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# PACKAGING SECTOR PROFILE AND MARKET ASSESSMENT

Final Report

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# **PACKAGING SECTOR PROFILE AND MARKET ASSESSMENT**

SUSTAINABLE ACHIEVEMENT OF  
BUSINESS EXPANSION AND QUALITY (SABEQ)

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## EXECUTIVE SUMMARY

Jordan's packaging and labeling industry faces opportunities and challenges that can lead either to meaningful business growth or declining productivity and profits. The global packaging industry is valued at more than (US) \$500 billion annually<sup>1</sup> and is growing by an average of 4%. To be globally competitive, Jordan's packaging industry is in critical need of a new approach to marketing, and increased access to advanced materials, technologies and processes.

While there are numerous companies using modern equipment and processes there is little evidence of any Jordanian firms adopting cutting edge technology. Instead, many local firms are supplying established customer bases with products and services that meet the needs of their commercial customers without regard to the evolving preferences of end-users. Jordanian packaging converters are helping to emphasize a perception that conventional Jordanian products tend to be sold with conventional packaging – at best.

Meanwhile, Jordanian markets increasingly feel the influence of global economic powerhouses importing attractive, consumer packaged goods (CPG) from the EU and USA. Whether or not the imported products compete directly with corresponding Jordanian offers, consumer experiences are being shaped and expectations raised by the sophisticated imported products now on offer in Jordan.

That Jordanian products are struggling to acquire recognition in the international marketplace is not inherently due to poor quality. In fact, product performance is directly linked with perceived value – and packaging is the key driver of strong value perception. The Jordanian packaging industry is lagging behind in marketing appeal and technical innovation not just by months, but by years. Computer technology undergoes a generational evolution every three to six months, and computer technology now drives manufacturing process. Major packagers and converters in the EU and USA are being swept up into similar high technology development cycles. Being five years behind the times is no longer a viable option for economies aspiring to improve their international competitive position. The Jordanian packaging industry needs to increase its investment in research and development programs, and develop its capability in advanced technologies, including computer-aided design and manufacture.

Without an industry association or marketing council, the Jordanian packaging industry cannot hope to keep abreast of innovative marketing and technology trends in the global marketplace. There is a real need for the Jordanian packaging industry to have an institutional capacity to connect with the research, information, and education base that is a lynchpin to industry evolution among global leaders. International connections should not be limited to attending trade exhibitions for the purpose of purchasing materials and equipment. To be ahead of the curve, the Jordanian packaging industry needs to insert itself into the education and idea flow of leading international corporations and the industry associations that support them.

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<sup>1</sup> Source: Packaging World Magazine, December 2006.

Market research has always played a prominent role among the world's leading producers and exporters of packaged goods. Rather than viewing packaging from an engineering or production perspective, these successful companies have an established track record of investing heavily in market research, consumer behavior and preference analysis, and focus groups.

Innovations in materials, colors, shapes and functions tend to be market-driven. Test marketing and experimentation are frequently used tools. Consumer interaction, responsiveness to public opinion (e.g. sustainable packaging), and high standards of quality control facilitate market perceptions that the brand can relate to the consumer. As a result, the consumer is more willing to relate to the brand, building greater customer loyalty and increasing brand equity.

Value perception is also a critical factor for marketing Jordanian products. Many manufacturers are focused on underselling competitors. However, "in most product categories, price is the primary purchase incentive for no more than 15 percent to 35 percent of all customers.<sup>2</sup>" Packaging converters need to work with manufacturers to boost product quality and brand image to improve the sales performance of Jordanian products.

Economic success across an entire sector requires that all major players take a broader definition of who they provide value to. If converters are to succeed in the long term, they need their manufacturing clients to succeed with their own customers too. Consequently converters and manufacturers alike need to take joint ownership of quality shortcomings, and poor perceived brand image as well as sales and marketing management issues. At this time the converters seem to be more vulnerable than manufacturers and it would therefore be appropriate for converters to take the initiative in reaching out to acquire knowledge of best practices in packaging with a special focus on graphic design and package design innovation.

Nevertheless, Jordan's packaging industry has significant growth potential – if it increases its ability to understand, anticipate and meet consumer wants and needs. Jordan's prominent role within the Middle East region and its established industrial base give it a strong foundation to build on. Jordan's talent base in the fields of marketing and design has great promise if it can be mainstreamed into playing more of a leading role in business management. In the world's leading economies (primarily OECD countries) marketing is central to business strategy. Typically in emerging economies marketing is viewed as peripheral to engineering, production and finance. Whereas the technology boom at the end of the 20<sup>th</sup> century in the USA saw new and relatively unknown companies become household words (Dell Computer, Google, and Microsoft) their success went hand in hand with marketing prowess. At the same time industry giants such as Digital Equipment Corporation and Sperry Univac, laggards in marketing, disappeared from the scene.

In the current Jordanian packaging industry landscape, designers tend to be outsourced vendors or back office in-house support staff. This positioning is symptomatic of an industry which places marketing at the low end of the hierarchy of business needs. The repositioning of design and marketing management into the business decision-making process will require

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<sup>2</sup> Kevin J. Clancy: "At What Profit Price?" BrandWeek, Vo. 38, Issue 25, June 23, 1997, pp. 24-28

a substantial investment, culturally as well as financially. Industries and companies that can benefit from more advanced marketing should play an active role in advancing the function and recognition of marketing as an essential element for business success. Consequently, the packaging industry itself should sponsor the creation of a stand-alone marketing association or institute in Jordan.<sup>3</sup>

There are major opportunities in the Middle East, North Africa and emerging economies of Southern Europe in the areas of quality and standards. There are also new potential export markets in Eastern Europe. With institutions like the Jordanian Institute of Standards and Metrology and widespread support of the International Organisation for Standards (ISO), Jordan has a credible quality infrastructure to build on. Furthermore, Jordan's information and communications technology (ICT) industry is highly developed and could play a stronger role in integrating technology into industrial design that supports the development of advanced packaging processes. A long-term goal of establishing an Arab Council for Advanced Packaging Standards and Technology could provide industry stakeholders with the motivation to overhaul and revitalize the industry. The choices now faced by Jordanian packagers are either to fast forward into an innovative future or end up going backwards in simply trying to keep up with the times.

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<sup>3</sup> While the Management Association of Jordan has a marketing committee, there is no dedicated organization in Jordan with a mandate and mission of promoting the art and science of marketing *per se*.

## MARKET STUDY

### INDUSTRY LANDSCAPE

Packaging is a coordinated system of preparing goods for transportation, distribution, storage, sales and use. It is a complex function, drawing on engineering, scientific, industrial design, art, and business. The fundamental role of packaging is to contain, protect, preserve, transport, inform and sell the product. The packaging production chain includes: suppliers of raw materials, machinery suppliers, package converters, product manufacturers, fillers and packers, distributors of packaged products, consumers, and entities dealing in post-consumer packaging waste management.

Packaging designers and marketing managers add value to the production chain either working with converters, manufacturers or both. In today's economy, the marketing and sales function of packaging cannot be overstated. A quality product that is poorly packaged will fail to sell when competing against attractive and effectively packaged products. When competing products are side by side the role of packaging is to create shelf impact and increased sales.

### SCALE OF THE JORDANIAN PACKAGING INDUSTRY

In 2005, the key components of the Jordanian packaging industry accounted for JDs 287,907,600 in gross output production see Appendix (A) for further more analysis:

Production During the Year (values in 1000 JDs)*				
Year	Paper & Board	Plastics**	Metal	Wood
2002	105,468.30	103,528.00	2,188.60	791.4
2003	106,331.60	106,227.10	3,165.30	871.4
2004	122,752.50	127,537.30	1,835.30	1214.5
2005	133,956.10	148,695.80	2,047.70	1203
2006	NA	NA	NA	NA

\* Source: Department of Statistics (DOS)

\*\* Plastic production figures include all production under the ISIC code 2520, which is not limited to plastic packaging only.



<b>Paper and Paperboard*</b>				
<b>Commodity Description</b> HS Code: 4819	<b>Year</b>	<b>Import: Value C.I.F. in J.D.</b>	<b>Domestic Export: Value F.O.B. in J.D.</b>	<b>Re-Export: Value F.O.B. in J.D.</b>
Paper and paperboard; articles of paper pulp, of paper or of paper board	2002	15,230,065	11,440,441	114,895
	2003	15,688,849	9,696,821	50,162
	2004	24,382,459	8,690,946	182,600
	2005	24,139,765	11,212,299	116,398
	2006	27,294,067	14,685,847	210,077

\* Source: Department of Statistics (DOS)

<b>Plastic*</b>				
<b>Commodity Description</b> HS Code: 3923	<b>Year</b>	<b>Import: Value C.I.F. in J.D.</b>	<b>Domestic Export: Value F.O.B. in J.D.</b>	<b>Re-Export: Value F.O.B. in J.D.</b>
Plastics and articles thereof and articles thereof	2002	8,368,841	6,618,565	323,979
	2003	9,106,257	5,113,472	328,793
	2004	14,338,603	8,735,056	337,642
	2005	36,156,991	12,557,577	2,253,219
	2006	38,181,928	18,926,663	3,365,482

\* Source: Department of Statistics (DOS)

<b>Metal*</b>				
<b>Commodity Description</b> HS Codes: 7310 7311 7612 7613	<b>Year</b>	<b>Import: Value C.I.F. in J.D.</b>	<b>Domestic Export: Value F.O.B. in J.D.</b>	<b>Re-Export: Value F.O.B. in J.D.</b>
Articles of iron or steel & Commodity: and Aluminum and articles thereof	2002	9,524,021	8,059,621	287,236
	2003	8,927,651	10,332,666	565,025
	2004	6,682,417	16,964,415	480,819
	2005	11,844,418	31,474,766	603,255
	2006	18,016,204	58,294,481	634,462

\* Source: Department of Statistics (DOS)

<b>Wood*</b>				
<b>Commodity Description</b> HS Code: 4415	<b>Year</b>	<b>Import: Value C.I.F. in J.D.</b>	<b>Domestic Export: Value F.O.B. in J.D.</b>	<b>Re-Export: Value F.O.B. in J.D.</b>
Wood and articles of wood; wood charcoal	2002	289,428	5,000	3,144
	2003	75,678	2,312	8,275
	2004	647,655	81,448	104,392
	2005	1,273,291	116,165	725,805
	2006	1,387,289	297,753	17,960

\* Source: Department of Statistics (DOS)

<b>Glass*</b>				
<b>Commodity Description</b> HS Code: 7010	<b>Year</b>	<b>Import: Value C.I.F. in J.D.</b>	<b>Domestic Export: Value F.O.B. in J.D.</b>	<b>Re-Export: Value F.O.B. in J.D.</b>
Glass and glassware	2002	5,103,080	11,756	232,949
	2003	5,652,709	103,762	261,102
	2004	6,858,724	16,079	608,587
	2005	8,301,159	116,168	732,710
	2006	8,246,505	3,082	344,935

\* Source: Department of Statistics (DOS)

## INDUSTRY REVENUES, IMPORTS, EXPORTS

The Jordanian national economy generates at total of \$12.53 billion (JD 8.9) in GDP, with exports valued at \$4.798 billion (JD 3.4 billion) worth of goods and services and imports accounting for a total of \$10.42 billion<sup>4</sup> (JD 7.4 billion). The packaging sector accounts for approximately JD 284.5 million in total sales across materials categories<sup>5</sup>.

### *Exports and Imports of Packaging Articles*

In year 2006 Jordan has exported JD 92,207,826 of domestic packaging products compared to JD 26,135,383 in year 2002 with an increase of 253% with an average growth rate of 40% as shown the table below and Appendix (A). In year 2006 the metal products constituted the largest share of Jordan's total packaging exports with a share of 63%, while plastic articles constituted 21% followed by paper and paperboard articles which constituted 16%. The growth rate of exports of wood products is the highest among other packaging articles with

<sup>4</sup> Source: CIA World Fact Book 2007.

<sup>5</sup> Source: Department of Statistics, Amman, Jordan

156% in 2006 but the growth rate compared to the total amount exported is the highest for the metal products with 85% in 2006 followed by plastics and paper and paper board with growth rates 51% and 31% respectively.

On the other hand, Jordan has imported packages with an amount of JD 93,125,993 compared to JD 38,515,435 in year 2002 with an increase of 142%. The main imported packaging article is plastic packages with a share of 41% followed by the paper and paperboard articles which constitutes 29% in 2006. The growth rate of imported packaging articles is the highest for the metal packages with a growth rate of 52% in 2006 see Appendix (A) followed by the growth rates of paper and paperboard and plastics which were 13% and 6% respectively.

The following tables and figures show comparative analysis for the years 2002-2006.

Domestic Exports of Packaging Articles in JD for the Years 2002-2006*											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	
2002	6,618,565	NA	11,440,441	NA	8,059,621	NA	11,756	NA	5,000	NA	26,135,383
2003	5,113,472	-23%	9,696,821	-15%	10,332,666	28%	103,762	783%	2,312	-54%	25,249,033
2004	8,735,056	71%	8,690,946	-10%	16,964,415	64%	16,079	-85%	81,448	3423%	34,487,944
2005	12,557,577	44%	11,212,299	29%	31,474,766	86%	116,168	622%	116,165	43%	55,476,975
2006	18,926,663	51%	14,685,847	31%	58,294,481	85%	3,082	-97%	297,753	156%	92,207,826
Average	10,390,267	36%	11,145,271	9%	25,025,190	66%	50,169	306%	100,536	892%	46,711,432

\* Source: Department of Statistics

Total Exports of Packaging Articles in JD for the Years 2002-2006											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	
2002	6,942,544	NA	11,555,336	NA	8,059,621	NA	11,756	NA	8,144	NA	26,577,401
2003	5,442,265	-22%	9,746,983	-16%	10,332,666	28%	103,762	783%	10,587	30%	25,636,263
2004	9,072,698	67%	8,873,546	-9%	16,964,415	64%	16,079	-85%	185,840	1655%	35,112,578
2005	14,810,796	63%	11,328,697	28%	31,474,766	86%	116,168	622%	841,970	353%	58,572,397
2006	22,292,145	51%	14,895,924	31%	58,294,481	85%	3,082	-97%	315,713	-63%	95,801,345
Average	11,712,090	40%	11,280,097	9%	25,025,190	66%	50,169	306%	272,451	494%	48,339,997

\* Source: Department of Statistics

Imports of Packaging Articles in JD for the Years 2002-2006											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Import	Growth Rate	Import	Growth Rate	Import	Growth Rate	Import	Growth Rate	Import	Growth Rate	
2002	8,368,841	NA	15,230,065	NA	9,524,021	NA	5,103,080	NA	289,428	NA	38,515,435
2003	9,106,257	9%	15,688,849	3%	8,927,651	-6%	5,652,709	11%	75,678	-74%	39,451,144
2004	14,338,603	57%	24,382,459	55%	6,682,417	-25%	6,858,724	21%	647,655	756%	52,909,858
2005	36,156,991	152%	24,139,765	-1%	11,844,418	77%	8,301,159	21%	1,273,291	97%	81,715,624
2006	38,181,928	6%	27,294,067	13%	18,016,204	52%	8,246,505	-1%	1,387,289	9%	93,125,993
Average	21,230,524	56%	21,347,041	18%	10,998,942	24%	6,832,435	13%	734,668	197%	61,143,611

\* Source: Department of Statistics

### *Exports and Imports of Packaging Raw Materials*

With regards to the export of raw materials, Jordan has few factories that manufacture paper and paperboard from recycled paper and pulp but not from wood. But still the total amount exported is very low about 1.4 million JDs. Other than paper and paperboard, the export of raw materials in Jordan is negligible. The figures of plastic raw materials exports must be for semi finished plastic products such as parisons since Jordan does not have a factory for manufacturing raw plastic materials. The growth rate of paper and paperboard export is decreasing with a decrease of 19% in 2006 over the year before see Appendix (B).

Domestic Exports of Packaging Raw Materials in JD for the Years 2002-2006											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	
2002	3,022,464	NA	2,341,672	NA	19,354	NA	0	NA	0	NA	5,383,490
2003	1,157,489	-62%	2,574,315	10%	102,428	429%	0	#DIV/0!	0	#DIV/0!	3,834,232
2004	1,472,331	27%	2,512,620	-2%	50,483	-51%	0	-32%	0	-43%	4,035,434
2005	4,106,152	179%	1,696,278	-32%	0	-100%	0	-380%	0	-409%	5,802,431
2006	3,669,387	-11%	1,370,703	-19%	0	#DIV/0!	0	7%	0	14%	5,040,091
Average	2,685,565	33%	2,099,118	-11%	34,453	#DIV/0!	0	#DIV/0!	0	#DIV/0!	4,819,135

\* Source: Department of Statistics

As for the imports of raw materials, the figures in the table below show that the main imported materials are the plastics with an amount of 112,694,671 JD in 2006 which constitutes about 64% of the total imported packaging raw materials. The growth in imports of plastic packaging raw materials is about 4% in 2006 see Appendix (B). The next share is taken by the imports of paper and paperboard with an amount of 60,592,147 JD in 2006 and a share of 34% with growth rate of 13% followed by metals with a share of 2% and a growth rate of 98%. There are no imports of glass raw materials since Jordan does not have a glass factory and the wood raw material is not indicated since the wood used to make pallets and cases are from wood imported for other uses.

Total Exports of Packaging Raw Materials in JD for the Years 2002-2006											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	
2002	44,029,189	NA	33,786,260	NA	5,275,955	NA	0	NA	0	NA	83,091,404
2003	54,404,411	24%	36,973,524	9%	6,624,026	26%	0	#DIV/0!	0	#DIV/0!	98,001,961
2004	90,986,069	67%	47,517,194	29%	10,860,788	64%	1	-411%	1	-409%	149,364,052
2005	108,736,180	20%	53,582,213	13%	1,739,101	-84%	0	-38%	1	-5%	164,057,495
2006	112,694,671	4%	60,592,147	13%	3,440,331	98%	1	16%	1	-20%	176,727,150
Average	82,170,104	28%	46,490,268	16%	5,588,040	26%	0	#DIV/0!	0	#DIV/0!	134,248,412

\* Source: Department of Statistics

Total Exports of Packaging Raw Materials in JD for the Years 2002-2006											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	
2002	4,703,587	NA	3,310,155	NA	42,595	NA	0	NA	0	NA	8,056,337
2003	6,080,207	29%	3,578,212	8%	148,820	249%	0	#DIV/0!	0	#DIV/0!	9,807,239
2004	9,382,915	54%	3,578,879	0%	59,558	-60%	0	-32%	1	128%	13,021,353
2005	14,248,567	52%	2,982,630	-17%	0	-100%	0	-380%	1	33%	17,231,198
2006	10,808,239	-24%	2,366,245	-21%	0	#DIV/0!	0	7%	1	0%	13,174,485
Average	9,044,703	28%	3,163,224	-7%	50,195	#DIV/0!	0	#DIV/0!	1	#DIV/0!	12,258,122

\* Source: Department of Statistics

### *Product Mix of Papers and Paper Board in the Jordanian Packaging Industry*

#	Main Products	Main Customers
1	Corrugated Boxes B,C	Manufacturers of processed food, pharmaceuticals, detergents, Dead Sea products in addition to farmers of fresh fruits and vegetables and packing houses
2	Corrugated Boxes E-flute	Detergents, confectionery, fresh fruits and vegetables
3	Paperboard carton boxes	Manufacturers of pharmaceuticals, cigarettes, confectionery, Dead Sea products, detergents
4	Paper labels	Manufacturers of processed food, cereals and pharmaceuticals inserts
5	Paper Sacks	Manufactures of cement, carbonates, fertilizers and flour

*Product Mix of Metal in the Jordanian Packaging Industry*

#	Main Products	Main Customers
6	Three piece metal cans	Manufacturers of vegetable oil, olive oil, canned food (broad beans, chick peas, green peas, tomato pastes), meat products, paints, adhesives
7	Three Piece Steels Drums	Manufacturers of tomato pastes, and chemicals
8	Aluminum Cans	Manufacturers of carbonated drinks
9	Aluminum containers (Aluminum trays),	Ethnic food restaurants (humus, foul)
10	Aluminum tubes	Toiletries products such as shaving cream

*Product Mix of Plastics in the Jordanian Packaging Industry*

#	Main Products	Main Consumers
11	Polyethylene shopping bags (HDPE, LDPE), PP sacks	Malls, superstores, supermarkets, bakeries and manufacturers of processed food, pharmaceuticals, detergents and Dead Sea products
12	Expanded Polystyrene (EPS) trays	Fast food restaurants, malls, superstores, supermarkets as meat and chicken trays and egg boxes.
13	Expanded Polystyrene (EPS) cups	Restaurants, coffee shops, malls, superstores, supermarkets
14	Polystyrene (PS) containers	Ethnic food restaurants (humus, foul) and dairy products
15	Bottles (HDPE, LDPE, LLPE PVC, PET)	Manufacturers of mineral water, chemicals, detergents, toiletries and pharmaceuticals
16	PE buckets	Manufacturers of paints, dairy products
17	PE and PP closures	Manufacturers of pharmaceuticals, detergents, chemicals and food products

*Product Mix of Flexible Packaging in the Jordanian Packaging Industry*

#	Main Products	Main Consumers
18	Flexible Packaging films	Manufacturers of snack, ice cream, chocolate and confectionery, processed meat products
19	Flexible Packaging Al foil films	Backing of blister packs of pharmaceutical tablets
20	Saran wrap (cling wrap-SPVC),	Malls, Superstores, Supermarkets and manufactures of processed food, pharmaceuticals, detergents, Dead Sea Products

*Product Mix of Wood in the Jordanian Packaging Industry*

#	Main Products	Main Consumers
21	Wooden boxes	Mainly fresh fruits and vegetables
22	Pallets	As a tertiary packaging for all manufacturers

## SECTOR CAPABILITIES

### *General Sector Capabilities*

Some of the Jordanian packaging converters have the ability to provide high quality products due to the level of sophistication of their industry where they have purchased (and continue to do so) the latest in equipment and technology from Asia, Europe and North America. Although converters have the capital assets to perform most functions in the packaging process, packaging solutions tend to be traditional and less innovative. This cap on innovation results from the relatively small sales volume limiting production runs which make customized packaging forms uneconomical. It is both easier and less expensive to purchase standard components (such as bottle caps) from foreign suppliers.

A further limitation of the Jordanian packaging industry is caused by graphic design standards which are competent but limited in imagination and originality. A conservative approach by brand owners, coupled with a tendency to copy existing designs keeps the packaging industry's design process behind fast-evolving international standards.

Management skills at Jordanian manufacturing companies and converters should also be advanced if the sector is to become competitive. Human resource training and retention need to be prioritized for the sector to benefit from institutional memory, knowledge transfer and experience. This goal is ambitious, especially in an industry where standards of factory cleanliness, hygiene and plant organization leave much to be desired.



A metal can factory in Amman exhibits disorganized production flow, poor cleanliness and low safety standards.



Another Amman area metal can factory fails to meet minimal workplace environment standards.



Other companies (and industry verticals) meet high standards.

### *Marketing*

Jordan does not have a professional marketing association such as the American Marketing Association (AMA) or the Marketing Institute of the U.K. Nevertheless, marketing experts can be found in the local market (primarily in Amman) and the several organizations support marketing education. However, most Jordanian manufacturers and converters do not prioritize marketing and few have a strategic marketing plan.

At the same time packaging's role in marketing has increased in the EU and USA, especially in the past decade. Now there is greater emphasis on design, more prominent integration into advertising and the packaging plays a key role in product launches. Product manufacturers in advanced market economies are no longer trying to look for ways to cut costs in packaging materials and logistics. Instead, they are viewing packaging as a marketing vehicle to generate product awareness and create consumer excitement for the product.

### *Resource Availability, Infrastructure and Supporting Services*

The packaging industry in Jordan is made up of 886 companies in plastics, paper and paperboard, metal packaging, wood packaging and glass. The sector employs 28,400 people<sup>6</sup> as shown in the table below:.

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<sup>6</sup> Amman Chamber of Industry, statistics for 2007.



Packaging Industry	Number of Establishments 2007	Number of Employees 2007
<b>Packaging Industry in Amman and Other Governorates (according to Amman Chamber of Industry)</b>		
Plastics Packaging*	466	10856
Paper and Paperboard	321	6900
Metal Packaging**	62	10504
Wood Packaging	35	126
Glass Packaging	2	14
<b>Total</b>	<b>886</b>	<b>28400</b>

\* including flexible films and laminates

\*\* including flexible aluminum foil and laminates

On the whole, the local workforce lacks specialized packaging knowledge, experience and skills across functions. Much of the knowledge comes from hands-on practice. Advanced knowledge and skills are limited to a select few.

Jordan does not have any educational programs related to the packaging industry except for the Printing School which provides educational programs at the secondary level. However this school is equipped with outdated equipment. Currently there are no educational programs or materials for skills training in packaging.

The packaging industry currently suffers from a shortage of both skilled and non-skilled workers because many experienced workers leave Jordan for neighboring countries in search of better pay. At the un-skilled, or semi-skilled level, Jordanian packaging industry workers who learn on the job soon discover that they can obtain higher wages working in the Gulf and other markets. Machine operators and engineers who manage highly advanced equipment also go this route as attested by such diverse converters as Jordan Tin Plate Company and Al-Shurook printing. In fact, many packaging companies are working at reduced production rates because they have insufficient workers in place. Of course, full capacity is relative since lower levels of consumer demand mean lower sales and thus lower production needs. However, the industry still needs to be able to assure full capacity in the event that demand for local products could increase. Aggravating the problem of an adequate, sustained supply of trained labor are government restrictions on the hiring of foreign labor. Based on interviews with factory owners, the process for doing this is not so much prohibitive as unduly complicated and time-consuming, thereby limiting the practical ability of factory owners to gain easy access to foreign labor pools.

Managing the labor challenge will no doubt be an ongoing debate in Jordan especially with high unemployment. Feedback from factory owners and managers consistently pointed to the difficulty of convincing ordinary Jordanian workers to accept local wage and performance standards.

Jordan has few natural resources. Raw materials used in packaging are particularly scarce.

### **Plastic Packaging Materials**

Jordan does not have petroleum, which is the basis for the plastics industry. As a result, all of its polymers are imported from oil-producing countries in the Middle East, especially the Kingdom of Saudi Arabia (KSA) and other Asian Arab Countries. Jordan also imports plastic materials from Western Europe see Appendix (B) for further analysis.

### **Metal Packaging Materials**

Metal packaging materials include tinplate, steel and aluminum and are also not available in Jordan. The materials used for the metal packaging industry are imported from Western Europe and Asian Non-Arab Countries see Appendix (B) for further analysis.

### **Glass Packaging Materials**

There are no glass making factories in Jordan and all of its glass packages are imported from the Middle East and Asia as well as Western Europe. Most food and beverage companies interviewed referenced their suppliers as companies located in Syria and the EU including France and Italy among others.

### **Flexible Packaging Materials**

Jordan has few flexible packaging converters and these firms mainly import the raw materials (films) for laminates including aluminum foil and metalized films.

### **Cartons**

Raw materials for the paperboard industry are also imported as Jordan lacks paperboard mills. Paperboard is imported from the Middle East and Asia as well as Western Europe (primarily Scandinavia). As for the corrugated paper industry, some Jordanian converters produce liners and recycle paper but do not produce paper directly from wood and wood pulp. The industry primarily depends on imported craft paperboard see Appendix (B) for further analysis.

### **Wood Packaging Materials**

The wood packaging industry relies mainly on waste wood to make wooden boxes and pallets. Jordan does not have a significant wood packaging industry and the major share of output goes to producing pallets.

### **Utilities and Infrastructure**

The utilities and infrastructure for the packaging industry is available and packaging firms are generally located within industrial zones for convenient access to transportation. The primary issue that most packaging converters face regarding utilities is the cost of electric power, which has increased sharply in the last couple of years compared to energy costs in neighboring countries and is expected to rise by 40%. A solution proposed by the utility – running machinery at off-peak times – simply is not practical for companies that generally run three shifts, many around the clock. The outlook for energy costs is for more increases, starting at the beginning of 2008.

### **Financial Resources**

While the sector is capital intensive, due to the cost of large, complex machines and industrial equipment, packaging converters are not well-funded but financial resources for the packaging sector are available through commercial loans from local banks.

## **Supporting Services**

### **Design Services**

New graphic design firms are emerging to meet Jordan's increased needs for design and marketing services. Increased availability of consumer packaged goods and the growing cellular telecommunications business have opened up the Jordanian market to more competitive marketing standards. However, there is a lack of originality in graphic art and design and images, themes and messages are often borrowed from innovative local and international companies.

Most importantly, local designers are lacking in technical expertise to meet the special needs of the packaging industry. Structural design of packaging is always left for the converter to decide upon. At the same time, manufacturers do not realize that package design should start with the design of the product itself. Many manufacturers view design as a cost and not as an integral investment in product development.

While design and marketing impact may be weak, production quality is usually good and most companies are using up-to-date design software. Some companies even use state-of-the-art technology for producing artwork and plates such as Computer to Plate Technology (CTP). At this stage, it is less the technical capabilities that are in question as it is the willingness to invest in integrating marketing into product design, distribution and promotion.

### **Photography**

This service actually supports the design services. In Jordan there is a lack in professional industrial photographers. In addition, specialists in styling products such as food stylists are also not available.

### **Testing Facilities**

A specialized testing facility dedicated to packaging does not exist. Although some of testing can be done at the Royal Scientific Society (RSS), their available tests are not comprehensive. Much of the necessary testing equipment is not available, leaving the industry to learn through trial and error while not having access to documented performance standards data.

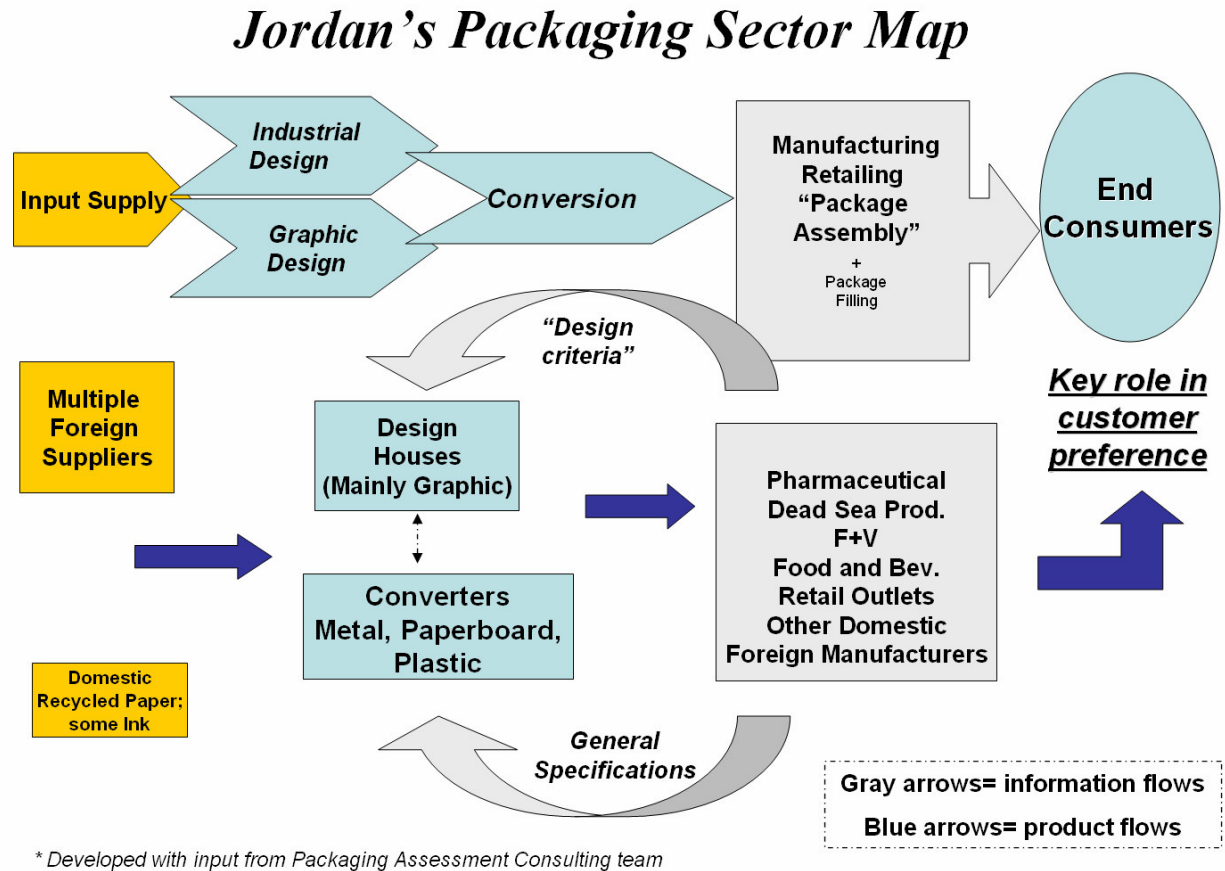
### **Specialized Consultants**

Specialized consultants in packaging and design are few primarily because of the lack of demand from the converters and the manufacturers side although many of these do suffer from packaging related problems. But the role and benefits that can be gained from such consultants are not yet appreciated.

### **Information**

Packaging technology continues to evolve. It is essential to seek out and adopt advanced packaging technologies. It is also imperative to understand and adhere to the regulations, standards and market requirements of potential export markets. Jordan lacks a specialized trade information channel to meet the knowledge needs of the local packaging industry. Information should be generated from a wide variety of sources, including industry reference books and directories, publications, official regulations, and proprietary commercial information services. At the same time, there is little reliable statistical information related to packaging available.

## JORDAN'S PACKAGING SECTOR MAP



This Sector Map illustrating the Packaging Value Chain was developed by the SABEQ Value Chain Analysis team with input from the Packaging Assessment team.

## LEADING COMPANIES IN THE PACKAGING SECTOR

Jordan's leading producers of the different types of packaging, which were identified based on the results and feed back from producers during the field visits to determine the main players within each sub sector. The list of the companies visited is listed in Appendix (D)

### Main Producers of Paper Board Packaging

Company*	Type of Business
1. El Ekbal Printing and Packaging Company	Paperboard, Offset Printing
2. Perfect Printing Press	Paperboard, Offset Printing
3. Metro Printing & Card Board Boxes Co.	Paperboard, Offset Printing
4. Union Advanced Industries Co.	Paperboard, Offset Printing
5. Al-Shurook for Printing & Packaging	Paperboard, Offset Printing
6. Jordan Envelop Factory	Paper Sacks, Flexo Printing
7. Jordan Paper Sacks Co.	Paper Sacks, Flexo Printing
8. Jordan Envelops Factory	Paper Sacks and Wrapping Paper
9. Label World Printing Establishment	Paper labels
10. Malek Factory for Labeling Industry	Paper Labels

\* Based on meetings with the sector

### Main Producers of Corrugated Packaging

Company*	Flutings	Printing
1. Jordan Paper & Cardboard Factories	B,C,E	Flexo and Offset for E flute
2. Arab Cardboard Manufacturing Co.	B,C,E	Flexo and Offset for E flute
3. Industrial Commercial Coordination	B,C	Flexo
4. Ideal Industries Company	C	Flexo

\* Based on meetings with the sector

### Main Metal Packaging Producers

Company*	Type of business
1. Middle East Can Co.	Two-Piece Cans, Dry Offset
2. OMCE Jordan	Steel Drums, No printing facility
3. Canning Industry Co.	3-Piece Cans, Offset Printing
4. Jordan Tinplate Printing & Canning Industry	3-Piece Cans
5. Jerusalem Factory for Can Making	3-Piece & 2-Piece Cans, Offset Printing
6. Jordan Aluminum Tubes Mfg. Co.	Collapsible Tubes, Dry offset

\* Based on meetings with the sector

### Main Producers of Flexible Packaging Plastics and Laminate Films:

Company*	Type of Business
1. Packaging Industries Company	PP, PE, PA, PET Coated Films, Foil, Paper
2. Rotogurvure Jordan	PP, PE PA, PET Coated Films, Foil, Paper
3. Al-Hussam Plastics Industry Co.	HDPE, LDPE Bags, Flexo Printing
4. Shwal Plastic Bags Manufacturing	PP Woven Sacks, Flexo Printing
5. New Plastic Industry Co.	PP Woven Sacks, Flexo Printing
5. Orient Plastic Co.	HDPE, LDPE Bags, Flexo Printing, Cling
6. Jordan Shareef Plastic Factory	HDPE, LDPE Bags, Flexo Printing
7. Jordan Star Plastic Factory	HDPE, LDPE, MDPE Bags, Flexo Printing
8. Sughayer Industrial Co.	HDPE, LDPE Bags, Flexo Printing & Adhesive Tapes
10. Mediterranean Advanced Technical Ind. Co	Cling, PVC and PVDC

\* Based on meetings with the sector

### Main Producers of Rigid Plastic Packaging:

Company*	Type of Business
1. Al Ahli Plastic Factory Co.	PE, PP, PS Offset , Silkscreen
2. Arab Medical Containers	PE, PVC, Closures, No printing
3. Arab Technical Co. for Plastic Ind.	PP Crates No Printing
4. Al-Majeed Plastic	PET Bottles, PE Buckets, PP Caps
5. Pioneers Plastic Co. Ltd.	HDPE, LDPE PP and PVC Containers, (Jars, Bottles, Drums), crates and Closures
6. Silver Star Plastics Co.	PE Buckets
7. White Plastic	Polystyrene, Expanded PS Containers
8. Al-Hussam Plastics Industry Co.	Expanded PS Containers
9. Diamond Plastic Factory	PET Bottles
10. United Group for Plastic Products	PE, PP Closures
11. Technical Packaging Co.	PET Bottles and Jars, PS Boxes and Plates

\* Based on meetings with the sector

## Main Wood Package Producers

Company*	Type of business
1. Moh'D Mahmud Abu Jaber & Partners Co.	Fruits and vegetables boxes
2. Middle East Carpentry Shop	Fruits and vegetables boxes
3. Ghazi Moh'D Jebaly Carpentry Workshop	Fruits and vegetables boxes
4. Izdehar Carpentry Workshop	Fruits and vegetables boxes

\* Based on meetings with the sector

## RESULTS OF PACKAGING CONVERTERS AND SELECTED MANUFACTURING SECTORS NEEDS ASSESSMENT

### RESULTS OF NEEDS ASSESSMENT – PACKAGING CONVERTERS

Based on in-depth interviews with industry stakeholders in the packaging converter sector, conducted at their premises in a series of on-site visits see Appendix (D) for a list of visits, the packaging sector assessment team was able to determine the following:

The processing and manufacturing of packaging materials and supplies is a complex, highly industrialized process with its own supply chain management issues.

Some converters are in a secondary position vis-à-vis manufacturers in that the manufacturers determine, to a great extent, the levels of quality and complexity and design sophistication of packaging materials.

The primary need of converters is to be able to educate and inform manufacturers of new trends in product design, graphic design and marketing. However, to be able to do this, converters themselves need to have access to the latest technological and marketing information. While it is true that the information can go both ways, manufacturers in Jordan rely heavily on converters to supply the bulk of the package for their products. This often means the concept, the design, the shape, materials, and graphics as well. The manufacturer frequently ends up simply taking the packaging and filling and sealing it at their production facility. This level of involvement in their own product indicates that leadership from the manufacturing side is less likely.

Converters need to create innovation labs and conduct market research to determine how new designs can provide greater market appeal and boost sales.

Converters need technical assistance to develop the industry's capabilities in the fields of graphic design, marketing and branding. While reliance on converters to stimulate the marketing and branding process may not be a long-term solution, their degree of involvement with the design process, printing and graphic arts, positions converters as possible catalysts

for the movement toward more developed marketing capacity. When the packaging, marketing and merchandizing process has evolved further, it would eventually be realistic to see manufacturers leading the brand development based on in-depth customer understanding.

Many packaging materials are imported and the lack of purchasing power affects the ability of converters to gain competitive advantage over other materials suppliers in the region.

The small runs ordered by converters' industrial customers do not justify buying high volumes of supplies to keep in inventory.

Converters will need to increase sales to both local manufacturers and within regional markets to obtain an economy of scale that will enable them to buy larger quantities of raw materials and to develop innovative forms of packaging and packaging graphics.

## **RESULTS OF NEEDS ASSESSMENT - MANUFACTURERS**

The packaging assessment team met with manufacturers in selected sectors Processed Food, Fruit & Vegetables, Dead Sea Products and Pharmaceuticals. With the exception of Fruits & Vegetables, these sectors had a number of shared concerns see Appendix (D) focus groups participants. Quality of packaging is an issue for all of these sectors and most stakeholders expressed significant dissatisfaction with available packaging.

These key sectors will require an overhaul in packaging quality management with improved standards, inspections and remedies.

### **Processed Food:**

Companies have significant problems with package integrity – containers that leak, boxes that fail to close properly, seals that do not hold.

Package strength is also an issue. Metal cans that are easily dented and cans that are scratched in production. Glass bottles with caps that leak, needing to find and design better quality caps to prevent the contents from leaking out.

### **Manufacturers of Dead Sea Products:**

While the market is highly competitive, most Jordanian companies have not been able to use packaging as a differentiating factor.

Companies have had bad experiences with most bottles made in Jordan.

Companies are unable to obtain customized bottle caps.

Companies need to make use of customized printing and foil stamping.



## Pharmaceuticals:

Basic raw materials need upgrading.

Box carton materials need to be of higher quality to meet internationally competitive standards.

Printing and sealing needs to be more professional.

Graphic standards need to be improved.

Product labeling needs upgrading. Logos, typography, display of product information and drug facts need design upgrading.

## Fruits and Vegetables

Cartons for shipping need to be stronger. Most producers complain of varying degrees and extent of box failure in shipping<sup>7</sup>.



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<sup>7</sup> According to Royal Jordanian Cargo, much of the problem is caused by producers' failing to manage the continuous cold chain process, with fluctuating temperatures generating excessive humidity.



Royal Jordanian Cargo now temperature-checks all arriving loads of Fruits & Vegetables before acceptance for shipping.

Jordanian Fruit and Vegetable producers need to create a strong, new, positive image in order to raise the perceived value of Jordanian produce with importers and distributors.

New boxes should display an attractive brand identity, product information and be of superior construction.

## JORDANIAN PACKAGING INDUSTRY - SWOT ANALYSIS

The matrix below describes internal strengths and weaknesses that the Jordanian packaging industry must contend with as well as the external opportunities and threats it faces.

<b>Strengths</b>	<b>Weaknesses</b>
<p>Strong capital equipment investment base.</p> <p>Well-qualified senior managers.</p> <p>Trained professional engineers.</p> <p>Close relationships of converters and fillers.</p> <p>Central geographic location for regional business.</p> <p>Interest in developing the packaging sector.</p>	<p>Few packaging engineers that understand best practices in package development.</p> <p>Need for financial and industrial leadership</p> <p>No sector-wide tracking of advanced technology.</p> <p>Poor recruitment and retention of machine operators.</p> <p>Raw materials imported.</p> <p>High energy costs limiting profit margins.</p> <p>Limited quality infrastructure.</p> <p>Few local mandatory packaging standards</p> <p>Lack of pre-shipment testing facilities</p> <p>Marketing function not held as strategic priority.</p> <p>Small sales volumes hamper product flexibility.</p> <p>Unskilled labor shortage – foreign workers.</p> <p>Very few graphic designers familiar with packaging.</p> <p>Very few product photography experts.</p> <p>Many small converters – attrition will follow.</p> <p>No packaging equipment manufacturers – reliance on out-of-country expertise.</p> <p>Limited available vocational training.</p>

<b>Opportunities</b>	<b>Threats</b>
<p>Geographic proximity to EU and EE markets.</p> <p>Export value added packaging materials to nearby countries.</p> <p>Become a co-manufacturer for products for Middle East markets for foreign and local Consumer Packaged Goods companies.</p> <p>Impetus to create packaging Center of Excellence.</p> <p>Rapid expansion of supermarket and hypermarket space across the Middle East favors private label producers.</p> <p>Ability to make custom packaging for low volume fillers.</p> <p>Draw foreign converters to produce in Jordan using all internal resources (except raw ingredients).</p> <p>Establish a post-consumer recycling program to fuel lower cost base materials vs. virgin materials.</p> <p>Create a packaging organization (IOPP) to advance packaging technologies.</p>	<p>Regional low-cost suppliers gaining market share.</p> <p>Low perceived value and product quality hurts export market performance.</p> <p>Business failure of most converters and transfer to imported packaging.</p> <p>Sensitivity to political situation in the region.</p> <p>Growing environmental sustainability pressures raise compliance standards and costs.</p>

The SWOT matrix above describes some critical success factors for the Jordanian packaging industry in the strengths quadrant. Unlike many developing and emerging economies, Jordan's packaging industry is not without a strong existing industrial base. The packaging assessment team conducted on-site visits to numerous packaging converters and found many equipped with recently manufactured capital equipment. Machinery was well maintained and operated professionally. Many firms had equipment that could perform complex technical functions. Furthermore, the industry benefits from a well educated and trained cadre of managers and engineers who perform essential management and operational functions. Although there is need for additional engineering and business capacity, these human resource advantages amount to a strategic asset. In addition, the close relationships between packaging converters and manufacturers illustrate an inherent strength that foreign companies would find difficult to replicate.

However, there are numerous and significant weaknesses in the industry. Innovation is perhaps one of the most important factors in long-term competitiveness. Thus, the fact that very few packaging engineers that currently grasp package development means that the sustained future growth of the industry is an internal weakness of some note. Lack of a comprehensive training strategy and uncertain approaches to human resource management and development issues also limit the prospects for the industry.

Fortunately, opportunities are plentiful. Jordan's geographic situation and its positioning within the Arab world provide ample means for the industry to drive towards leadership. If the industry takes advantage of the opportunity to develop its potential for industrial design and packaging expertise, Jordan can become a regional marketing force to be reckoned with.

The primary concern should be that external threats not be underestimated. The growing presence of regional low-cost suppliers gaining market share presents a serious threat. Poor image perception of Jordanian products (and packages) hurts export market performance and therefore industry growth. Both of these factors could contribute to the business failure of most converters and lead Jordanian manufacturers to transfer to imported packaging.

## **COMPETITIVE ADVANTAGES AVAILABLE TO JORDAN IN THE PACKAGING SECTOR**

1. The Jordanian packaging sector primarily produces short runs to meet the relatively low quantities ordered by manufacturers. This capability cannot be matched by foreign converters (including converters in neighboring countries) as it is not economical for them.
2. Jordanian packaging converters can deliver orders on a shorter lead time than competitors since converters are close to manufacturers. Thus, last-minute and urgent orders, which are common in the Jordanian market, can be met on time.
3. The close distance between suppliers (converters) and manufacturers makes:
  - a. Communications between the two easier
  - b. Auditing supplier quality easier
  - c. Resolving conflicts easier
  - d. Just-In-Time manufacturing easier (reducing manufacturer investment in inventory)
4. Standards – The Jordanian Institute of Standards and Metrology has published 58 standards covering packaging processes and materials among which there are six mandatory standards and the rest are voluntary see Appendix (C). Further examination of standards needs and additional standards published would strengthen the standards regime and ensure a reputation for quality.
5. Jordan can play the role of bridging Western innovation and technology with traditional Arab markets through its Arab language capabilities and understanding of local tastes and preferences.

# **RECOMMENDATIONS FOR INCREASING INDUSTRIAL SECTORS COMPETITIVENESS**

## **PACKAGING SECTOR DEVELOPMENT**

### **Role of a Vision for the Sector**

Currently the sector is not being guided by a comprehensive vision. There is as yet no framework for the standard processes of industry sector organizing. Nor are there identifiable industry sector leaders who are willing to serve as sector development champions. Consequently, it is difficult for the industry to prioritize how to go about improving the performance of the materials conversion process and of the finished packaging product.

Packaging converters in Jordan would benefit from any number of improvements in packaging operations, plant and executive management. Initially the industry needs to implement training programs in the fundamentals of packaging line performance improvement. Factory managers should know how to measure and improve Overall Equipment Effectiveness (OEE) on their packaging lines, using international best practices and standards. Tools such as packaging line performance improvement spreadsheets need to be integrated into the management process.

At the same time, it is important that Jordanian packaging managers use practical strategies for boosting line efficiency, without shouldering too much additional management burden. Overall goals should be to produce more products in less time, reduce costs and waste, avoid unnecessary capital expenditures and to increase profitability.

## **SECTOR DEVELOPMENT PLAN**

The sector development plan for the Jordanian Packaging Industry should provide for a framework of support for and investment in:

- Commercial and Industrial Innovation
- Investment in Sector Development
- Internationalization of the Sector and Building World Class Skills
- Creating Increased Demand Locally and Regionally
- Mainstreaming Packaging Into the Jordanian Economy

These objectives should be developed as strategic themes by a fully empowered Packaging Sector Association and documented in a Strategic Action Plan. All relate to priority actions and reflect continued and largely unmet demands from the market.

### *Commercial and Industrial Innovation*

The Association should stimulate the development of physical and virtual environments where firms can collaborate with the knowledge base and with one another to develop new convergent products and services for local and export markets.

Since most packaging converters and industry activity are located in the Amman metropolitan area, creating a Packaging Innovation Center in this area makes the most sense. Establishing the Center should be done in collaboration with industry supporters such as the Jordanian Design Center and the Jordanian Chamber of Industry.

A packaging industry Internet Portal should also be created so that designers, manufacturers and marketers can access the latest knowledge, information, tools and techniques that apply to packaging materials, technology and equipment as well as to the business management process. The portal can also supply buyer-seller linkages as well as a directory and references of qualified businesses that can be easily accessed through industry marketplace link.

### *Investment in Sector Development*

For the sector to expand and better fulfill its role of boosting Jordanian competitiveness, it will need to attract a better qualified workforce, one which eventually meets all international standards of skills and knowledge. To retain this improved workforce the industry will need to invest in compensation and benefits packages that provide a strong incentive for better qualified workers to remain in the jobs within Jordan. Long-term human resource development goals will also need to be addressed to build advanced workforce skills.

Developing an infrastructure for managing and diffusing marketing and business best practices will also involve investments and long-term commitments of the part of the packaging industry and the key clients it serves. As previously mentioned, packaging industry association as well as marketing association are both institutions that need to be created, supported and sustained.



## *Internationalization*

Jordan's packaging sector needs to develop a comprehensive plan to meet the challenges of international trade and globalization. Foremost on this agenda should be an analysis of how to engage more productively and profitably with both established and emerging global markets. With clearly identified targets, the industry can then direct its investments towards supporting specific initiatives that will improve product performance through improved packaging. As previously stated, Jordanian converters are able to function at a relatively high level of technological expertise. Nevertheless, the packaging industry is among the world's fast-changing industries and is integrating high technology into more and more facets of operations. These new trends include sustainable packaging materials, smart packages with RFID devices, and innovative shapes and materials. As a result, keeping up with global innovation trends will require new high levels of inward investment both to modernize equipment, technology and plants, as well as to build skill levels in the workforce and management cadres.

## *Creativity*

International product leaders spare no efforts in rolling out new and creative concepts for packaging. The Jordanian packaging sector should embed creativity and design thinking across the board in business, through promotion, knowledge transfer, supply chain development, awards and contests. With an active industry association, there is a potential for influencing the government to provide innovative companies with tax credits and other financial incentives. At the same time, the industry should press the government to require packagers to adhere to international best practices and standards in order to promote the concept of Jordan as a provider of packaging excellence, innovation and value.

## **MANUFACTURING SECTOR DEVELOPMENT**

The scope of work called for analysis of the current packaging needs and potential packaging enhancements for four industry sectors in Jordan. These sectors were: Fresh Fruit & Vegetables, Processed Foods, Pharmaceuticals, and Dead Sea Products.

### *Fresh Fruits and Vegetables*

As with most industries, this sector's approach to packaging reveals its overall marketing capability. For the most part the sector's marketing strategy is not developed. In particular the sector needs to develop market targeting and segmentation. The sector should develop a brand identity to help it compete with the fruits and vegetables of other nations.

Currently packaging does not meet basic protection and transportation needs. Corrugated cartons fail to maintain wall strength due to high recycled content and are prone to absorbing moisture. The cold chain process for export sales needs improved management. The packaging does meet distribution environment needs. The same packaging is used for trucking overland as for air freight. As of now there are some mandatory standards for packaging materials and dimensions such as JS 776 which is related to the containers of fresh vegetables and fruits made from expanded polystyrene and JS 184 which is related to the general requirements for fresh fruits and vegetables containers.



### *Processed Foods*

In the Processed Food sector Jordanian products are competing against each other on price. This decreases the potential for increasing perceived value and much of the packaging in this sector reflects this approach. International brands sell at premium prices with superior packaging that includes strong brand identity and denotes quality and reliability. Food processors' sources for packaging options are limited due to low production volume and lack of leverage with converters. Food processors feel that converters do not appreciate the extent to which packaging affects consumer purchase. There is little or no innovation: the packaging is highly imitative.

### *Pharmaceuticals*

Industry management is highly informed but the sales approach is still more product-driven than market-driven. Producers have limited choices in materials due to the sector's low volume of production. The pharmaceutical industry in Jordan faces stiff competition from international brands. At the same time the quality control of packaging is not up to standards applied in the pharmaceutical industry's production processes. While the industry makes use of Specification Documents, the level of detail is not sufficient to guarantee packaging consistency.

### *Dead Sea Products*

The current volume of sales is low: US \$6 million, but some industry leaders see a potential for up to US \$500 million. The increased revenue opportunity is in export markets and in local sales to international visitors. However, the current packaging is not competitive with international brands. The current packaging is not even competitive with the leading Israeli brand (Ahava) of Dead Sea products. Buying patterns in this category are driven by perception and emotion, thus the packaging performance is crucial. Industry leaders need more customized solutions – e.g. container caps that feature distinctive design elements, glass containers (not available locally) and specialized printing such as embossing or hot-stamping. If the sector is to invest in increased advertising and promotion, it is crucial that the packaging quality meet or exceed expectations that may be set in the promotional efforts.

## RECOMMENDATIONS

Improvement areas for high quality packaging exported from Jordan:

### **Facilities that meet cleanliness and human safety standards**

The US and many other countries require a prequalification of a packaging vendor or manufacturer. They must meet a variety of established federal requirements set out by the FDA and equivalent foreign agencies require food contact materials to meet certain standards of safety. Jordanian manufactures besides letters of guarantee from the base material supplier that their materials meet the required standards there is a need to have access to testing labs (Independent or at Universities) that can verify the safety and adherence to these standards on the finished converted package.

Many of these manufactures of goods conduct audits of packaging suppliers that inspect quality systems, cleanliness, human safety, logistics needs, etc. Two areas of concern were adherence to GMP or Good Manufacturing Practices. This is a program that deals with issues such as cleanliness, infestation, and biological hazards. Few packaging suppliers visited had this in place or could give us their plan. In order to supply to foreign exports Jordanian suppliers need to shore up their GMP practices.

Hand in hand with this is the human safety element of a production facility. We witnessed loud machinery with operators not using hearing protection. Hand intensive machines did not have proper guards or shielding to prevent loss of limb. Eye protection and hairnets were not seen. Steel toed shoes were not witnessed. Machinery was without lockouts and safety shut-off devices. The Packaging Assessment team could see why this working environment does not motivate people to return to work.

### **Quality Systems and Manufacturing**

Very few manufactures were inspecting or testing finished packaging. On site visits the Packaging Assessment team did not witness Six Sigma practices like run charts and other Quality Assurance (QA) tools which insure that you are building quality in rather than inspecting it out. Savvy in this area insures less waste caused by out of spec parts and potentially faster manufacturing speeds which aid in lowering costs and increasing margins. Lean manufacturing practices would aid in how production is carried out.

Many packaging companies are ISO certified and therefore assume this will ensure that quality goals will (somehow) be achieved automatically. Product-driven Six Sigma methodologies concentrating on packaging production efficiency and quality could help raise actual quality standards.

### **Graphic Design**

This is an area where the Packaging Assessment team discovered there was little expertise specifically around packaging. Many of the layouts were done on a very basic level without an understanding of the art of printing on particular substrates. Furthermore companies show little real understanding of consumer behavior and how layout affects the purchase intent. Additionally, there was no product photography or styling expertise. Product shots are only as good as the initial photo and cannot be electronically improved. So great art layout needs to come from the export company ordering Jordanian packaging. Access to this expertise locally allows the vendor to make changes quickly as needed.

### **Lack of local skilled and unskilled labor**

Lack of reliable labor always affects the cost of manufacturing and jeopardizes profits and quality workmanship. To be competitive Jordan needs to resolve how to have access to reliable employees.

### **Logistics**

One key here is to have a system in place that the shipping of goods is fast and unencumbered. Maximizing outbound loads and paying for freight either one way or being able to back haul, etc. help reduce transportation costs. Additional research would be appropriate to optimize this aspect of the supply chain.

### **Industry Sector Coordination**

The primary recommendation for the Packaging Sector in Jordan is for the formation of the Packaging Industry Association. A dedicated industry association would:

- Meet needs for professional education and training
- Link the packaging industry to institutions of higher education
- Provide access to new technology information
- Provide access to knowledge of export standards and market requirements
- Create improved leverage for greater advocacy impact
- Create Business-to-Business linkages
- Facilitate consolidated buying groups
- Promote design innovation
- Promote professional marketing skills
- Meet and support education needs for young professionals through awards and scholarships

The Packing Industry Association could also provide training in the much needed area of product innovation.

- Product Development
- Marketing
- Brand Management
- Marketing Planning (for converters / for manufacturers)

### **Packaging Testing Services**

Since packaging is the only barrier protecting the product from structural or environmental damage in shipping, companies need to ensure the packaging meets requirements to avoid damage during transit. Whether it ships in a cardboard box, a crate or a custom-designed case – either domestically or internationally – products need packages that are tested and certified to perform this essential function. Jordan currently has no organizations that can perform this function.

The Packaging Industry Association of Jordan (PIAJ) could coordinate with specialized testing facilities like the RSS to provide access to advanced packaging testing services for its members. PIAJ could assess the current capabilities for testing packages at the RSS and recommend acquiring the needed testing and inspection instruments and equipment. PIAJ could also assist the RSS packaging related labs in getting certified by the leading testing body, the International Safe Transit Association (ISTA). PIAJ could then conduct packaging testing to many requirements for a Transit-Tested Certification Program through an independent body, allowing PIAJ members to label their packaging and allowing non-members to obtain test reports verifying compliance.

Testing should address a number of requirements, procedures and standards including:

Packaging strength tests

Burst tests

Integrity tests for screening

General simulation with atmosphere or random vibration

Standard test methods for vibration testing of shipping containers

Standard practice for performance testing of shipping containers

Transportation profiles

Client specifications

Market advantages to packaging testing can save money since each time products are damaged during shipping, the producer loses money. Test can also increase brand loyalty. It only takes one time for customers to lose confidence in your company and brand due to a product that arrived damaged. Testing also supports the ability for the producer to get to market faster. Testing can reduce the need for trial shipments and can help you get new products to market quicker. With a universally recognized testing standard, producers are less vulnerable to unnecessary claims, since testing establishes the package's adequacy to prevent and defend against claim negotiations.

Packaging testing can be done at many stages of the product cycle: prior to new product launch, with new packaging redesigns, when product damage is an issue in your company, or when clients require testing. The best way to prepare is to include testing as early in the packaging design as possible. With PIAJ support, the testing function would become standard practice in Jordan.

### **Participation within the Industry's International Framework**

The World Packaging Organization's membership comes from 40 countries participating as full members and five countries that are affiliate members. The World Packaging Organization (WPO) is a non-profit, non-governmental, international federation of national packaging institutes, regional packaging federations and other interested parties including individuals, corporations and trade associations. While many of WPO's members are from major industrialized economies, it is significant that countries such as Bolivia, Ghana, Latvia, Lithuania and Sri Lanka are currently full members. Accessing the knowledge, skills and experience available within the WPO would enhance Jordan's competitiveness in the field of packaging and product marketing.



<http://www.worldpackaging.org/about-wpo/about-wpo.asp>

## Standards

Whether through an industry association or not, the sector needs to promote standards capabilities with converters. Each packaging product should have its own specification document.

## Data Requirements

Standards include data requirements packages. This is a standard which specifies requirements for the design of labels containing a linear bar code and two-dimensional symbols on product packages to convey data between trading partners. It provides guidance for the formatting on the label of data presented in a linear bar code, two-dimensional symbols or human-readable form; it also provides specific recommendations regarding the choice of linear bar code and 2D symbologies, allowing a broad choice for general use of scanning hardware (e.g. area imagers, linear imagers, single-line laser scanners, and rastering laser scanners). The standard makes recommendations as to label placement, size and the inclusion of free text and any appropriate graphics. It supports item identification and supply chain processes, at the product package level, such as inventory control, picking, and point of use.

There are currently 78 ASTM<sup>8</sup> standards, as well as nine TAPPI<sup>9</sup> standards that cover plastics, paper, glass, metals, rubber, and composites used in containers, cushioning, wrapping, barriers, closures, and aids for sealing, utilizing, reinforcing, and handling. These standards are used by packaging engineers, designers, marketers and manufacturers.

## **Specifications**

Packaging specification documents and purchase orders should contain, at least, the following:

### **Essential information:**

- Designation of the package;
- Type of product to be packed;
- Quantity/volume to be packed;
- Raw material grade, quality, substance, etc.;
- Construction of the package, if necessary illustrated by drawings;
- Relevant dimensions of the package, with maximum/minimum tolerances;
- Special features, accessories, etc.;
- Graphic design/detailed instructions for printing or other decoration;
- Product characteristics, packing methods/conditions, and requirements for the protection of the product during transport and distribution;
- Quantity required/ordered;
- Delivery time;
- Ways of packing and shipping from the supplier to the buyer;
- Price, as agreed

### **Additional information**

- Specification number, and the date on which it was issued;
- References to applicable standard test methods for quality control purposes;
- Quantity tolerances;
- Classification of possible defects and their admissible occurrence.

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<sup>8</sup> ASTM International, originally known as the American Society for Testing and Materials (ASTM), was formed over a century ago to address the standardization requirements of industrial, governmental and environmental developments. ASTM is increasing the accessibility of ASTM International standards to the world.

<sup>9</sup> TAPPI was founded as the Technical Association of the Pulp and Paper Industry.

## **Industry Communications**

To promote professionalism, quality and awareness of new technologies and processes, the packaging industry should publish an electronic newsletter. If there is sufficient demand for the news and information, a printed newsletter could be developed and disseminated. Eventually the sector might publish a magazine which could provide revenue opportunities through paid advertising from firms in supporting services.

## **Packaging Design**

Jordanian manufacturers need to work with the packaging design firms from the very beginning of a project, as early as the conceptual level. Packaging design should be a collaborative effort where all the aspects of a new product are discussed: integrated design approach, typography, illustration, and graphics. Jordanian packaging designers also need to address quality and innovation in the use of packaging materials.

## **Innovation**

The industry needs to learn more about how innovation is improving profitability in other countries. The following Case Study is an example that illustrates the business success of innovation and value-added services.

### **CASE STUDY: PACKAGING FIRM OFFERS LESSONS IN INNOVATION**

Leading packaging supplier Tetra Pak's progress in China has been eye-catching in recent years, despite monopoly accusations.

But on closer inspection, the company offers the observer many valuable lessons. As a family business, its history of modern management is not long, but this hasn't compromised its success.

#### **Business positioning**

While positioning seems fundamental to any business, many companies differ in their ability to position themselves. But it's important - positioning actually determines a company's competitiveness.

Innovation is key for Tetra Pak and this is reflected not only in terms of technology, but also in service. Tetra Pak's value-added services are comprehensive. Its client managers take a central position, working with customers in all links of the value chain - from orders and technology to marketing. It also advises customers on strategies from a third-party perspective.

Tetra Pak was one of the early multinational companies to tap opportunities in China, entering the market in 1972. It is also one of the few that's won a dominant position in the market - a share of about 95 percent - thanks to well-established partnerships with China's

top three dairy producers Mengniu, Yili and Bright. This all comes down to innovation. The company's experience in this respect is worth studying.

Tetra Pak was wise to identify its brand image and business coverage differently from its counterparts and this has sharpened its competitive edge. Generally, traditional packaging service providers focus on processing, packaging and sales and marketing. Tetra Pak is more ambitious. It positions itself as a "strategic business partner" of its clients, extending the business it provides into consulting services like offering marketing and sales support by leveraging its corporate network worldwide.

### **Emotional bond**

The result is a strengthened emotional bond with clients - and more profit. Tetra Pak has set up unusually intimate business relations with its clients' management teams. Take Mengniu for example. Tetra Pak was reportedly very supportive when the local dairy company successfully listed in Hong Kong.

The success of Mengniu and Yili, China's top two dairy producers cannot be separated from the value-added services coming from Tetra Pak.

Source: PR Newswire - Tuesday, October 30, 2007

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## CONCLUSION

Packaging is a key marketing tool. Companies expect their packaging to be a “salesperson” for their brands. In today’s marketing environment there are ever-expanding choices in shapes, colors, materials and printing options that let manufacturers create distinctive looks so their products can stand out from crowded shelf spaces.

To succeed in enhancing the growth and competitiveness of the packaging sector Jordanian converters and manufacturers need keep up with marketing trends and contribute innovations of their own. Because of Jordan’s relatively small market size, the industry needs to work cooperatively to build a solution for integrating the strategic marketing process with supply chain management. This overall solution should recognize that products are manufactured to meet consumer needs and that consumers have more choices than ever.

As a result, packaging supplies a competitive advantage only if it provides meaningful consumer benefits. Packaging that enhances the consumer experience is a significant contributor to an integrated solution. Effective packaging promotes brand equity – the company’s value increases and its customer base is more loyal and therefore more profitable. Once established, this relationship can help Jordanian firms to retain and grow market share in local and export markets.

Future assessments of industry needs should also examine the role of manufacturers themselves in determining the quality and format of packaging products. Manufacturers of finished goods have a considerable responsibility for the final package in that they determine the product design, and methods of filling packaging supplies that are provided by converters. Assessments should be made of their rates packaging production as well as the quality, sophistication and final designs chosen.

## Illustrations:

### Reduced Shelf Impact of Jordanian Products



Stretch wrap is used because the container is not leak-free



No in-store remedy here – just another leaky olive oil tin

## APPENDIX (A)

### JORDAN EXTERNAL TRADE ANALYSIS

#### EXPORTS AND IMPORTS OF PACKAGING ARTICLES

In year 2006 Jordan has exported JD 92,207,826 of domestic packaging products compared to JD 26,135,383 in year 2002 with an increase of 253% with an average growth rate of 40% as shown the table below. In year 2006 the metal products constituted the largest share of Jordan's total packaging exports with a share of 63%, while plastic articles constituted 21% followed by paper and paperboard articles which constituted 16%. The growth rate of exports of wood products is the highest among other packaging articles with 156% in 2006 but the growth rate compared to the total amount exported is the highest for the metal products with 85% in 2006 followed by plastics and paper and paper board with growth rates 51% and 31% respectively.

On the other hand, Jordan has imported packages with an amount of JD 93,125,993 compared to JD 38,515,435 in year 2002 with an increase of 142%. The main imported packaging article is plastic packages with a share of 41% followed by the paper and paperboard articles which constitutes 29% in 2006. The growth rate of imported packaging articles is the highest for the metal packages with a growth rate of 52% in 2006 followed by the growth rates of paper and paperboard and plastics which were 13% and 6% respectively.

The following tables and figures show comparative analysis for the years 2002-2006.

Domestic Exports of Packaging Articles in JD for the Years 2002-2006*											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	
2002	6,618,565	NA	11,440,441	NA	8,059,621	NA	11,756	NA	5,000	NA	26,135,383
2003	5,113,472	-23%	9,696,821	-15%	10,332,666	28%	103,762	783%	2,312	-54%	25,249,033
2004	8,735,056	71%	8,690,946	-10%	16,964,415	64%	16,079	-85%	81,448	3423%	34,487,944
2005	12,557,577	44%	11,212,299	29%	31,474,766	86%	116,168	622%	116,165	43%	55,476,975
2006	18,926,663	51%	14,685,847	31%	58,294,481	85%	3,082	-97%	297,753	156%	92,207,826
Average	10,390,267	36%	11,145,271	9%	25,025,190	66%	50,169	306%	100,536	892%	46,711,432

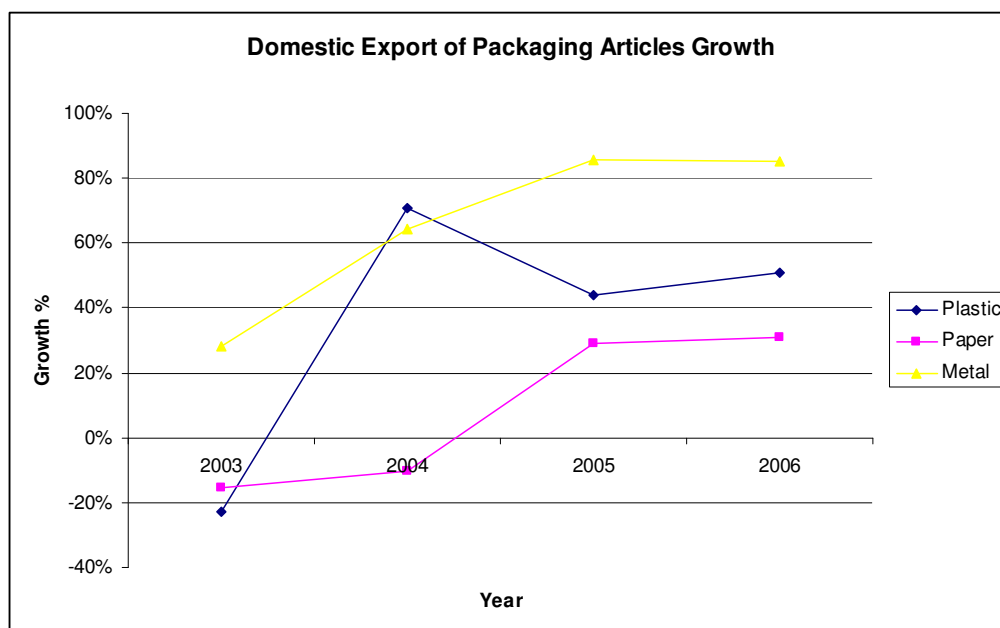
\* Source: Department of Statistics

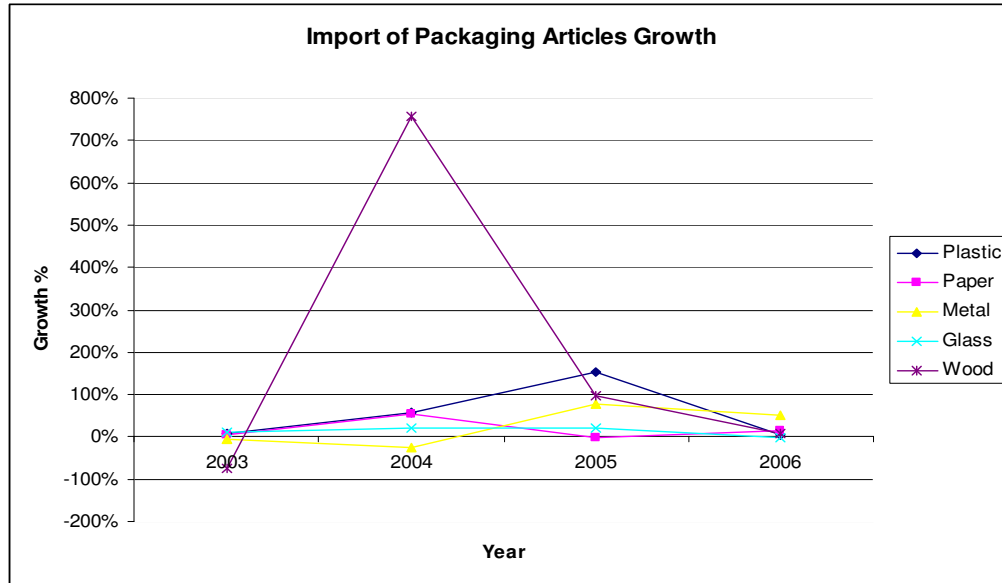
Total Exports of Packaging Articles in JD for the Years 2002-2006											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	
2002	6,942,544	NA	11,555,336	NA	8,059,621	NA	11,756	NA	8,144	NA	26,577,401
2003	5,442,265	-22%	9,746,983	-16%	10,332,666	28%	103,762	783%	10,587	30%	25,636,263
2004	9,072,698	67%	8,873,546	-9%	16,964,415	64%	16,079	-85%	185,840	1655%	35,112,578
2005	14,810,796	63%	11,328,697	28%	31,474,766	86%	116,168	622%	841,970	353%	58,572,397
2006	22,292,145	51%	14,895,924	31%	58,294,481	85%	3,082	-97%	315,713	-63%	95,801,345
Average	11,712,090	40%	11,280,097	9%	25,025,190	66%	50,169	306%	272,451	494%	48,339,997

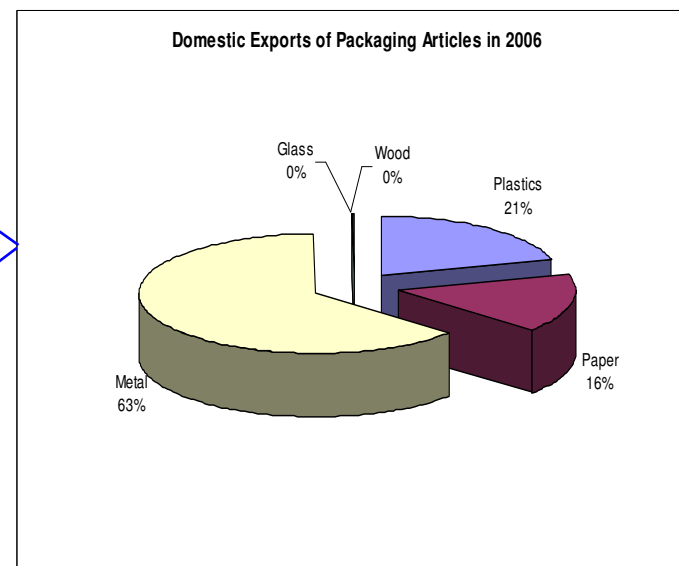
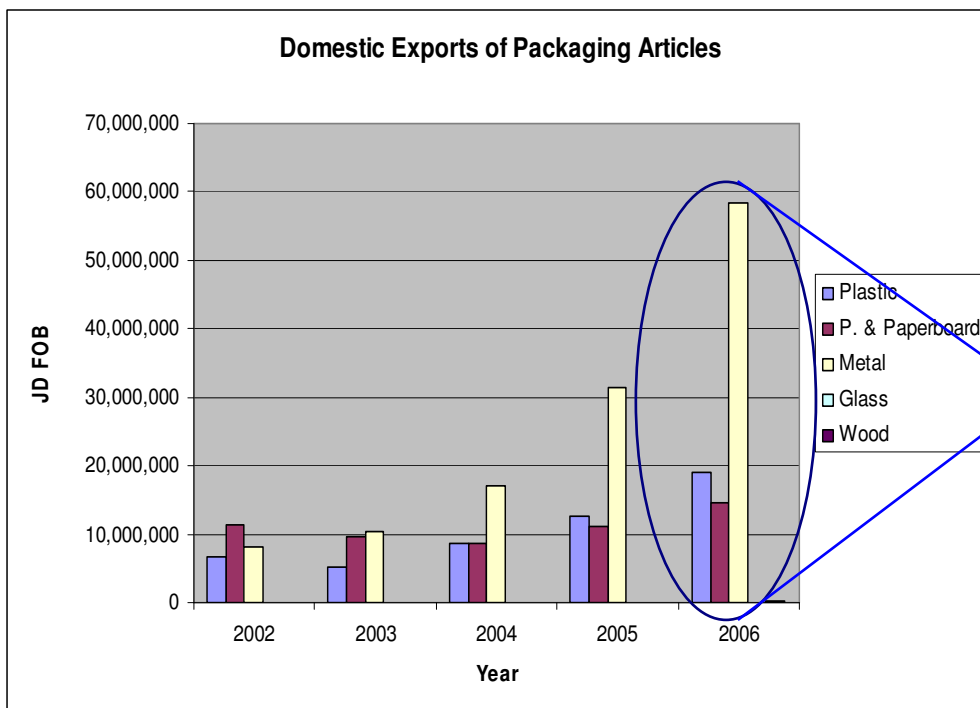
\* Source: Department of Statistics

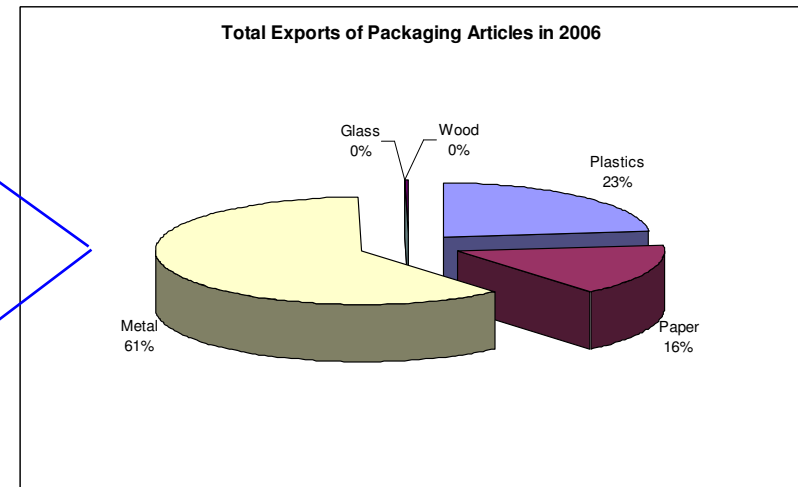
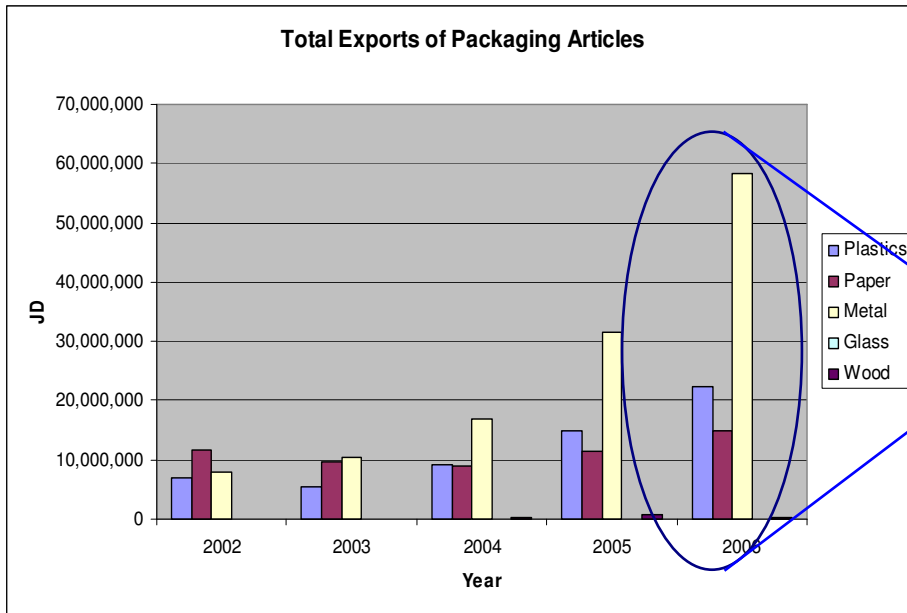
Imports of Packaging Articles in JD for the Years 2002-2006											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Import	Growth Rate	Import	Growth Rate	Import	Growth Rate	Import	Growth Rate	Import	Growth Rate	
2002	8,368,841	NA	15,230,065	NA	9,524,021	NA	5,103,080	NA	289,428	NA	38,515,435
2003	9,106,257	9%	15,688,849	3%	8,927,651	-6%	5,652,709	11%	75,678	-74%	39,451,144
2004	14,338,603	57%	24,382,459	55%	6,682,417	-25%	6,858,724	21%	647,655	756%	52,909,858
2005	36,156,991	152%	24,139,765	-1%	11,844,418	77%	8,301,159	21%	1,273,291	97%	81,715,624
2006	38,181,928	6%	27,294,067	13%	18,016,204	52%	8,246,505	-1%	1,387,289	9%	93,125,993
Average	21,230,524	56%	21,347,041	18%	10,998,942	24%	6,832,435	13%	734,668	197%	61,143,611

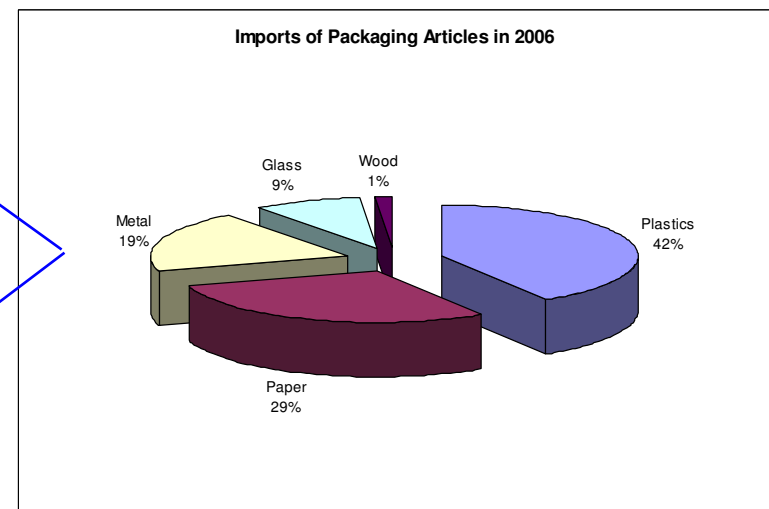
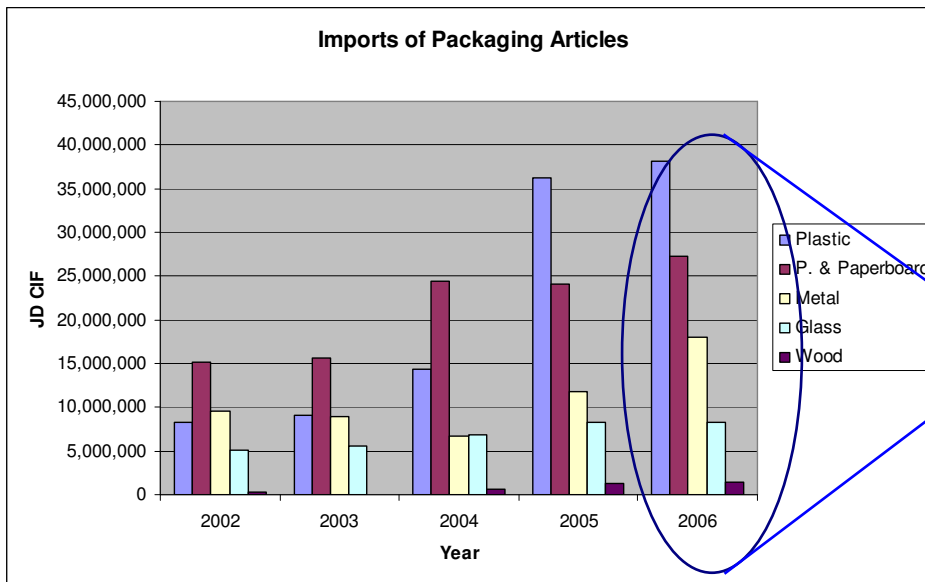
\* Source: Department of Statistics









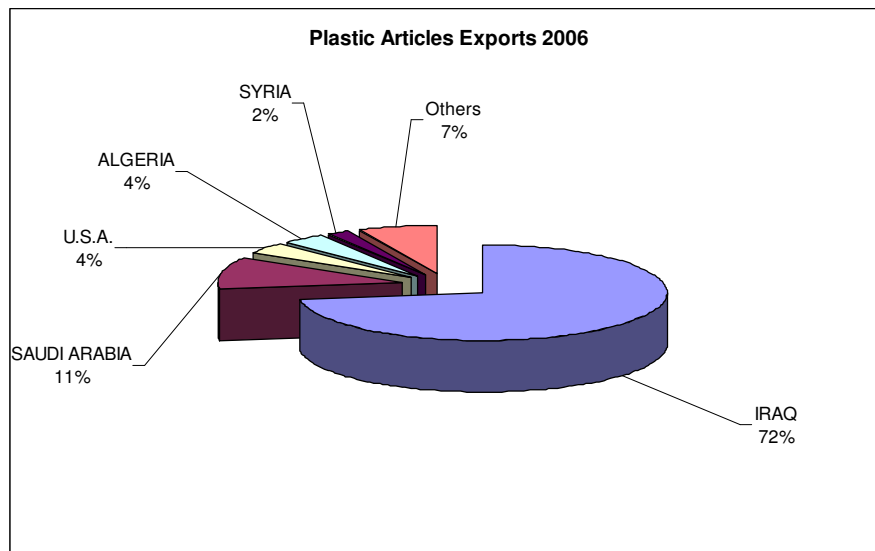




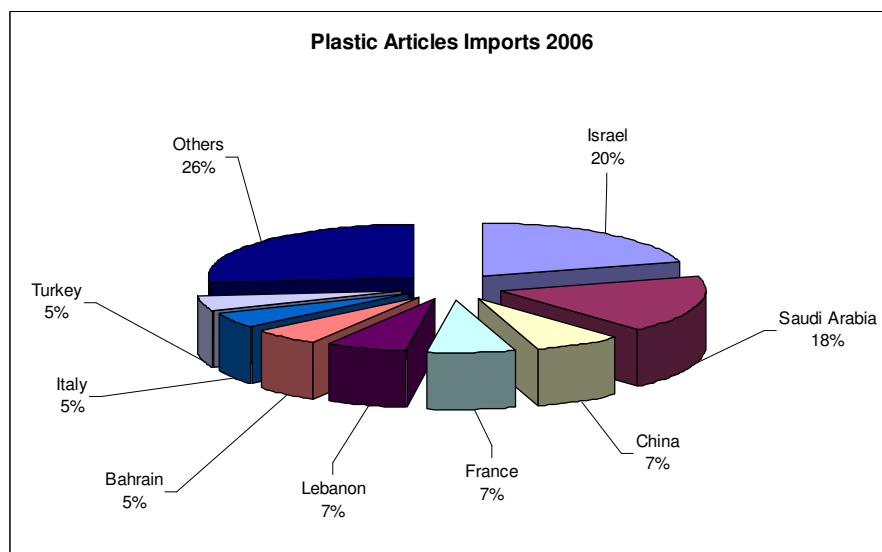
## EXPORTS AND IMPORTS COUNTRIES OF PACKAGING ARTICLES

### 1. Plastics

In the year 2006, the **exports of** plastic packaging articles were JD 18,926,663. The major market for plastic articles exports is the Iraqi market with a share of 72% in the year 2006 followed by Saudi Arabia who had the second largest share of exports of plastic packaging articles in 2006 with a share of 11%.

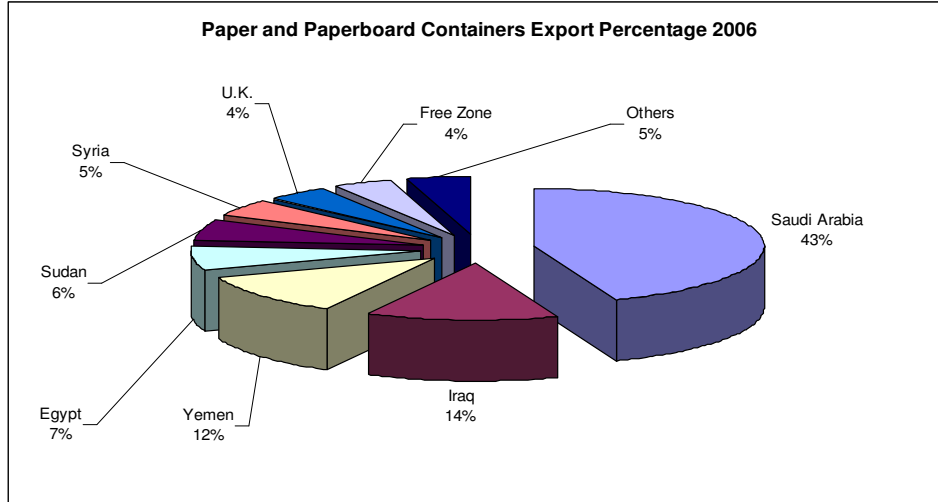


On the other hand, the **imports of** plastic articles were JD 38,181,928. The major market share for plastic articles imports in 2006 is the Israeli market with a share of 20% followed by Saudi Arabia market with a share of 18%.

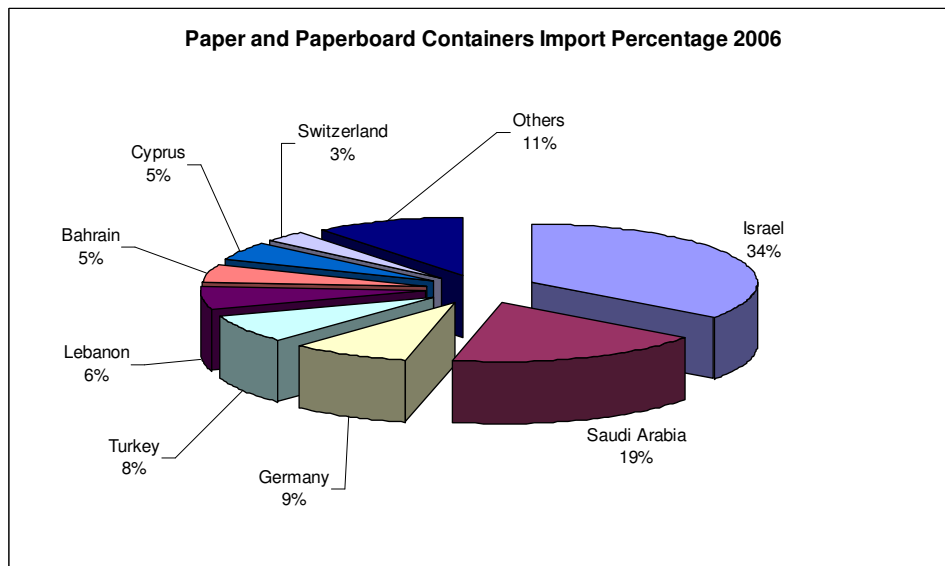


## 2. Paper and Paperboard

The exports of paper and paperboard in the year 2006 were JD 14,685,847. The major market for the exports of paper and paperboard articles is the Saudi Arabian market with a share of 43% in 2006 followed by the Iraqi market with a share of 14%.

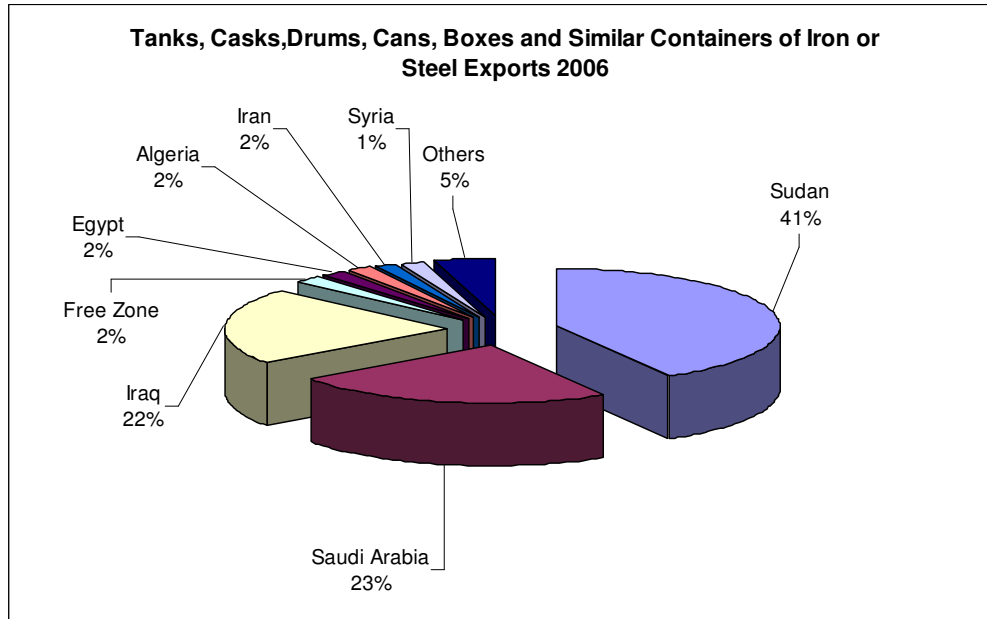


On the other hand, the imports of paper and paperboard articles were JD 27,294,067. The main market of import for the paper and paperboard imports was from Israel in 2006 with a share of 34% followed by imports from Saudi Arabia with a share of 19%.

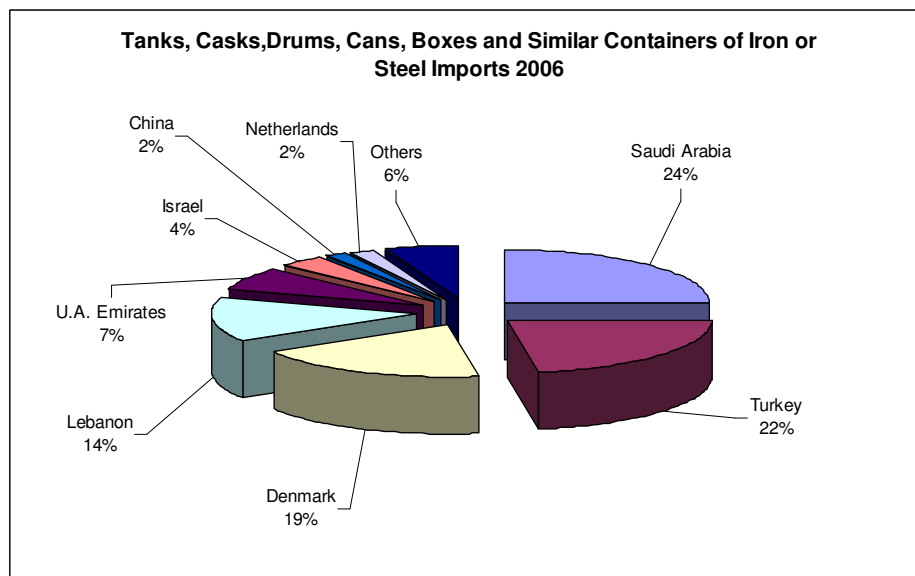


### 3. Metals

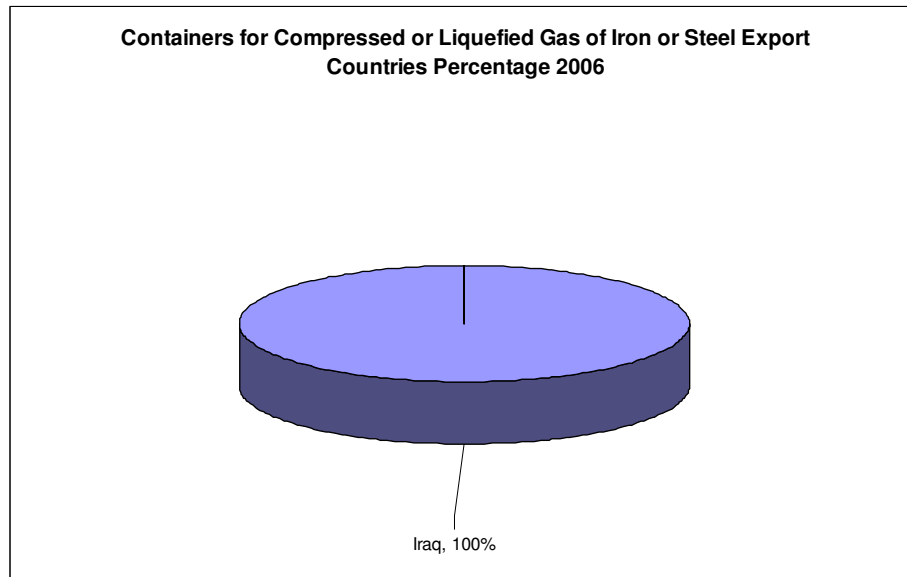
The total exports of Tanks Casks, Drums, Cans, Boxes Containers of Iron or Steel is JD 3,054,602 in 2006 with the major export market of Sudan with a share of 41% followed by Saudi Arabian market with a share of 23% and then the Iraqi market with a share of 22%.



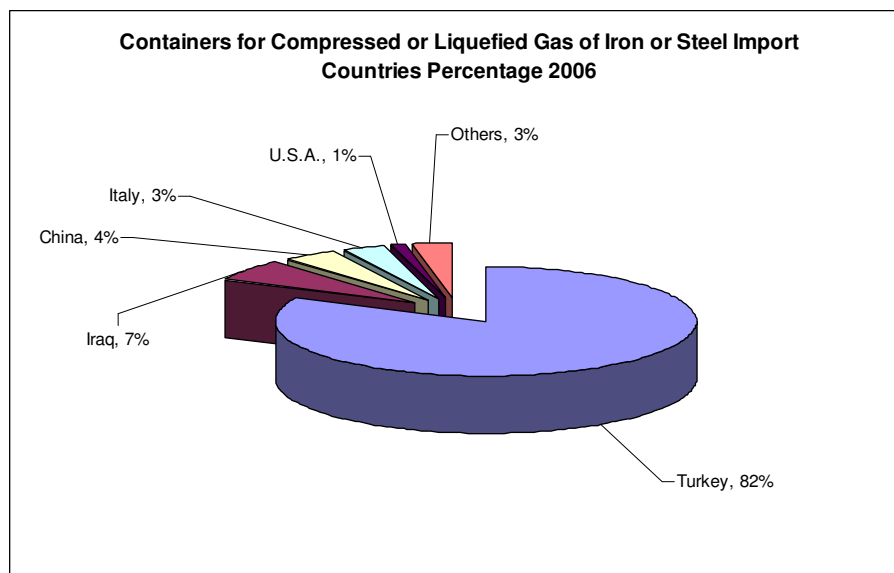
The total imports of Tanks Casks, Drums, Cans, Boxes Containers of Iron or Steel were JD 8,369,704 in the year 2006. The major market for the imports these articles is Saudi Arabia with a market share of 24% followed by the market of Turkey with a share of 22% and then the market of Denmark with a share of 19%.



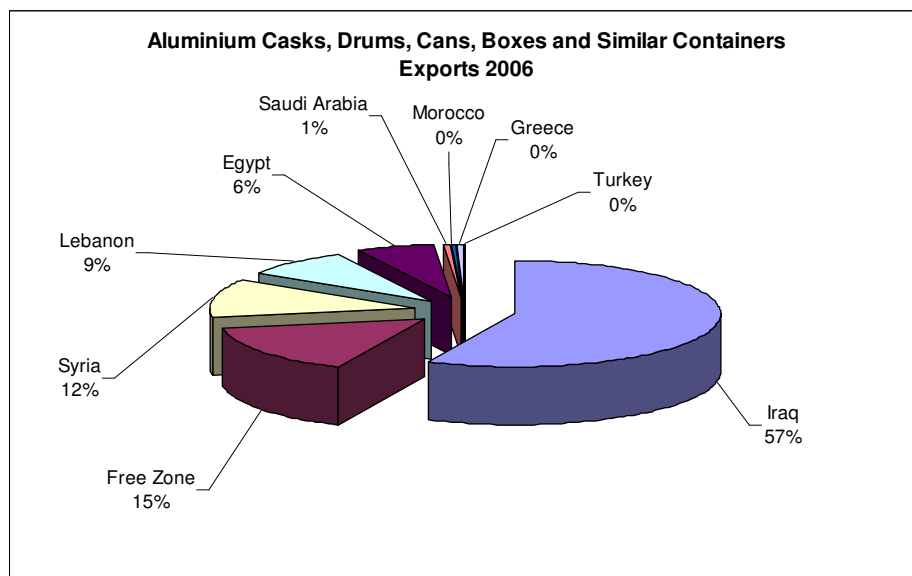
The total exports of Compressed or Liquefied Gas of Iron or Steel were only JD 33,500 JD and the sole market for this article is the Iraq market with a share of 100% in 2006.



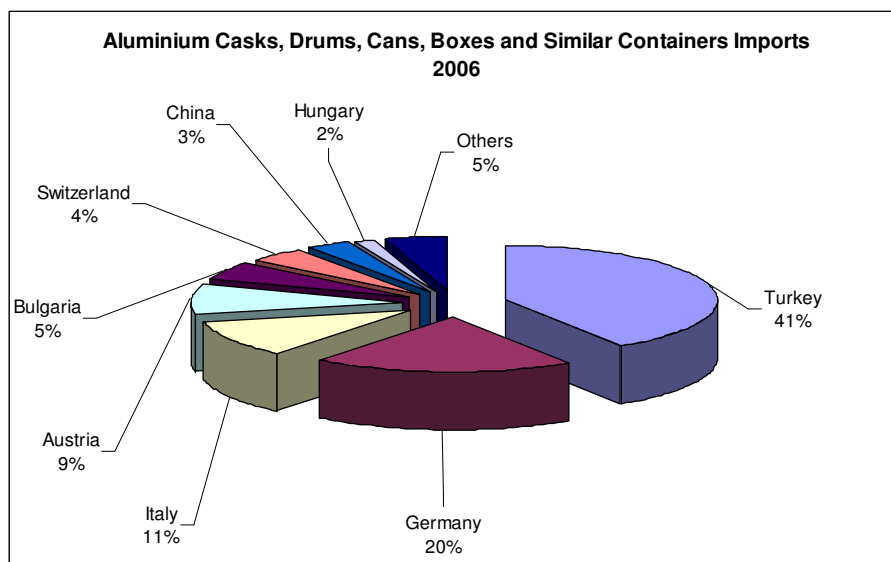
On the other hand, the imports of Compressed or Liquefied Gas of Iron or Steel were JD 8,331,721 in 2006. The main import market for this article is Turkey with a share of 82% in 2006 followed by the Iraqi market with a share of 7%.



The total **exports** of Aluminum Casks, Drums, and Boxes Containers were JD 55,206,379 in 2006. The major market for the exports of Aluminum Casks, Drums, and Boxes Containers in 2006 is the Iraqi market with a share of 57% followed by the Free Zone in Jordan for re-export with a share of 15% and then the Syrian market with a share of 12%.

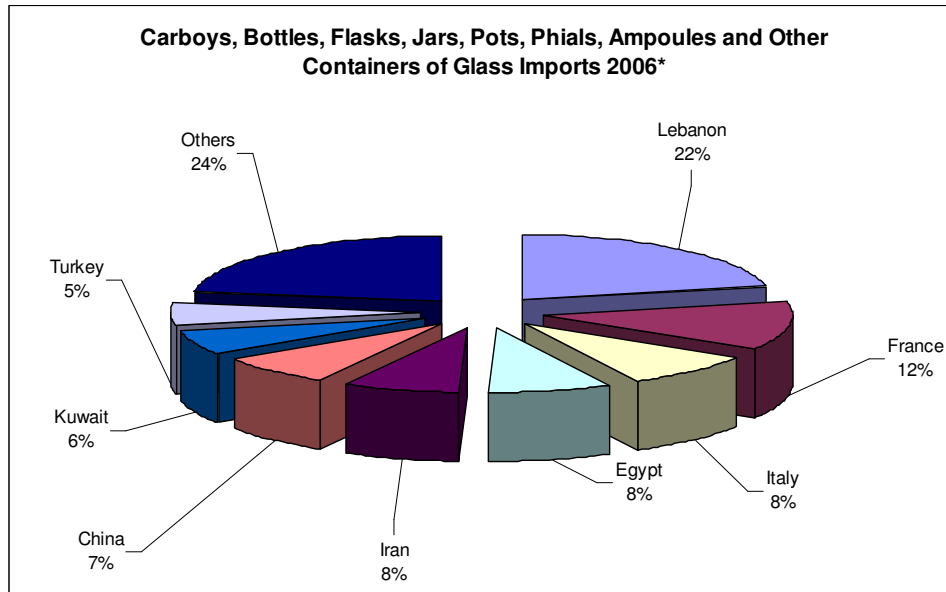


The total **imports** of Aluminum Casks, Drums, and Boxes Containers were JD 1,304,310 in 2006. The main market for this article is Turkey with a share of 41% in 2006 followed by the Germany with a share of 20%.



#### 4. Glass

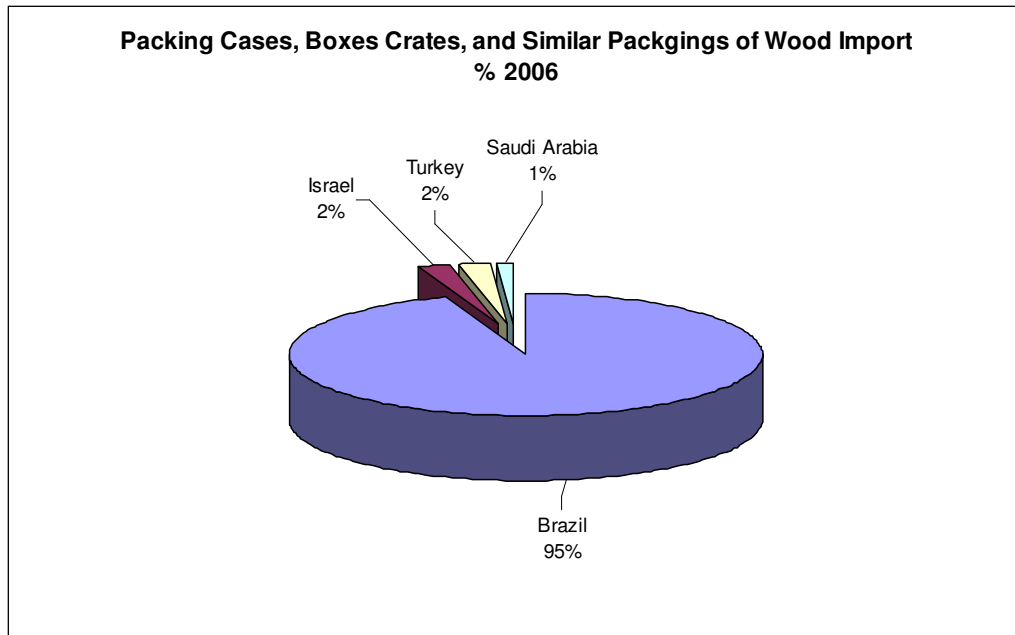
Since Jordan does not have glass factories, there is no export of glass packaging. The total imports of glass packaging articles were JD 8,246,505 in 2006. The imports of glass and glassware are mainly carboys, bottles, flasks, jars, pots, phials, ampoules and other containers. The imports were mainly from Lebanon with a share of 22% followed by imports from France with a share of 12%.



\* This is the only import glass and glassware packaging product that Jordan imports

## 5. Wood

The export of cases, crates and boxes of wood is very minimal since Jordan does not have a large industry in this field. The imports of wood are mainly packing cases, boxes crates, and similar packaging of wood and other containers. The total imports of wooden packaging in 2006 were JD 1,387,289. The imports are mainly from Brazil with a share of 95% followed by imports from Israel and Turkey with a share of 2% each. \* This is the only import wooden packaging products that Jordan imports



## JORDAN EXTERNAL TRADE ANALYSIS OF PACKAGING RAW MATERIALS

### EXPORTS AND IMPORTS OF PACKAGING RAW MATERIALS

With regards to the export of raw materials, Jordan has few factories that manufacture paper and paperboard from recycled paper and pulp but not from wood. Still the total amount exported is very low about 1.4 million JDs. Other than paper and paperboard, the export of raw materials in Jordan is negligible. The figures of plastic raw materials exports must be for semi finished plastic products such as parisons since Jordan does not have a factory for manufacturing raw plastic materials. The growth rate of paper and paperboard export is decreasing with a decrease of 19% in 2006 over the year before.

Domestic Exports of Packaging Raw Materials in JD for the Years 2002-2006											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	
2002	3,022,464	NA	2,341,672	NA	19,354	NA	0	NA	0	NA	5,383,490
2003	1,157,489	-62%	2,574,315	10%	102,428	429%	0	-	0	-	3,834,232
2004	1,472,331	27%	2,512,620	-2%	50,483	-51%	0	-	0	-	4,035,434
2005	4,106,152	179%	1,696,278	-32%	0	-100%	0	-	0	-	5,802,430
2006	3,669,387	-11%	1,370,703	-19%	0	-	0	-	0	-	5,040,090
Average	2,685,565	33%	2,099,118	-11%	34,453	-	0	-	0	-	4,819,135

\* Source: Department of Statistics

Total Exports Packaging Raw Materials in JD for the Years 2002-2006											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Import	Growth Rate	Import	Growth Rate	Import	Growth Rate	Import	Growth Rate	Import	Growth Rate	
2002	4,703,587	NA	3,310,155	NA	42,595	NA	0	NA	0	NA	8,056,337
2003	6,080,207	29%	3,578,212	8%	148,820	249%	0	-	0	-	9,807,239
2004	9,382,915	54%	3,578,879	0%	59,558	-60%	0	-	0	-	13,021,352
2005	14,248,567	52%	2,982,630	-17%	0	-100%	0	-	0	-	17,231,197
2006	10,808,239	-24%	2,366,245	-21%	0	-	0	-	0	-	13,174,484
Average	9,044,703	28%	3,163,224	-7%	50,195	-	0	-	0	-	12,258,122

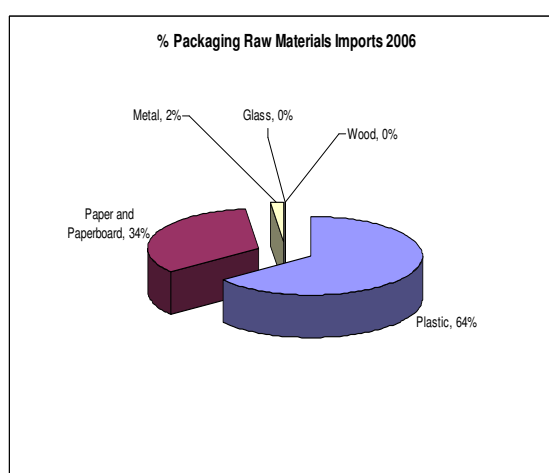
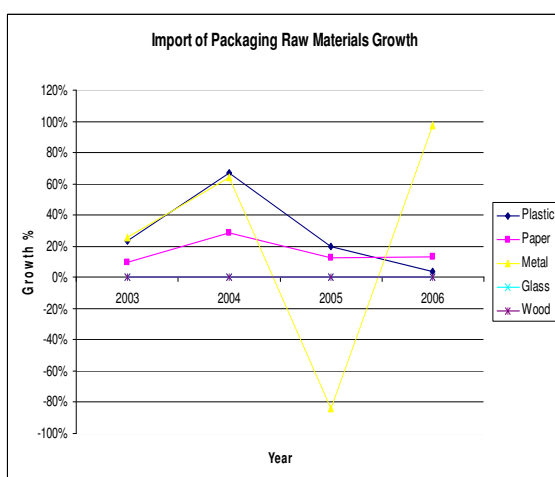
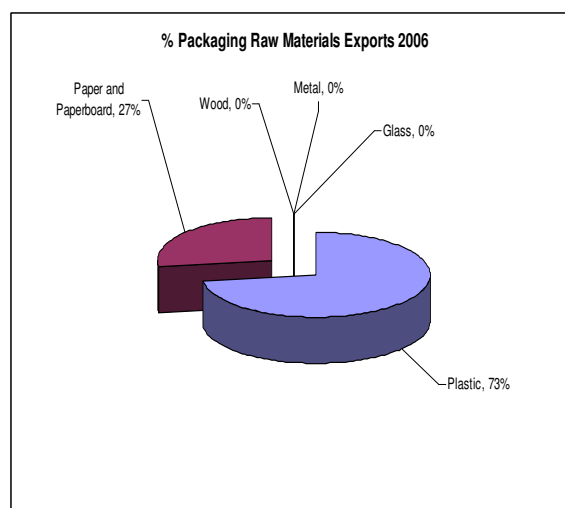
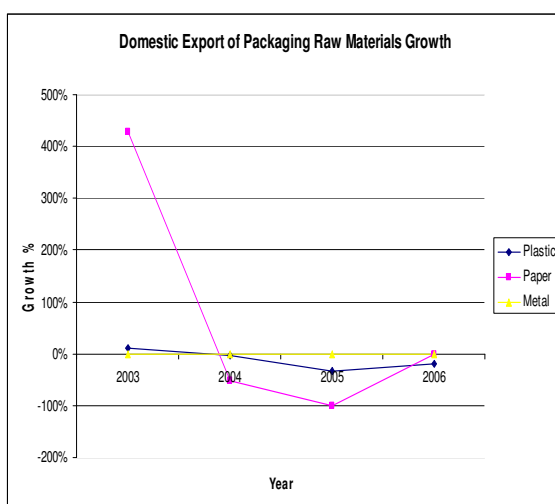
\* Source: Department of Statistics

As for the imports of raw materials, the figures in the table below show that the main imported materials are the plastics with an amount of 112,694,671 JD in 2006 which constitutes about 64% of the total imported packaging raw materials. The growth in imports of plastic packaging raw materials is about 4% in 2006. The next share is taken by the imports of paper and paperboard with an amount of 60,592,147 JD in 2006 and a share of 34% with growth rate of 13% followed by metals with a share of 2% and a growth rate of 98%. There are no imports of glass raw materials since Jordan does not have a glass factory and the wood raw material is not indicated since the wood used to make pallets and cases are from wood imported for other uses.



Imports of Packaging Raw Materials in JD for the Years 2002-2006											
Year	Plastics		Paper		Metal		Glass		Wood		Total Per Year
	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	Export	Growth Rate	
2002	44,029,189	NA	33,786,260	NA	5,275,955	NA	0	NA	0	NA	83,091,404
2003	54,404,411	24%	36,973,524	9%	6,624,026	26%	0	-	0	-	98,001,961
2004	90,986,069	67%	47,517,194	29%	10,860,788	64%	0	-	0	-	149,364,051
2005	108,736,180	20%	53,582,213	13%	1,739,101	-84%	0	-	0	-	164,057,494
2006	112,694,671	4%	60,592,147	13%	3,440,331	98%	0	-	0	-	176,727,149
Average	82,170,104	28%	46,490,268	16%	5,588,040	26%	0	-	0	-	134,248,412

- Source: Department of Statistics

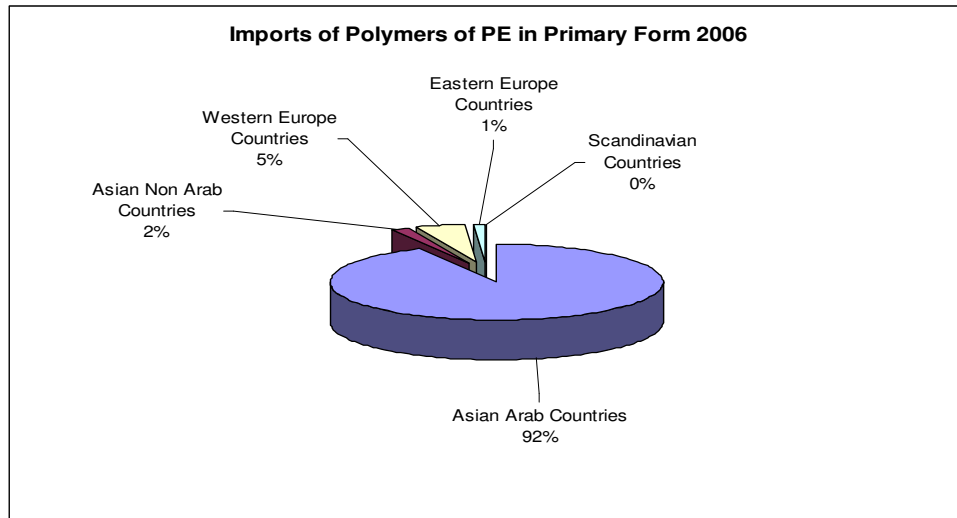


## EXPORTS AND IMPORTS COUNTRIES OF PACKAGING RAW MATERIALS

### 1. Plastics

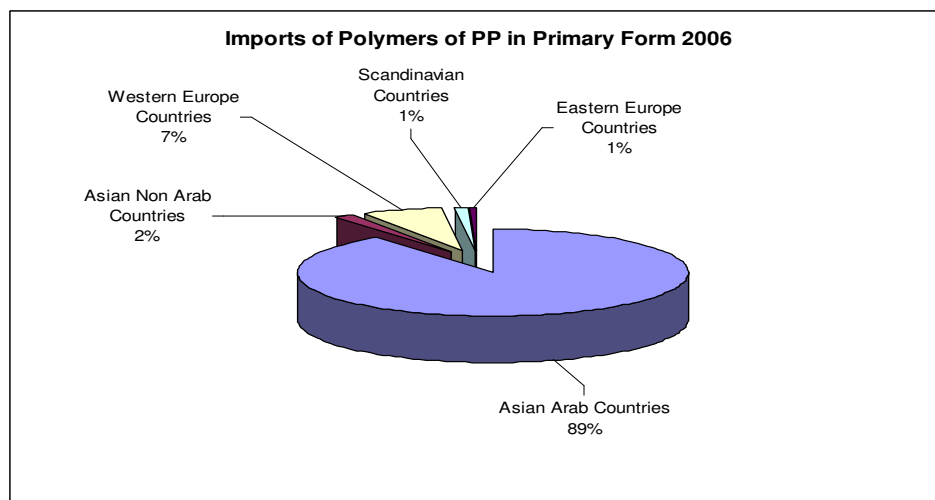
#### - Polyethylene (PE)

The total imports of Polyethylene in its primary form in 2006 were JD 52,321,564. The imports are mainly from Asian Arab Countries with a share of 92% followed by imports from Western European Countries with a share of 5%.



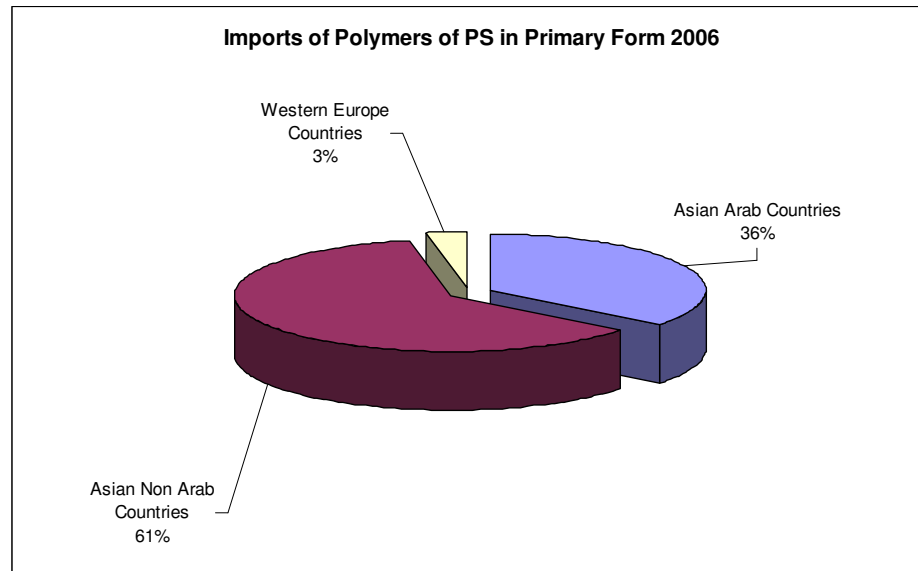
#### - Polypropylene (PP)

The total imports of Polypropylene in its primary form in 2006 were JD 26,148,013. The main imports were from Asian Arab countries with a share of 89% followed by imports from Western European Countries with a share of 7%.



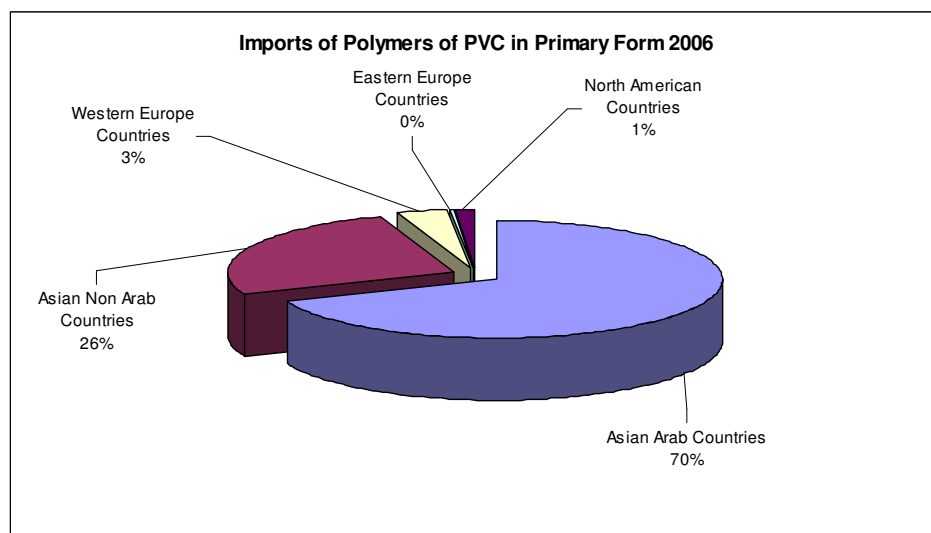
- Polystyrene (PS)

The total imports of Polystyrene in its primary form in 2006 were JD 14,244,997. The main imports in 2006 were from Asian Non Arab Countries with a share of 61% followed by imports from Asian Arab Countries with a share of 36%.



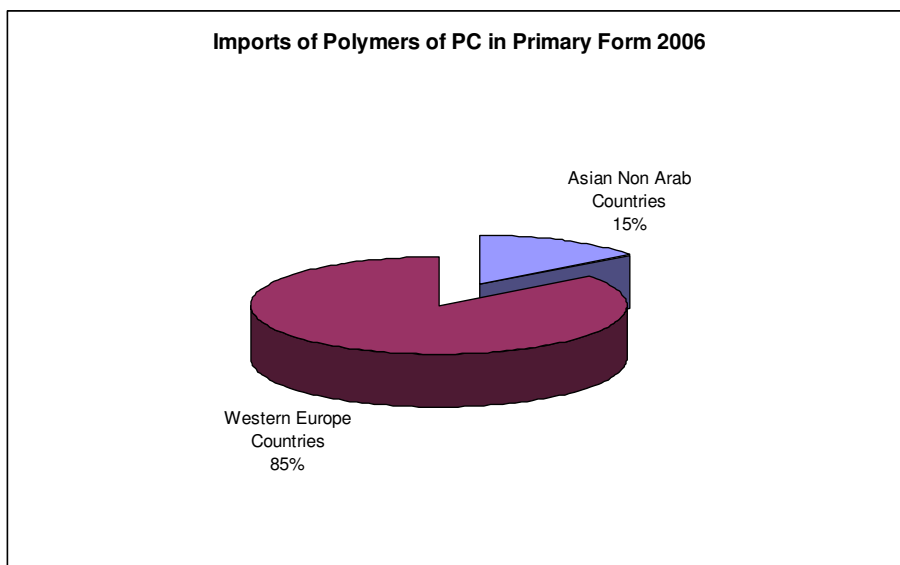
- Polyvinyl Chloride (PVC)

The total imports of Polyvinyl Chloride in its primary form in 2006 were JD 17,279,397. The main imports in 2006 were from Asian Arab countries with a share of 70% followed by imports from Asian Non Arab Countries with a share of 26%.



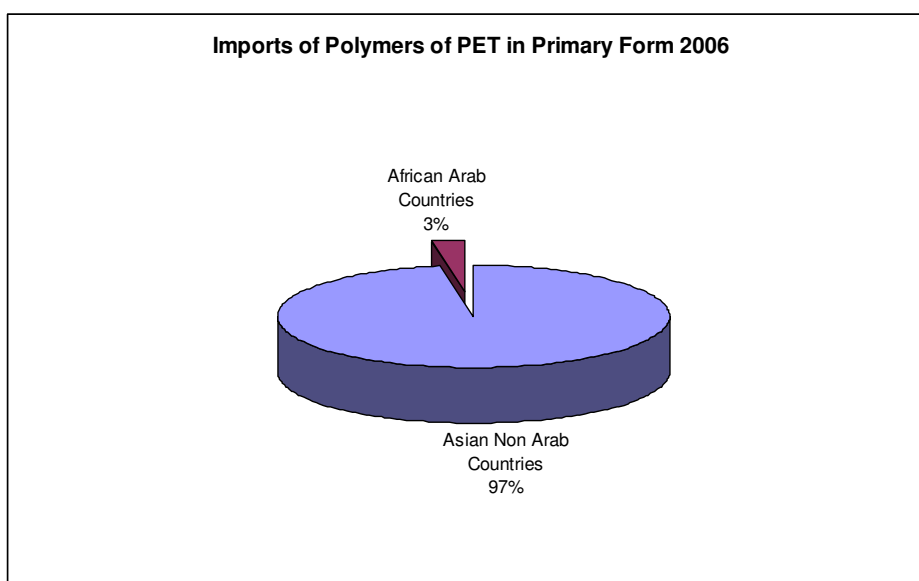
- Polycarbonate (PC)

The total imports of Polycarbonates in their primary forms in 2006 were JD 248,772. The main imports in 2006 were from Western European Countries with a share of 85% followed by imports from Asian Non Arab Countries with a share of 15%.



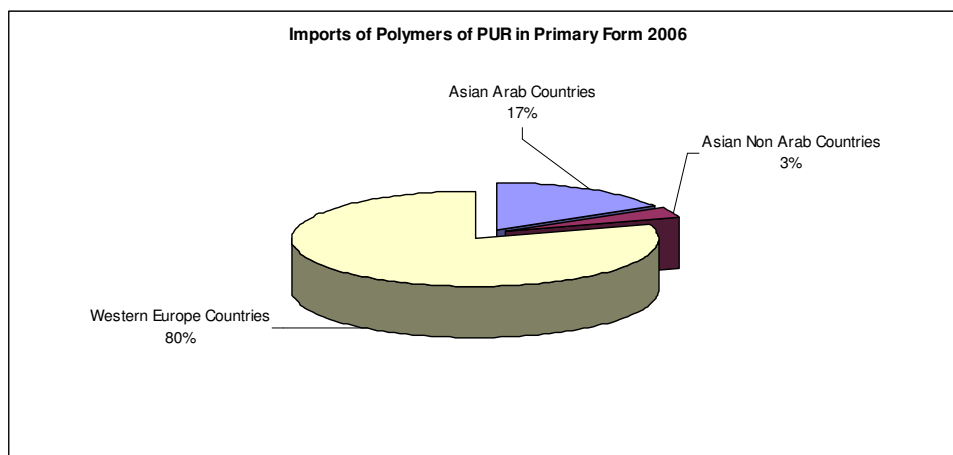
- Polyethylene Terephthalate (PET)

The total imports of Polyethylene Terephthalate (Polyester) in its primary forms in 2006 were JD 1,309,072. The main imports in 2006 were from Asian Non Arab Countries with a share of 97% followed by imports from African Arab Countries with a share of 3%.



## - Polyurethanes (PUR)

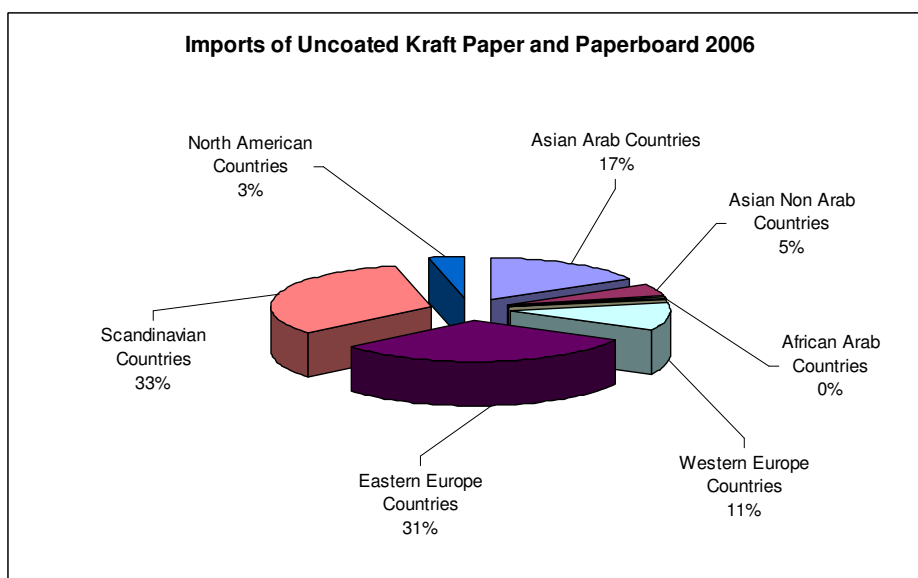
The total imports of Polyurethanes in its primary form in 2006 were JD 11,39,733. The main imports are mainly from Western European Countries with a share of 80% followed by imports from Asian Arab Countries with a share of 17%.



## 2. Paper and Paperboard

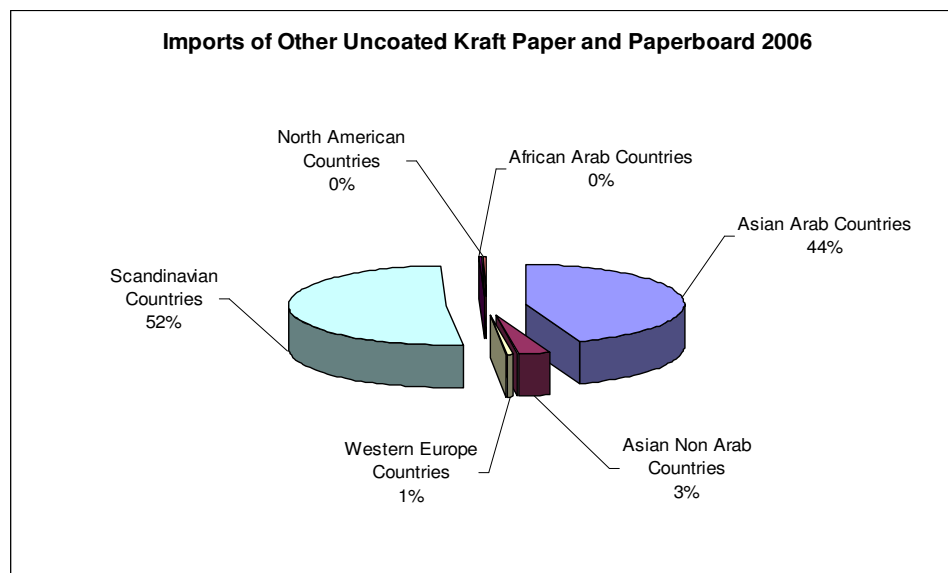
### - Uncoated Craft Paper and Paperboard

The total imports of Uncoated Kraft Paper and Paperboard in 2006 were JD 13,267,889. The main imports in 2006 were from imports of are mainly from Scandinavian Countries with a share of 33% followed by imports from Eastern European Countries with a share of 31%.



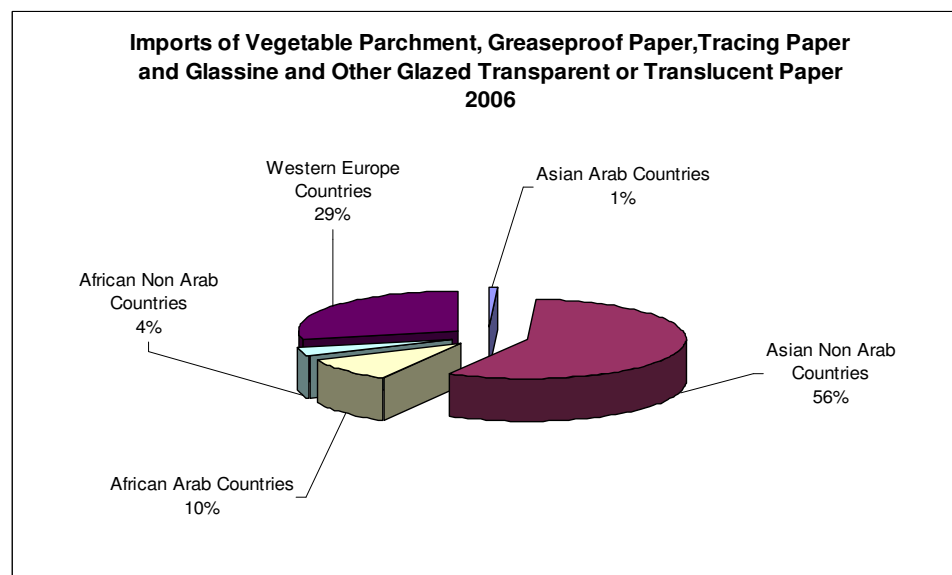
- Other Uncoated Craft Paper and Paperboard

The total imports of Other Uncoated Kraft Paper and Paperboard in 2006 were JD 4,522,822. The main imports in 2006 were from Scandinavian Countries with a share of 55% followed by imports from Asian Arab Countries with a share of 44%.



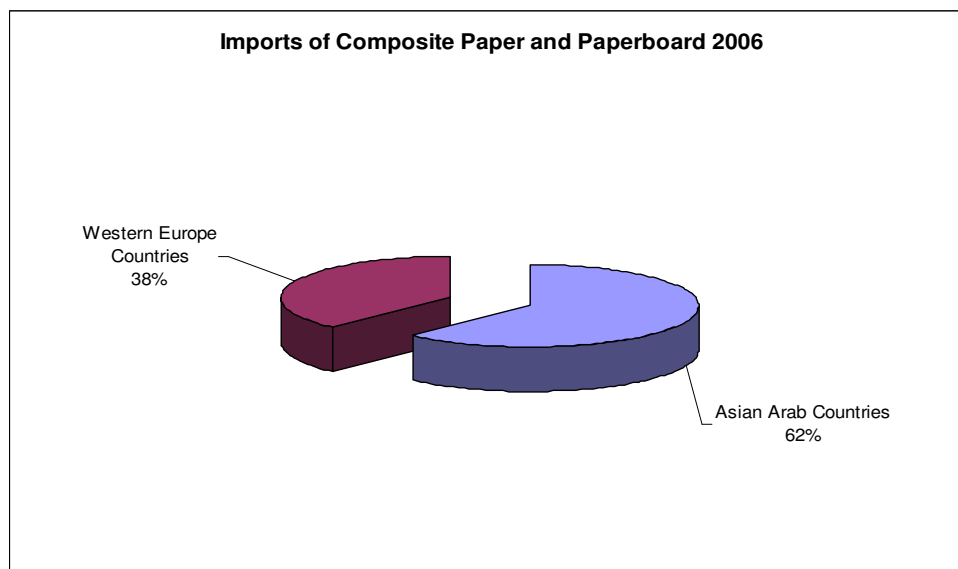
- Vegetable Parchment, Greaseproof Paper, Tracing Paper and Glassine and Other Glazed Transparent or Translucent Paper

The total imports of Vegetable Parchment, Greaseproof Paper, Tracing Paper and Glassine and Other Glazed Transparent or Translucent Paper in 2006 were JD 59,987. The main imports in 2006 were from Asian Non Arab Countries with a share of 56% followed by imports from Western European Countries with a share of 29%..



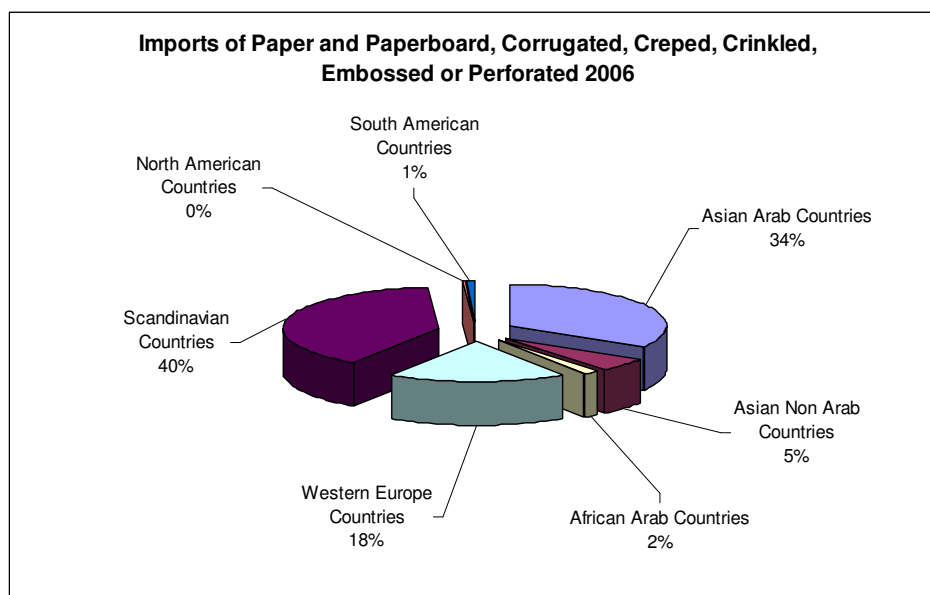
- Composite Paper and Paperboard

The total imports of Composite Paper and Paperboard in 2006 were JD 27,267. The main imports in 2006 were from Asian Arab Countries with a share of 62% and imports from Western European Countries with a share of 38%.



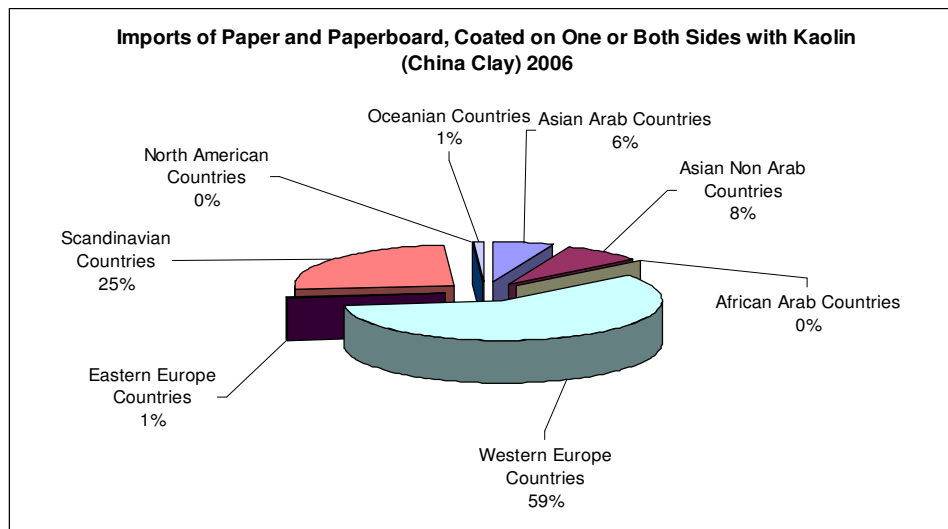
- Paper and Paperboard Corrugated, Creped, Crinkled, Embossed or Perforated

The total imports of Paper and Paperboard Corrugated, Creped, Crinkled, Embossed or Perforated in 2006 were JD 1,088,082. The main imports in 2006 were from Scandinavian Countries with a share of 40% followed by imports from Asian Arab Countries with a share of 34%.



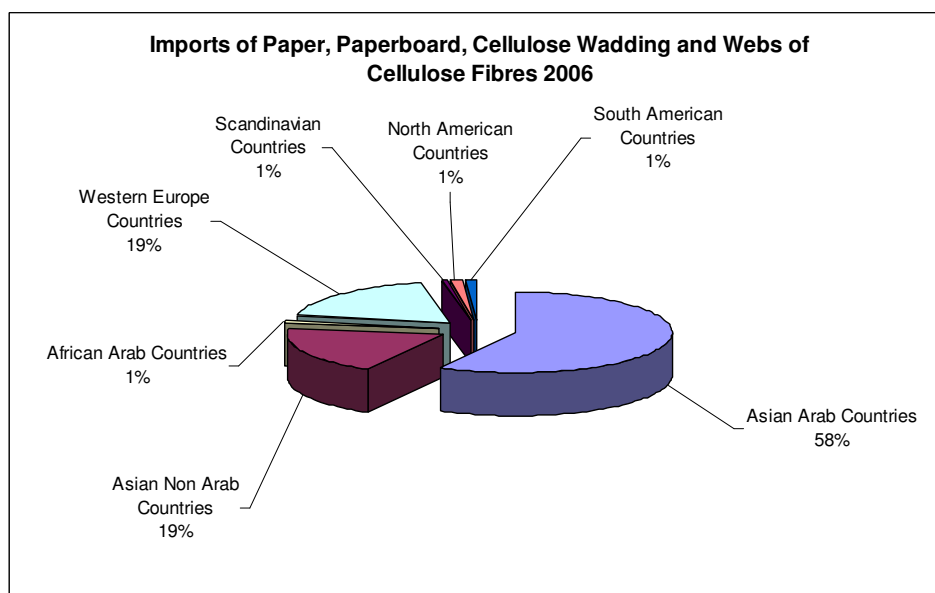
- Paper and Paperboard Coated on One or Both Side with Kaolin

The total imports of Paper and Paperboard Coated on One or Both Side with Kaolin in 2006 were JD 20,170,223. The main imports in 2006 were from Western European Countries with a share of 59% followed by imports from Scandinavian Countries with a share of 25%.



- Paper, Paperboard, Cellulose Wadding and Webs of Cellulose Fibers

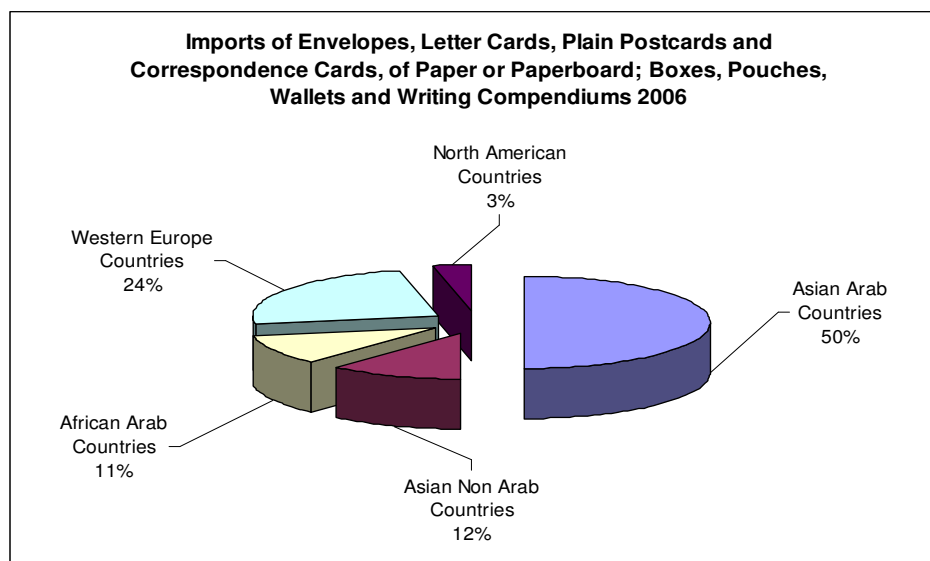
The total imports of Paper, Paperboard, Cellulose Wadding and Webs of Cellulose Fibers in 2006 were JD 9,529,340. The main imports in 2006 were from Asian Arab Countries with a share of 58% followed by imports from Asian Non Arab Countries with a share of 19%.





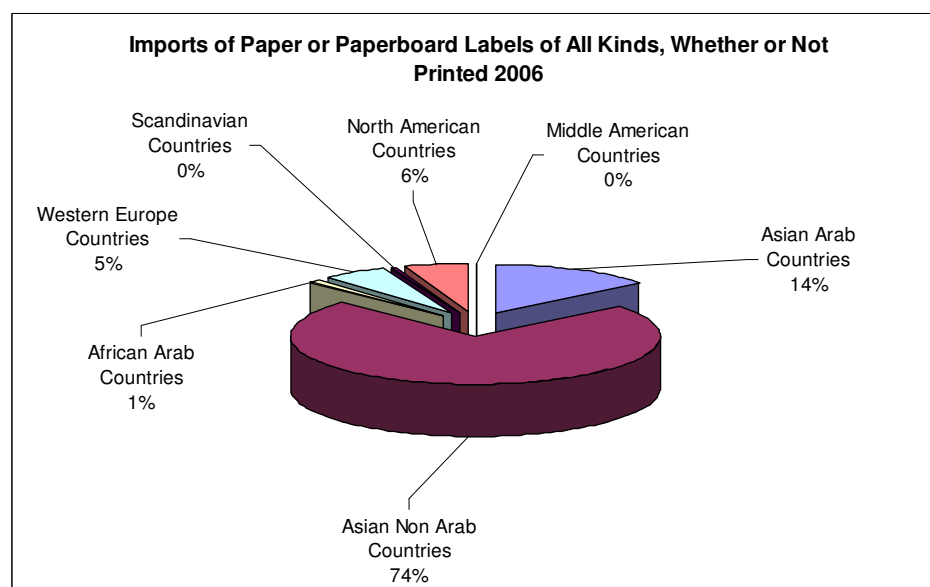
- Envelopes, Letter Cards, Plain Postcards and Correspondence Cards, of Paper or Paperboard; Boxes, Pouches, Wallets and Writing Compendiums

The total imports of Envelopes, Letter Cards, Plain Postcards and Correspondence Cards, of Paper or Paperboard; Boxes, Pouches, Wallets and Writing Compendiums in 2006 were JD 463,987. The main imports in 2006 were from Asian Arab Countries with a share of 50% followed by imports from Western European Countries with a share of 24%.



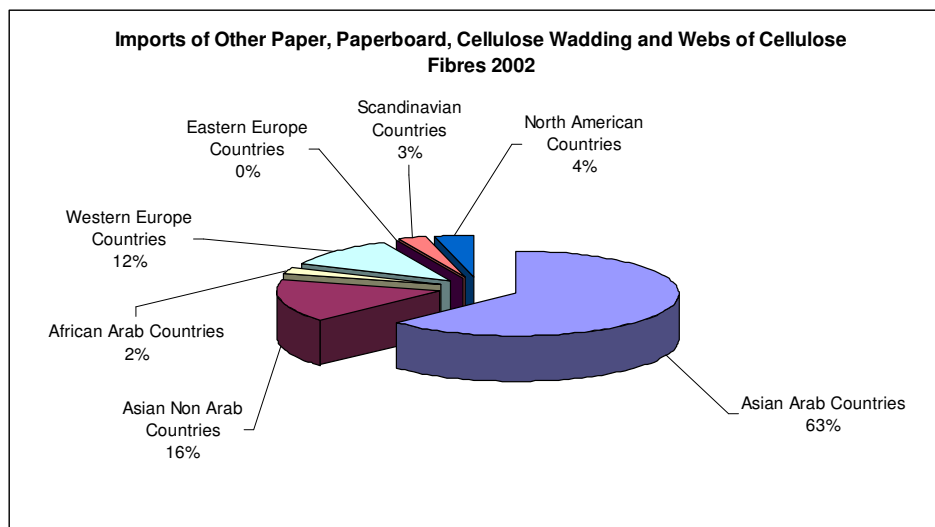
- Paper and Paperboard Labels

The total imports Paper and Paperboard Labels in 2006 were JD 7,902,622. The main imports in 2006 were from Asian Non Arab Countries with a share of 74% followed by imports from Asian Arab Countries with a share of 14%.



- Other Paper, Paperboard, Cellulose Wadding and Webs of Cellulose Fibers

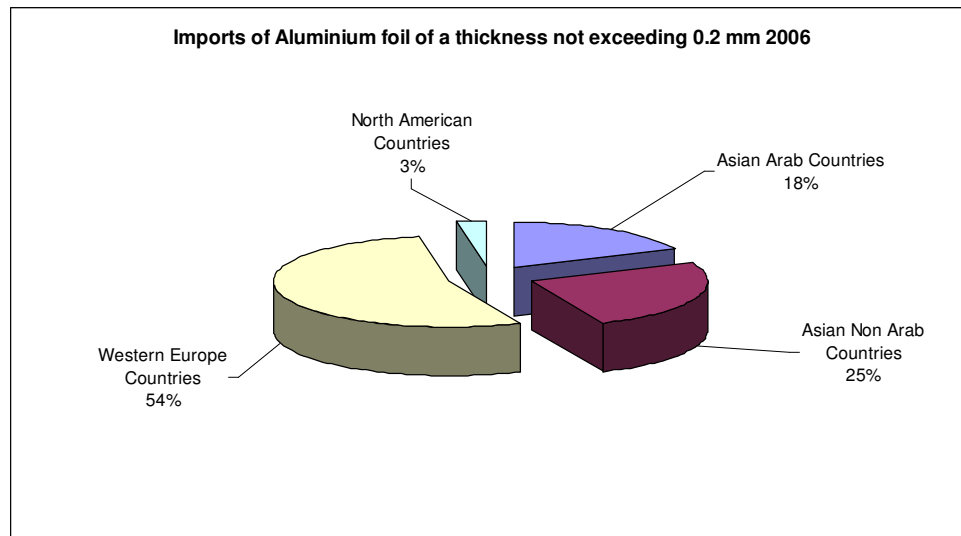
The total imports of Other Paper, Paperboard, Cellulose Wadding and Webs of Cellulose Fibers 2006 were JD 3,559,928. The main imports in 2006 were from Asian Arab Countries with a share of 63% followed by imports from Asian Non Arab Countries with a share of 16%.



### 3. Metals

#### - Aluminum Foil of a Thickness Not Exceeding 0.2 mm

The total imports of Aluminum Foil of thickness not exceeding 0.2 mm in 2006 were JD 3,440,331. The main imports in 2006 were from Western European Countries with a share of 54% followed by imports from Asian Non Arab Countries with a share of 25%.



## APPENDIX (C)

### JORDANIAN PACKAGING RELATED STANDARDS:

#### 55.020 Packaging and Distribution of Goods In General:

JS NO.	Date	
1546	2003	Packaging-Terminology -Basics terms and definitions
1567	2003	Packaging-Pictorial marking for handling of goods
1573	2003	Packaging- Tactile warnings of danger -Requirements
1556	2003	Packaging-Unit load sizes-Dimensions
1539	2003	Guide for packaging -Recommendations to comply with consumer needs and protection
1586	2004	Packaging- Bar code and two- Dimensional symbols for shipping transport and receiving labels.
1609	2004	Packaging- Child –Resistance packaging- Requirements and tenting procedures for non- reclosable packages for non pharmaceutical products.
1585	2004	Packaging- Child –Resistance packaging- Requirements and tenting procedures for non- reclosable packages.

Source: Jordan Institute for Standards and Metrology

\* Mandatory

#### 55.040 Packaging Material and Accessories:

JS NO.	Date	
1619-1	2004	Packaging- Paper and board intended for contact with foodstuffs- sensory analysis part 1 : Odour
1619-2	2004	Packaging- Paper and board intended for contact with foodstuffs- sensory analysis part 2 : Off-flavor (taint)

Source: Jordan Institute for Standards and Metrology

\* Mandatory

#### 55.080 Sacks, Bags:

JS NO.	Date	
535	2001	Plastics- Plastic shopping bag
1597-1	2004	Packaging- sacks- Vocabulary and types part 1: paper sacks.

1597-2	2004	Packaging- sacks- Vocabulary and types part 2: sacks made from thermoplastic flexible film.
1600-1	2004	Packaging- sacks- Description and method of measurement part 1: empty paper sacks.
1600-2	2004	Packaging- sacks- Description and method of measurement part 2: empty sacks made from thermoplastic flexible film.
1629-1	2004	Packaging- sacks- Drop test part 1: paper sacks.

JS NO.	Date	
1629-2	2004	Packaging- sacks- Drop test part 2: sacks made from thermoplastics flexible film.
1655	2004	Packaging- sacks- Determination of the friction of filled sacks.
1604-1	2004	Packaging- sacks- Conditioning for testing part 1: paper sacks.

Source: Jordan Institute for Standards and Metrology

\* Mandatory

#### 55.080 Sacks, Bags: Cont.

JS NO.	Date	
1638-2	2005	Packaging- Method of specification for sacks part 2: sacks made from thermoplastic flexible film.
1638-1	2005	Packaging- Method of specification for sacks part 1: paper sacks
1657-1	2005	Packaging- Dimensional tolerances for general purpose sacks part 1: paper sacks.
1657-2	2005	Packaging- Dimensional tolerances for general purpose sacks part 2: sacks made from thermoplastics flexible film.
1654	2004	Packaging- Sacks made from thermoplastic flexible film- Tear propagation on edge fold.
1680-2	2005	Tea sacks- Specification part 2: Performance specification for sacks for palletized and containerized transport of tea.
1680-1	2005	Tea sacks- Specification part 1: Reference sacks for palletized and containerized transport of tea.
469 *	2006	Plastic sacks for household waste collection- Types requirements and test method.
1676	2005	Packaging-sacks-Method of sampling empty for testing.
534	1987	Plastic-Bags-Method of testing plastic bags for grocery use made from P.E.H.D.
970	1994	Plastic-sacks- Open mouth sacks manufactured from woven polyolefin tape yarn.
971	1994	Plastic-sacks- Open mouth sacks manufactured from woven polyolefin tape yarn – Test method.

Source: Jordan Institute for Standards and Metrology

\* Mandatory

**55.100 Bottles, Pots, Jars:**

JS NO.	Date	
373*	2005	Iron and steel products- Tinplate and lacquered tinplate intended for food can industry.

Source: Jordan Institute for Standards and Metrology

\* Mandatory

**55.120 Cans, Tins, Tubes:**

JS NO.	Date	
776 *	2001	Containers- Fresh vegetables and fruits containers made from expanded polystyrene.
614	2006	Containers-Single use rigid and semi-rigid plastic cups and containers for beverages, milk products and allied purposes.
943	1993	Containers-Polyethylene terephthalate (PET) containers for carbonated beverages.
383 *	1994	Containers-Hermetically sealed round three –piece tin cans used for canning foodstuffs.
757	1991	Containers- Aluminum foil catering containers.
836	1992	Containers- Light gauge metal container – Glossary of terms
894	1992	Containers-Methods for determination of dimension and capacities for light gauge metal cans.

Source: Jordan Institute for Standards and Metrology

\* Mandatory

**55.130 Aerosols Containers:**

JS NO.	Date	
843	1992	Containers- Light gauge metal containers for aerosols – Glossary of terms.

Source: Jordan Institute for Standards and Metrology

\* Mandatory

**55.140 Barrels, Drums, Canisters:**

JS NO.	Date	
616	2005	Containers-Methods of test of blow molded polyolefin containers up to 5 liters capacity.
617	2005	Containers-Blow molded polyolefin containers up to 5 liters capacity-Specifications.

Source: Jordan Institute for Standards and Metrology

\* Mandatory

**55.160 Cases, Boxes, Crates:**

JS NO.	Date	
184*	1980	Containers-General requirements for fresh fruits and vegetables containers.
931	1993	Containers-plastic containers for fruits and vegetables intended for local handling.

Source: Jordan Institute for Standards and Metrology

\* Mandatory

**55.180.01 Freight Distribution Of Goods In General:**

JS NO.	Date	
1705 *	2005	International standards for phytosanitary measures- Requirements for regulating wood packaging material in international trade.

Source: Jordan Institute for Standards and Metrology

\* Mandatory

**55.180.20 General Purpose Pallets:**

JS NO.	Date	
1696	2006	Quality classification of timber used in pallets and packaging.
1690	2005	Pallets of material handling-Quality of new wooden components for flat pallets.
1715-1	2005	Methods of test for pallet joints part 1: Determination of bending resistance of pallet nails, other dowel –type fasteners and staples.
1715-2	2005	Methods of test for pallet joints part 2: Determination of withdrawal and head pull-through resistance of pallet nails and staples.
1715-3	2005	Methods of test for pallet joints part 3: Determination of strength of pallet joints.
1724	2006	Pallets for material handling-Quality of fasteners for assembly of new and repair of used, flat, wooden pallets.
1718-1	2006	Pallets for material handling-Flat pallets part 1: Test method.
1718-2	2006	Pallets for material handling- Flat pallets part 2: Performance requirements and selection of tests.
1718-3	2006	Pallets for material handling- Flat pallets part 3: Maximum working loads.
1709	2006	Pallets for material handling- Quality of assembly of new wooden flat pallets.
1729	2006	Repair of flat wooden pallet.
1733	2006	Flat pallets for intercontinental materials handling-Principal dimension and tolerance.

Source: Jordan Institute for Standards and Metrology

\* Mandatory

#### 55.180.40 Complete, Filled Transport Packages

JS NO.	Date	
1636	2004	Packaging – Complete, filled transport packages-Vertical impact test by dropping.

Source: Jordan Institute for Standards and Metrology

\* Mandatory



## **APPENDIX (D)**

### **LIST OF VISITED COMPANIES AND FOCUS GROUPS SESSIONS**

#### **LIST OF VISITED COMPANIES**

1. Jerusalem Factory for Can Making  
Fadi Awadallah  
Tel.: 4165142
2. Al-Majeed Plastic  
Tahseen Al-Shdeifat  
4889011
3. Jordan Paper and Cardboard Factories Ltd.  
Osama Alami  
053650411
4. Al-Hussam Plastic Industries Co.  
Basil Shehadeh  
Tel.: 4871123/4
5. Packaging Industries Co. Ltd.  
Mazen Ashqar/ Sawsan Shishan  
Tel.: 4022715
6. Jordan Tinsplate Canning and Printing  
Omar Abu Salha  
Tel.: 4051124
7. Al-Shurook for Printing and Packaging  
Mohammad Kotob  
4884052
8. White Plastic Co.  
Majed Baghdadi  
Tel.: 4201626
9. Al-Ekbal Printing & Packaging Co.  
Fayek Abu Sayef  
Tel 5728861
10. Arab Medical Containers Co. Ltd. Jordan  
Adnan Al-Asmar  
Tel.: 4022301

11. Queen Ali Airport- Cargo  
Zaid Lambaz  
Tel.: 4793001
12. Petra Food Industries  
Yazid Ghanma  
Tel.: 4022930
13. Mahfooz Kassessieh Design (MKD)  
Mahfooz Kassessieh  
Tel.: 5335152
14. Design Jordan  
Eng Zeina Barto  
Tel. 5653697
15. Jordan Design Center
16. Ahlia Plaza Superstores  
Raed Al Wael  
Tel.: 5688471/81/91 Ext. 129

## LIST OF FOCUS GROUPS:

### 1. Processed Food Focus Group

Attendance:

#	Company	Representative
1	Universal Modern Industries Co.	Mrs. Kati Nijmeh and Mr. Zuhair
2	Ideal Dairy Co.	Mr. Kamal Al-Badri
3	Zued olive Mills	Mr. Wasfi Al-Zeud
4	Zalloum Co.	Mr. Hamad Abu Shenaneh, Ahmed Afaneh and Reyad Mohamad
5	Alpha Beta for Food Industries	Mr. Ahmed Zaatreh and Mr. Majed Dabbas
6	Universal Chocolate	Mr. Hazem Mustafa
7	Ittihad for chocolate Manufacturing	Mr. Fathee Al-Gagbeer
8	Universal Coast Company for vegetable Oils	Mr. Ahmed Al-Assi and Zahi Al-Assi
9	Aqaba Co. for Vegetable Oils	Mr. Haithem Mustafa

## 2. Dead Sea Products Focus Group

Attendance:

#	Company	Representative
1	Iris Lab Co	Mr. husam Masa'd
2	La Cure	Mr. Mohammad Al Refai and Ms. Unood Kilani
3	Rivage Co.	Mr. Munir Haddad
4	Naja Co.),	Dr. Laith Qutieshat
5	Samara Dead Sea Products	Mr. Ahmed Samara
6	AFICO	Mr. Riad Kayed

## 3. Pharmaceuticals Focus Group

Attendance:

#	Company	Representative
1	Al-Hayyat Pharmaceuticals	Mr. Munther Hashim
2	Jordan Pharmaceuticals Manufacturing Co. (JPM)	Mr. Isam Barhomeh and Ms. Ramia Kourah
3	Sutcon Co.	Mr. Khaled Al-Masri

## 4. Fresh Fruits and Vegetables Focus Group

Attendance:

#	Company	Representative
1	Karim Hadadin Farms	Mr. Karim Hadadin
2	Wael Hadadin Farms	Mr. Wael Hadadin
3	Awad Farms	Mr. Walid Awad
4	JORICO	Mr. Said Masri
5	Cargo services from the Royal Jordanian	Mr. Zaid Lambaz, Mr. Mohammad Rashid, Mr. Mohammad Salah
6	Jordan Export Promotion Association JEPA	Mr. Anwar Hadad and Mrs. Nidal Jwahan

## APPENDIX (E)

### INVESTMENT FACILITATION AND INCENTIVES FOR THE SECTOR

There is no facilitation and incentives that are specific for the packaging sector. The facilitation and incentives provided by Jordan Investment Board are general and include<sup>1</sup>:

#### 1. Income and Social Services Tax Exemptions

As part of the industrial sector, the packaging sector enjoys the exemptions and facilities provided by the Law of Investment, where the Council of Ministers and upon recommendation of both the Minister of Industry and Trade and the Committee, may offer a packaging project incentives or guarantees or other privileges for the number of years the Council of Ministers sees fit according to the its nature, its geographic location, its contribution to increasing exports, creating jobs, exploiting national natural resources and accelerating economic development.

Exemptions of income and social services taxes vary depending of the development area as follows:

- 25% if the Project is in a class A development area.
- 50% if the Project is in a class B development area.
- 75% if the Project is in a class C development area.

The exemption period upon the committee's decision is (10) ten years starting from the date of commencement of work for services projects, or from the date of commencement of production for manufacturing projects.

The Committee grants an additional exemption if the project has been expanded, developed or modernized with the result of increasing its Production Capacity. The additional exemption period will be for one year per each increase in production capacity not less than 25%, and for a maximum of four years.

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<sup>1</sup> Source: Jordan Investment Board JIB

#### 2. Custom and sales Tax Exemptions

The fixed assets of the packaging project are exempted from fees and taxes provided that they are imported into the Kingdom within a period of three years from the date of the Committee's decision approving the lists of fixed Assets of the project. The Committee may extend this period if it deems that the nature of the Project and the size of work required that.

Imported spare parts for the project are exempted from fees and taxes provided that the value of such spares does not exceed 15% of the value of the fixed assets for which they are required, and provided that they are imported into the Kingdom or used in the project within a period of ten years from the date of commencement of production or work, in

accordance with a decision taken by the Committee approving the lists of spare parts and their quantities.

The Committee exempts from fees and taxes fixed assets that are required for the expansion, development or modernization of the project if such expansion, development or modernization will result in an increase in the production capacity of the project by not less than 25%.

The Committee exempts from fees and taxes any increase in the value of the fixed assets which are imported for the project if such increase is a result of a rise in the prices of such assets in the country of origin, or a rise in the freight charges applicable thereto or of changes in the exchange rate.

If the Project is transferred from one development area to another during the granted exemption period, then for the purposes of the exemption, and provided that the Jordan Investment Board is (duly) notified (of the transfer), the Project will be afforded, for the remaining period of the exemption, the same treatment as Projects located in the (new development) area to which the Project has been transferred.

Any existing Project, whether approved as an “Economical Project” or as an “Approved Economical Project” pursuant to the provisions of the Encouragement of Investment Law No. (11) of 1987 and its amendments or the proceeding laws, and any other project that did not benefit from the provisions of these laws, will enjoy the exemptions and privileges provided by this Law if it meets the requirements of a regulation that will be issued for this purpose, and adjusts its status according to the provisions thereof.

Packaging industry established in certain areas of Jordan enjoys facilitation and incentives provided by the party responsible for this area such as:

## **1. Industrial Estates**

The Jordan Industrial Estates Corporation (JIEC) was established to increase support and encourage the sector, also to increase investment opportunities, and preserve the environment. It owns and manages three industrial estates:

- Abdullah II Ibn Al- Hussein Industrial Estate (AIE) Amman – Sahab,
- Al-Hassan Industrial Estate (HIE-QIZ) Irbid.
- Al-Hussein Bin Abdullah II Industrial Estate (HUIE-QIZ) Al-Karak.
- Maan Industrial Estate/ Maan
- Aqaba International Industrial Estate / Aqaba

Industrial estates offer the following incentives to investors:

- 100% exemptions for two years on income and social services tax for industrial projects located only within industrial estates owned & managed by JIEC.
- Total exemption from buildings & land tax.
- Exemption or reduction on most municipalities' fees.
- 100% exemption of taxes and fees on fixed assets for the project, fixed assets for expansion or modernization, and on spare parts.

In addition, there is a full package of ancillary services at each industrial estate.

The Industrial Estate Corporation manages four industrial parks in Amman , Irbid, Al Karak, and Aqaba, and there are private industrial parks, Al Tajamouat, Gateway, Al-Mushatta, Al-Qastal, and Cybercity which also enjoy QIZ designation

## **2. Free Zones**

There are currently (4) public Free Zones and (17) private Free Zones in the Kingdom. Commodities and goods produced in the free zone areas do not pay the usual excise fees and other taxes.

## **3. Aqaba Special Economic Zone Authority (ASEZA)**

The Aqaba Special Economic Zone (ASEZ) was launched in 2001 as a duty-free, low tax multi-sectoral development zone. *A package of incentives offered by ASEZA include*

- Traded goods are exempted from customs taxes and fees, except for cars; (yet qualifying registered firms may import cars duty and tax free).
- Business activities are subjected to a 5 percent corporate tax with the exceptions of banking, insurance and land transport which will be subjected to the prevailing tax rates in Jordan .
- Full exemption from social services tax 7 percent sales tax for selected finished consumer goods and hotel and restaurant services.
- 10 percent land transfer tax, of which 6 percent is paid by the buyer and 4 percent by the seller
- Exemption from land and building taxes on used property.
- No restrictions on repatriation of capital and profits.
- Businesses registered and operating in the ASEZ also enjoy similar incentives provided to the rest of the country such as 100 percent foreign ownership in tourism, industry and a vast majority of services, in addition to full repatriation of capital and profits and liberal foreign currency regulation.
- Registered entities benefit from preferential access Jordan possesses with the EU, the United States through the QIZ and FTA, and the numerous Arab countries through protocols and free trade agreements.

Investors can lease the land in the ASEZ for a period of 50 years, renewable in certain conditions, or purchase it for particular projects, which include hotels, health, educational, residential and commercial buildings.

## **4. Qualifying Industrial Zones (QIZs)**

QIZs are areas that have been accorded a special status designated by the government s of Jordan and the U.S., whereby products manufactured in these zones can be exported to the U.S. without payment of duty or excise taxes, and without the requirement of any reciprocal benefits. In addition, there are no quotas on products manufactured in Jordan and exported to the U.S. As a result of these and other facilities offered by the government of Jordan, investors are able to economize between 15% - 35% on the cost of production.

The QIZ measure came after the signature of the peace agreement between Jordan, the Palestinian National Authority and Israel in an effort for regional economic co-operation. Products manufactured in Jordanian QIZs should have 8% value added from Israel to be allowed entry into the

## **Public Zones**

- Al-Hassan Industrial Estate
- Al- Hussein Bin Abdullah II Industrial Estate
- Aqaba Industrial Estate
- Ma'an Industrial Estate

## **Private Zones**

- Ad-Dulayl Industrial Park
- Al-Tajamouat Industrial Park
- Cyber City Park
- Al-Qastal Industrial Park
- Al-Zay Ready wear
- Al- Mushatta Qualifying Industrial Estate
- Jordan Gateway project
- Al- Hallabat Industrial Park
- Resources Company for Development and Investment

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