** Strengths of the Jordanian Chemical Industry

| STRENGTH | IMPACT ON INDUSTRY |
|---|---|
| 1. Availability of local raw materials | Jordan's important reserves of potash, phosphates and bromates are an ample source of raw materials for the different subsectors of the country's Chemical industry. In some cases, they provide significant competitive advantages (e.g. Dead Sea mud for Dead Sea Products). |
| 2. Important contributor to the economy | The Jordanian Chemical industry represented about one-quarter of the country's total manufacturing output and 3.0% of total Gross Value Added (GVA) in 2018, while directly and indirectly employing a total of about 53,300 persons in the same year. |
| 3. Export driven | A total of 62.7% of total Chemical production in Jordan is channelled to export markets, with total exports from the industry amounting to US$2.0 billion in 2018. This represents a valuable source of foreign exchange inflows for the country. |
| 4. Human capital | The share of Jordan's population aged 15+ with higher education reached 12.8% in 2018 (higher than the Middle East and Africa average of 9.9% in the same year). This supports general availability of qualified labour for the Chemical industry (except for certain specific positions). |
| 5. Governance and policies | The Chemical industry benefits from the visible role of Jordanian institutions like the Ministry of Trade and Industry, Jordan Food and Drug Administration, Jordan Chamber of Industry and Jordan Investment Commission, whose work is earmarked within the country's long-term strategy 'Vision Jordan 2025'. |
| 6.Private sector incentives | The country's regulatory framework provides a set of incentives to promote private sector participation in the manufacturing sector (including the Chemicals industry), with a system of Special Economic Zones (SEZs) as its flagship programme. |
| 7. Openness to foreign trade and investment | The welcoming stance of Jordanian policymakers towards free trade and foreign direct investment (FDI) has provided considerable benefits to the Chemical industry, like the formation of free trade agreements with the USA, EU and GCC, and a transparent and pro-business regulatory framework that favours FDI into the country. |

Source: Euromonitor International's research from secondary sources

**Table 32:** Weaknesses of the Jordanian Chemical Industry

| WEAKNESS | DESCRIPTION |
|---|---|
| 1. Relatively low value added of Chemical products | The Jordanian Chemical industry is still dominated by sectors with relatively low value added, such as Oil Refining Products, Inorganic Chemicals, Organic Chemicals, and Fertilizers, which together account for 94% of total production.The Jordanian Chemical industry is still dominated by sectors with relatively low value added, such as Oil Refining Products, Inorganic Chemicals, Organic Chemicals, and Fertilizers, which together account for 94% of total production. |
| 2. Lack of economies of scale | The lack of economies of scale for most subsectors in the country's Chemical industry (except notable exceptions like Inorganic Chemicals) is a key disadvantage compared to foreign countries, such as China, India, and Saudi Arabia, which can offer more competitive prices due to the large scale of their operations. |
| 3. Rising competition in foreign and domestic markets | Jordan's Chemical products are facing increasing competition domestically and abroad at the both higher (high-quality US and European products) and lower (inexpensive South East Asia products) ends of the market. This makes it necessary to choose an adequate positioning for Jordanian products and implement it effectively.Jordan's Chemical products are facing increasing competition domestically and abroad at the both higher (high-quality US and European products) and lower (inexpensive South East Asia products) ends of the market. This makes it necessary to choose an adequate positioning for Jordanian products and implement it effectively. |
| 4. Pressure on profit margins | The rising cost of utilities like water, electricity and telecommunications, combined with increasing competition and a challenging external environment are reducing profit margins and investment capacity of Jordanian Chemical companies. |
| 5. Lack of hands-on experience among graduates | While there is adequate availability of graduates in relevant careers in the domestic market, Jordanian Chemical companies report a skills gap between theoretical knowledge for technical positions and the actual skills necessary to perform the job functions, which increases training costs for businesses. |
| 6. Limited access to financing | Lack of access to financing for companies operating in Jordan's Chemical industry (especially SMEs) constrains their ability to expand capacity, invest in technology and innovation, and access international markets. |
| 7. Insufficient focus on marketing | The welcoming stance of Jordanian policymakers towards free trade and foreign direct investment (FDI) has provided considerable benefits to the Chemical industry, like the formation of free trade agreements with the USA, EU and GCC, and a transparent and pro-business regulatory framework that favours FDI into the country. |
| 8. High levels of red tape | Excessive bureaucratic procedures (in aspects like GST refunds, customs clearance, and testing/audits by government bodies) reduce the competitiveness of the country's Chemical industry and increase the need for short-term financing. |

Source: Euromonitor from trade sources

## Opportunities and Threats

**Table 33:** Opportunities for the Jordanian Chemical Industry

| OPPORTUNITY | DESCRIPTION |
|---|---|
| 1. Develop higher value added products | There is an opportunity to develop the value chain of subsectors like Dead Sea Products, Soaps and Detergents and Pesticides to capture a higher portion of value that is currently claimed by other players at different stages of these industries' value chains. |
| 2. Maximise export potential | The limited size of the Jordanian market makes it necessary to focus on exports to develop the country's Chemical industry and attain larger economies of scale. Measures in this area should be focused on identifying key export markets for Jordanian Chemical products, conducting in-depth research of these markets, and devising a market-access strategy. |
| 3. Strengthen role of industry stakeholders | Different stakeholders have an opportunity to increase their support of the domestic Chemical industry, including government (by easing regulations and stepping up incentives), industry associations (support with market information, expertise and foreign market-access advice), and international organisations (channelling technical and financial support to critical areas to enhance the efficiency of the Chemical value chain). |
| 4. Emphasise marketing of Jordanian chemicals | Set a positioning for different domestic Chemical industry products in international markets (potential choices have been provided in this study) and develop a comprehensive marketing plan including the areas of customer need, communication, cost and product access. |
| 5. Focus on innovation | The rise of China as a power in the global Chemical industry, based on the export of inexpensive products (a strategy also used to a lesser extent by other Asian countries), makes it necessary for the Jordanian Chemicals industry to focus on differentiation over the long term. As it is not possible to match China in terms of price (due to their labour cost advantage and large economies of scale), Jordanian Chemical manufacturer efforts should be directed towards R&D, value addition and brand creation. |

Source: Euromonitor from trade sources

**Table 34:** Threats to the Jordanian Chemical Industry

| THREAT | DESCRIPTION |
|---|---|
| 1. Regulatory risks | Frequent changes in regulations, higher taxation and the expiry of the subsidy scheme on exported goods are widespread concerns among Jordanian Chemical companies, due to their negative impact on competitiveness. |
| 2. Volatility in commodity prices | Changes in global commodity prices are a risk to the country's Chemical industry, as over 50% of exports comprise potash, phosphates and basic fertilizers that use these two inputs. |
| 3. Consolidation of the chemical industry at a global level | The trend towards consolidation of the global Chemical industry (through mergers, acquisitions, and growth of players in emerging markets like China) allows competitors to improve their efficiency and reach larger economies of scale, posing a risk to Jordan's Chemical industry. |
| 4. Regional political instability | Political instability in the Middle East region is a major risk factor for the development of Jordan's Chemical industry, resulting in the closure of trade routes, loss of access to international markets, and an uncertain environment for investors. |
| 5. Tightening global regulations on the use of chemicals | Stricter environmental regulations (e.g. regarding the use of phosphates or pesticides) in developed markets, such as the USA and EU, represent an increasing challenge for Jordanian Chemical manufacturers, which must incur on increased costs to gain access to these markets. |
| 6. Controls on imported chemicals | Insufficient control on imported goods results in the flow of "parallel" imports of Chemical products into the Jordanian market, resulting in unfair competition from illegal products that do not have to cover costs of taxes, tariffs or registration. |
| 7. Insufficient focus on marketing | The welcoming stance of Jordanian policymakers towards free trade and foreign direct investment (FDI) has provided considerable benefits to the Chemical industry, like the formation of free trade agreements with the USA, EU and GCC, and a transparent and pro-business regulatory framework that favours FDI into the country. |
| 7. External Shocks | The possibility of external shocks to the Jordanian economy (due to an uncertain global geopolitical, economic and financial environment) could hamper the development of the country's Chemical industry over the long term. |

Source: Euromonitor from trade sources

# Recommendations (Opportunities for GIZ)

## Overview

Based on analysis of the current situation of Jordan's Chemical industry, as well as the objectives of this study (bolstering economic development, ecosystems efficiencies and export demand potential), the following recommendations could be considered by GIZ to help develop the sector over the medium term (three to five years).

## Strategic Directions Road Map

| STAGE IN VALUE CHAIN | RAW INGREDIENTS/MATERIALS |
|---|---|
| DESCRIPTION | The introduction of an IT platform for centralised purchasing of raw materials at sector (e.g. Chemicals) or subsector (e.g. Soap & Detergents) level would allow aggregate purchases of inputs by Jordanian Chemical manufacturers. In addition to procurement services, centralised buying of inputs could be complemented by offering services such as currency exchange hedging and trade financing to support manufacturers' import operations. |
| INVOLVED STAKEHOLDERS | Manufacturers<br>Industry Associations |
| POTENTIAL IMPACT | • The aggregation of raw material orders from Jordanian Chemical manufacturers would allow them to attain better leverage in their relationship with both domestic and international suppliers.<br>• This would result in better negotiating terms, volume discounts and lower costs for the country's Chemical producers.<br>• In addition, potential services such as currency hedging and trade financing would help reduce the risks involved in international trade transactions for the procurement of raw materials. |
| OPPORTUNITY TIMELINE | SHORT-TERM OPPORTUNITY |

| STAGE IN VALUE CHAIN | FINANCING |
|---|---|
| DESCRIPTION | Back a partnership between the Jordanian government, financial institutions and international financing organisations to set up dedicated funding programmes for the Chemical industry. These programmes should consider specific industry needs in terms of financing requirements and future cash flows (e.g. by setting up modalities of project financing). |
| INVOLVED STAKEHOLDERS | Manufacturers<br>Government Agencies<br>Financing Institutions |
| POTENTIAL IMPACT | • Credit at affordable interest rates would provide Jordanian Chemical producers with resources for capacity expansion, investment in R&D, and access to international markets.<br>• The provision of funds using a project financing model would allow manufacturers to afford the initial large investment in R&D and repayment of the loans with cash flow from future product sales. |
| OPPORTUNITY TIMELINE | SHORT-TERM OPPORTUNITY |

| STAGE IN VALUE CHAIN | EXPORTS |
|---|---|
| DESCRIPTION | The facilitation of consulting services at subsidised fees for Jordanian Chemical exporters to emphasise aspects like identification of new target countries for exports, in-depth studies of potential new markets, and advice on market-access strategies. |
| INVOLVED STAKEHOLDERS | Manufacturers<br>Foreign Aid Organisations |
| POTENTIAL IMPACT | • Exports being one of the strategic cornerstones of the development of Jordan's Chemical industry, support in this area would fill considerable skills gaps when it comes to finding ways to access international markets.<br>• If tailored to assess the specific market and product situations of the diverse subsectors of the country's Chemical industry and their individual products, consulting services provided by foreign aid organisations or third parties would benefit all industry players. |
| OPPORTUNITY TIMELINE | SHORT-TERM OPPORTUNITY |

| STAGE IN VALUE CHAIN | PEOPLE/HUMAN RESOURCES |
|---|---|
| DESCRIPTION | Set up courses, seminars and consulting services to impart knowledge on global best practices in the different stages of the global Chemical value chain. |
| INVOLVED STAKEHOLDERS | Manufacturers<br>Foreign Aid Organisations<br>Higher Education Institutions |
| POTENTIAL IMPACT | • The transmission of knowledge on best practices from national and international experts in the global Chemical industry value chain would help manufacturers gain awareness and understand the benefits of current business practices to support the development of their businesses.<br>• Facilitating access to consulting services for the implementation of best practices based on standards like ISO, GMP or GLP, would also support manufacturers in getting their certifications to achieve these global standards.<br>• Engagement of experts from international development bodies like ILO, World Bank, UNDP, etc. or retired experts from the industry will help market players gain access to valuable industry insights at low costs |
| OPPORTUNITY TIMELINE | SHORT-TERM OPPORTUNITY |

| STAGE IN VALUE CHAIN | PEOPLE/HUMAN RESOURCES |
|---|---|
| DESCRIPTION | Back collaboration between Chemical industry manufacturers, government agencies and higher education institutions to develop on-the-job training programmes for graduates in relevant careers to the Chemical industry. |
| INVOLVED STAKEHOLDERS | Manufacturers<br>Government Agencies<br>Universities |
| POTENTIAL IMPACT | • The establishment of practical training programmes in careers like Chemical Engineering, Mechanical Engineering, and Marketing and Sales would help graduates develop the actual skills necessary for job performance in chemical companies.<br>• This would also provide graduates in these fields of study with potential career paths once they complete their education, while offering companies high-potential candidates for recruitment after graduation. |
| OPPORTUNITY TIMELINE | SHORT-TERM OPPORTUNITY |

| STAGE IN VALUE CHAIN | GOVERNANCE |
|---|---|
| DESCRIPTION | Advise government authorities (with feedback from industry players) on regulatory and policy measures that would increase the efficiency of the country's chemical value chain and support long-term development of the industry. This could include aspects like the reduction of red tape (on GST refunds, testing/audit processes and customs clearance), or policy changes impacting the Chemical industry or a specific subsector (e.g. setting up a "cooperative" model for the functioning of the Dead Sea Product subsector). |
| INVOLVED STAKEHOLDERS | Foreign Aid Organisations<br>Government Authorities<br>Industry Associations |
| POTENTIAL IMPACT | • As the proposals would have input from players in the Chemical industry, they would tackle relevant, day-to-day problems affecting the industry.<br>• At the same time, the streamlining of regulations and the implementation of more favourable policies would support growth of the sector and make it more attractive to foreign investors. |
| OPPORTUNITY TIMELINE | SHORT-TERM OPPORTUNITY |

| STAGE IN VALUE CHAIN | GOVERNANCE |
|---|---|
| DESCRIPTION | In addition to forums for discussing and developing industry-wide initiatives, industry associations related to the Chemical industry could adopt a more technical role in supporting the operations of their members, by becoming hubs for market information, transmission of expertise, and a bridge to opportunities for international expansion. |
| INVOLVED STAKEHOLDERS | Manufacturers<br>Industry Associations<br>Government Agencies |
| POTENTIAL IMPACT | • Due to their level of specialisation and expertise in the different areas of the Chemical industry, industry associations are in an ideal position to become the "Go To" player for supporting the activities of the country's chemical manufacturers.<br>• The provision of information and studies on potential international markets, transmission of best practices through consulting and training, and the offering of advice for international expansion strategies would extend the benefits of industry associations to SMEs, which currently have neither the resources nor expertise to engage in these activities. |
| OPPORTUNITY TIMELINE | SHORT-TERM OPPORTUNITY |

| STAGE IN VALUE CHAIN | R&D |
|---|---|
| DESCRIPTION | Propose (or partially fund) the introduction of incentive schemes, such as tax deductions, rebates and subsidies on R&D spending for companies operating in Jordan's Chemical industry. |
| INVOLVED STAKEHOLDERS | Government Authorities<br>Industry Associations |
| POTENTIAL IMPACT | • The implementation of these schemes would help to bolster investment in this area, which has been identified as strategic for the long-term development of the country's Chemical industry.<br>• At the same time, it would bolster the competitiveness of the overall Chemical industry and help it differentiate itself from inexpensive products from South East Asia over the medium to long term. |
| OPPORTUNITY TIMELINE | MEDIUM-TERM OPPORTUNITY |

| STAGE IN VALUE CHAIN | MARKETING |
|---|---|
| DESCRIPTION | Support an overhaul of the marketing approach in Jordan's Chemical industry from the current model based on isolated efforts to engage in international trade fairs to a comprehensive marketing strategy aimed at effectively accessing international markets |
| INVOLVED STAKEHOLDERS | Manufacturers<br>Foreign Aid Organisations<br>Industry Associations |
| POTENTIAL IMPACT | • The introduction of a complete marketing strategy would allow the choice of an adequate positioning for a given Jordanian Chemical product in international markets.<br>• Based on this positioning, the strategy would include steps to achieve this positioning through consideration of customer needs, communication, cost and access to the product. |
| OPPORTUNITY TIMELINE | SHORT-TERM OPPORTUNITY |

# Appendix I – Selection Process for Chemical Subsectors

## First Criteria: Economic Development – Overview

| METRIC | DEFINITION | CALCULATION SUMMARY | RANGE |
|---|---|---|---|
| **Number of companies** | Manufacturing businesses currently operating in a given subsector whether dealing in parallel activities like marketing, trading, distribution, etc. | 640 manufacturing companies identified were apportioned based on the following:<br>• Actual number of companies for 4 major subsectors from secondary research and for 3 subsectors from trade interviews<br>• Companies exporting from Jordan taken as a reference to derive the number of companies for the remaining subsectors | **LOW**<br>**1 – 29 companies**<br>**MEDIUM**<br>**130 – 40 companies**<br>**HIGH**<br>**41+ companies** |
| **Nature of Products** | Whether it is processed or raw material product | Qualitative assessment based on the major portfolio of products in each subsector | **Raw Material**<br>**Intermediate products / Mix of products**<br>**Finished products** |
| **Extent/ Degree of Added Value** | Extent of conversion or enhancement of a raw material to offer a finished product to a customer in the subsector, using local or imported ingredients | Assessed based on an aggregation of:<br>• Comparison of the value of intermediate goods consumed to the total output as an indicator of value added across the process<br>• Average price of exports per tonne (US$/ton) as a quantitative alternate to value addition<br>• Qualitative assessment of the extent of development of each subsector based on the nature of end products | Estimated value addition is: **LOW** / **MEDIUM** / **HIGH** |

## - Evaluation

| RANK | NUMBER OF COMPANIES | PRODUCTION CAPACITY IN TONNES | NATURE OF END PRODUCTS | VALUE ADDITION |
|---|---|---|---|---|
| 1 | Shampoos, hair sprays, cosmetics and shaving preparations. | 42 | Finished products | High |
| 2 | Soaps, detergents, cleaning and polishing preparations | 72 | Finished products | Medium |
| 3 | Perfumes and cosmetics. | 33 | Finished products | High |
| 4 | Petrochemicals (plastics and plastic articles) | 92 | Intermediate goods /Finished products | Medium |
| 5 | Pesticides and other agricultural chemicals | 7 | Finished products | High |
| 6 | Dyes, paints and similar coatings | 16 | Finished products | High |
| 7 | Printing inks | 4 | Finished products | High |
| 8 | Explosives and matches | 2 | Finished products | High |
| 9 | Lighting products, paintings, photographs and films | 2 | Finished products | High |
| 10 | Anti-freeze materials, fluids processing and hydraulic transport processors | 38 | Finished products | Medium |
| 11 | Refined and processed salt | 159 | Intermediate goods /Finished products | Low |
| 12 | Dead Sea Products (salts, mud, natural cosmetics materials) | 15 | Finished products | Medium |
| 13 | Gum and glue | 27 | Intermediate goods /Finished products | Medium |
| 14 | Fertilizers | 7 | Finished products | Low |
| 15 | Inorganic chemicals materials (potash and phosphate) | 89 | Raw material | Low |
| 16 | Materials used in the completion of tissue processing and dyeing | 8 | Intermediate goods /Finished products | Low |
| 17 | Oil refined products | 1 | Raw material/ Intermediate goods/ Finished products | Medium |
| 18 | Organic chemical materials | 26 | Raw material | Medium |

## Second Criteria: Economic Efficiencies – Overview

| METRIC | DEFINITION | CALCULATION SUMMARY | RANGE |
|---|---|---|---|
| **Production Capacity** | The capacity installed for production by companies in each of the 18 subsectors is taken as a representative of the industry size | Capacity information from trade and company annual reports were considered for major companies in 3 main subsectors. Estimates for the remaining sectors were derived based on:<br>• Average capacity of small and medium enterprises (estimated at 75% of the total chemical industry in Jordan) benchmarked for the same subsector globally<br>• Other data as available through secondary research to support the capacity estimation<br>• International trade data (exports and imports) used to adjust production data | **LOW**<br>**Less than 10,000 tonnes**<br>**MEDIUM**<br>**10,000 and 100,000 tonnes**<br>**HIGH**<br>**More than 100,000 tonnes** |
| **Access to Raw Materials** | Domestic availability of raw materials required by a subsector | Qualitative assessment based on secondary research | **LOW**<br>**No access**<br>**MEDIUM**<br>**Access to some raw materials**<br>**HIGH**<br>**Full Access to raw materials** |
| **Impact on Employment** | Measuring the contribution of each subsector to employment, this metric captures a combination of new positions per tonne and labour intensity | • An estimate of production in volume terms derived from capacity and utilisation, by the estimated number of employees per subsector (sourced from secondary research)<br>• Labour intensity index is derived by benchmarking with corresponding industries in USA and from NBER-CES manufacturing industry database | **LOW**<br>**MEDIUM**<br>**HIGH** |
| **Impact on Employment** | Measuring the contribution of each subsector to employment, this metric captures a combination of new positions per tonne and labour intensity | • An estimate of production in volume terms derived from capacity and utilisation, by the estimated number of employees per subsector (sourced from secondary research)<br>• Labour intensity index is derived by benchmarking with corresponding industries in USA and from NBER-CES manufacturing industry database | **LOW**<br>**No access**<br>**MEDIUM**<br>**Access to some raw materials**<br>**HIGH**<br>**Full Access to raw materials** |

## - Evaluation

| RANK | SUBSECTOR | PRODUCTION CAPACITY IN TONNES | ACCESS TO RAW MATERIALS | IMPACT ON EMPLOYMENT |
|---|---|---|---|---|
| 1 | Inorganic chemicals materials (including potash and phosphate) | 11,388,000 | Good | Low |
| 2 | Fertilizers | 2,930,000 | Good | Low |
| 3 | Organic chemical materials | 1,375,000 | Good | Low |
| 4 | Soaps, detergents, cleaning and polishing preparations | 554,314 | Good | Medium |
| 5 | Shampoos, hair sprays, cosmetics and shaving preparations. | 56,060 | Good | High |
| 6 | Perfumes and cosmetics. | 9,223 | Good | High |
| 7 | Explosives and matches | 112 | Good | High |
| 8 | Gum and glue | 6,571 | Good | High |
| 9 | Refined and processed salt | 85,167 | Good | Medium |
| 10 | Dead Sea Products (salts, mud, natural cosmetics materials) | 7,744 | Good | High |
| 11 | Dyes, paints and similar coatings | 171,172 | Medium | Medium |
| 12 | Printing inks | 16,495 | Medium | High |
| 13 | Oil refined products | 5,110,000 | Low | Low |
| 14 | Pesticides and other agricultural chemicals | 19,492 | Good | Low |
| 15 | Lighting products, paintings, photographs and films | 146 | Medium | High |
| 16 | Anti-freeze materials, fluids processing and hydraulic transport processors | 935 | Medium | High |
| 17 | Materials used in the completion of tissue processing and dyeing | 3,586 | Medium | High |
| 18 | Petrochemicals (including plastics and plastic articles) | 331,775 | Low | Low |

## Third Criteria: Export Demand Potential – Overview

| METRIC | DEFINITION | CALCULATION SUMMARY | RANGE |
|---|---|---|---|
| **Exports (value terms)** | Annual value of exports in value terms for a given subsector for 2018 | Figures are based on aggregation of exports value under multiple HS codes for each subsector | LOW<br>**Less than US$10Mn.**<br>MEDIUM<br>**US$10Mn. To US$100Mn**<br>HIGH<br>**More than US$100Mn.** |
| **Exports (volume terms)** | Annual value of exports in volume terms for a given subsector for 2018 | Figures are based on aggregation of exports volume under multiple HS codes for each subsector | LOW<br>**Less than 10,000 tonnes**<br>MEDIUM<br>**10,000 to 100,000 tonnes**<br>HIGH<br>**More than 100,000 tonnes** |
| **Impact on employment** | Measuring the contribution of each subsector to employment, this metric captures a combination of new positions per tonne and labour intensity | • An estimate of production in volume terms derived from capacity and utilisation, by the estimated number of employees per subsector (sourced from secondary research)<br>• Labour intensity index is derived by benchmarking with corresponding industries in USA and from NBER-CES manufacturing industry database | LOW<br>**Less than 10,000 tonnes**<br>MEDIUM<br>**10,000 to 100,000 tonnes**<br>HIGH<br>**More than 100,000 tonnes** |
| **Exports Potential** | Potential increase in the amount of exports in value terms to global markets | Estimated based on Exports Potential Indicator in the International Trade Corporation (ITC) database which factors supply, demand and ease of trade | LOW<br>**Less than US$ 1Mn.**<br>MEDIUM<br>**US$ 1Mn. to US$ 10Mn.**<br>HIGH<br>**More than US$ 10Mn.** |

## - Evaluation

| RANK | SUBSECTOR | VALUE EXPORTS (US$) | VOLUME EXPORTS (TONNES) | EXPORTS POTENTIAL |
|---|---|---|---|---|
| 1 | Fertilizers | 656,757,000 | 2,743,187 | High |
| 2 | Inorganic chemicals materials potash and phosphate) | 384,631,000 | 965,732 | High |
| 3 | Petrochemicals (including plastics and plastic articles) | 270,005,000 | 164,049 | High |
| 4 | Organic chemical materials | 17,470,000 | 4,628 | High |
| 5 | Soaps, detergents, cleaning and polishing preparations | 93,759,000 | 203,475 | Medium |
| 6 | Oil refined products | 10,390,000 | 15,484 | Medium |
| 7 | Pesticides and other agricultural chemicals | 36,625,000 | 5,745 | Medium |
| 8 | Dyes, paints and similar coatings | 16,139,000 | 10,795 | Medium |
| 9 | Perfumes and cosmetics. | 22,497,000 | 3,248 | Medium |
| 10 | Shampoos, hair sprays, cosmetics and shaving preparations. | 9,889,000 | 1,915 | Medium |
| 11 | Dead Sea Products (salts, mud, natural cosmetics materials) | 5,083,000 | 7,467 | Medium |
| 12 | Gum and glue | 5,978,000 | 3,207 | Low |
| 13 | Refined and processed salt | 1,133,000 | 6,520 | Low |
| 14 | Printing inks | 3,001,000 | 153 | Low |
| 15 | Explosives and matches | 92,000 | 4 | Low |
| 16 | Lighting products, paintings, photographs and films | 93,000 | 27 | Low |
| 17 | Anti-freeze materials, fluids processing and hydraulic transport processors | 98,000 | 73 | Low |
| 18 | Materials used in the completion of tissue processing and dyeing | 46,140 | 746 | Low |

## Combined Evaluation Considering the Three Criteria – Overview

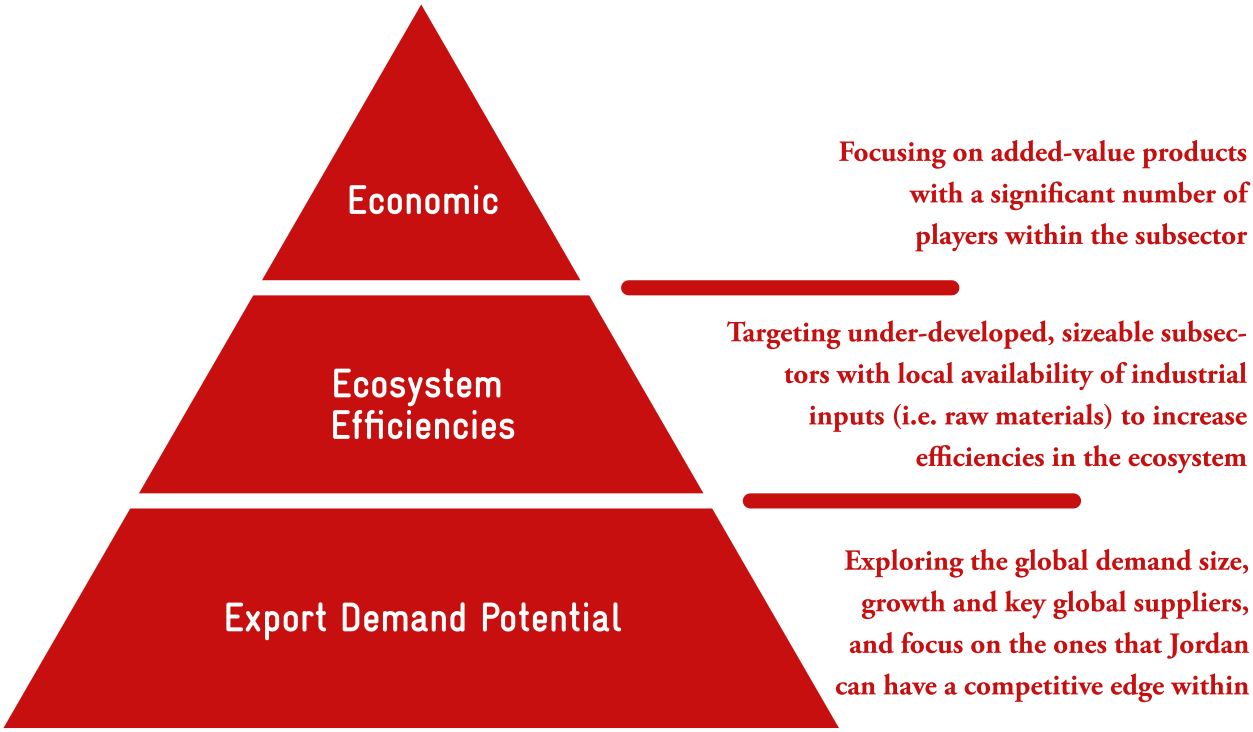
| RANK | SUBSECTOR | RANK ECONOMIC DEVELOPMENT | RANK ECOSYSTEM EFFICIENCIES | RANK EXPORT DEMAND POTENTIAL | TOTAL |
|---|---|---|---|---|---|
| 1 | Soaps, detergents, cleaning and polishing preparations | 2 | 4 | 5 | 11 |
| 2 | Shampoos, hair sprays, cosmetics and shaving preparations. | 1 | 5 | 10 | 16 |
| 3 | Fertilizers | 14 | 2 | 1 | 17 |
| 4 | Perfumes and cosmetics. | 3 | 6 | 9 | 18 |
| 5 | Inorganic chemicals materials (including potash and phosphate) | 15 | 1 | 2 | 18 |
| 6 | Dyes, paints and similar coatings | 6 | 11 | 8 | 25 |
| 7 | Petrochemicals (plastics and plastic articles) | 4 | 18 | 3 | 25 |
| 8 | Organic chemical materials | 18 | 3 | 4 | 25 |
| 9 | Pesticides and other agricultural chemicals | 5 | 14 | 7 | 26 |
| 10 | Explosives and matches | 8 | 7 | 15 | 30 |
| 11 | Printing inks | 7 | 12 | 14 | 33 |
| 12 | Dead Sea Products (salts, mud, natural cosmetics materials) | 12 | 10 | 11 | 33 |
| 13 | Refined and processed salt | 11 | 9 | 13 | 33 |
| 14 | Gum and glue | 13 | 8 | 12 | 33 |
| 15 | Oil refined products | 17 | 13 | 6 | 36 |
| 16 | Lighting products, paintings, photographs and films | 9 | 15 | 16 | 40 |
| 17 | Anti-freeze materials, fluids processing and hydraulic transport processors | 10 | 16 | 17 | 43 |
| 18 | Materials used in the completion of tissue processing and dyeing | 16 | 17 | 18 | 51 |

## - Qualitative Considerations

| SUB-SECTOR | GLOBAL CHALLENGES /OPPORTUNITY | INFERENCE |
|---|---|---|
| **Soaps, Detergents, Cleaning and Polishing Preparations** | Sustainability and environmental awareness would reduce market share of products not able to offer added-value to consumers | Currently some Jordanian Chemical companies are already performing research on the feasibility of producing boric acid domestically |
| **Petrochemicals (plastics and plastic articles)** | High global demand, despite the environmental restrictions of using plastics | It can be produced locally at competitive costs, although it is still not an ingredient predominant in pesticide formulations by local manufacturers |
| **Dyes, Paints and Similar Coatings** | Rising consolidation of companies in the global paint and varnishes sector will increase economies of scale of competitors and allow them to offer lower-priced products | Fierce global competition but average impact on the economy in Jordan |
| **Shampoos, Hair Sprays, Cosmetics and Shaving Preparations** | Movement towards organic and natural ingredients requiring the companies to adapt their products to these requirements | Opportunity is still valid in developing markets such as Middle East and Africa, especially with strong impact on the local economy in Jordan |
| **Pesticides and Other Agricultural Chemicals** | There is a global trend towards tightening pesticides regulation (e.g. USA, the EU and China), which would weigh on demand and/or increase compliance costs | Opportunity is still valid in developing markets such as Middle East and Africa. However, limited impact on the local economy in terms of job creation |
| **Dead Sea Products (salts, mud, natural cosmetics materials)** | Large global market (about US$1 billion in 2018) with fast growth rates (with expected Compound Annual Growth Rate of over 10% over the 2019-2013 period) provides considerable opportunities | Despite the limited capacities, there is a strong global export opportunity, in case of improve the positioning |
| **Fertilizers** | Some US states have banned phosphate fertilizers, while the EU has introduced policy changes on fertilizers promoting phosphate recycling | High Export potential (not to developed markets), with strong local industry, however with limited impact on employment |

## - Final Subsector Selection

| | ECONOMIC DEVELOPMENT | | | ECOSYSTEM EFFICIENCIES | | | EXPORT DEMAND POTENTIAL | | |
|---|---|---|---|---|---|---|---|---|---|
| SUB- SECTOR | NUMBER OF COMPANIES | NATURE OF END PROJECT | VALUE ADDITION | PRODUCTION CAPACITY IN TONNES | ACCESS TO RAW MATERIALS | IMPACT ON EMPLOYMENT | VALUE EXPORTS (US$) | VALUE EXPORTS (TONNES) | EXPORTS POTENTIAL |
| Soaps, detergents, cleaning and polishing preparations | 72 | finished products | Medium | 553,314 | Good | Medium | 93,759,000 | 203,475 | Medium |
| Shampoos, hair sprays, cosmetics and shaving preparations | 42 | finished products | High | 56,060 | Good | High | 9,889,000 | 1,915 | Medium |
| Dead sea products (salts, mud, natural cosmetics materials) | 15 | finished products | Medium | 7,744 | Good | High | 5,083,000 | 7,467 | Medium |




The three selected subsectors meet the criteria set as critical for the development of the Jordanian Chemicals sector, and rank as the highest taking into account quantitative and qualitative considerations

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