

Pre-Feasibility Study

A Factory for Producing Alcohol-Free Malt Beverages

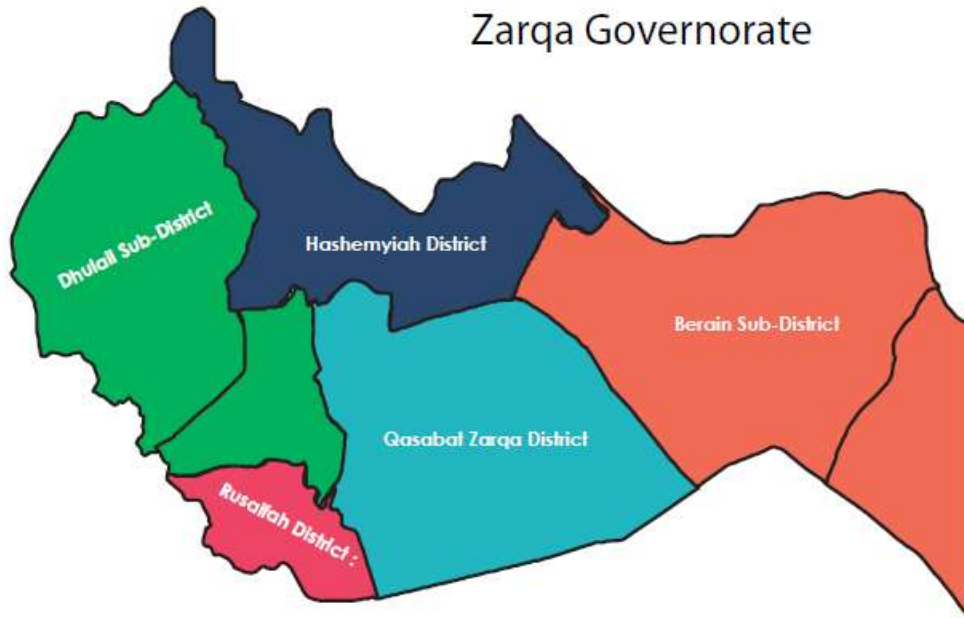
Zarqa

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1. Executive Summary

This study aims at identifying the Pre-Feasibility for establishing a factory for producing alcohol-free malt beverage at Ad Dulayl Industrial Park in Zarqa Governorate, due to the availability of raw materials required for this industry in the Kingdom, and the increasing demand by the youth and families for alcohol-free multi-flavor malt products in the kingdom. The following table shows the preliminary indicators of the project.

Table 1: Initial indicators of the project

Project Name	Factory for Producing Alcohol-Free Malt Beverages
Sector	Industrial Sector – Food Industries
Governorate	Zarqa
Region	Ad Dulayl District
Products	Alcohol-Free multi-flavor malt beverage products
Project Description	The project aims at the establishment of a factory for producing Alcohol-Free malt beverage of various flavors, and then marketing and selling these products in the local market.
Target Market	<ul style="list-style-type: none"> • All wholesalers and retailers • Hypermarkets • Hotels and restaurants • Schools and universities • Individual consumers
Investment Cost	The investment cost of the project is JD 6 million.
The Average return on Investment	The average return on investment over ten years is about 10.3%
Internal Rate of Return	The rate of internal return for the project is about 19%
Average added value of the Project	The average added value of the project over ten years is about JD 1.2 million
Risk Assessment	The Sensitivity Analysis indicates a low risk in case of 10% increase in investment cost, or 10% decrease in production, or 10% increase in operating costs.
The Project Justifications	<ul style="list-style-type: none"> • Availability of some raw materials required for this industry in the Kingdom. • The increasing consumer demand on drinking Alcohol-Free malt beverage, especially among young people, as well as the demand by some families for the purpose of treatment as these drinks contains minerals and various healthy ingredients. • Most of the Kingdom's needs for Alcohol-Free malt beverage products are met by imported products • The limited number of local factories producing Alcohol-Free malt

	<p>beverage as compared to the increasing demand on these products in the local market</p> <ul style="list-style-type: none">• Saving the foreign currency resulting from the massive importation of soft drinks through establishing an indigenous factory for these products that serves both the local market and export markets• Recruitment of local labor
Partners/	<ul style="list-style-type: none">• Jordan Food & Drug Administration• Zarqa Chamber of Industry

2. The Macroeconomic Environment

2.1 An Overview of the Hashemite Kingdom of Jordan

The Hashemite Kingdom of Jordan is a landlocked country surrounded by land except at its southern extremity at the port of Aqaba, where that area is the only sea exit area in Jordan. The Kingdom is bordered at its west side by Palestine and the Mediterranean Sea, at its south and east by the Kingdom of Saudi Arabia, at north east by Iraq and at north by Syria.

Figure1 : Map of the Hashemite Kingdom of Jordan



Jordan is marked by three climatic zones from west to east including the Jordan Valley, most of which lies below sea level and is considered subtropical, and upland areas to the east of the Jordan Valley, ranging in height from 100 to 1500 meters above sea level and this is one of the areas dominated by Mediterranean climate, and the desert areas stretching to the east of the highlands.

The total area of the Kingdom is approximately 89.3 thousand square kilometers, and the semi-desert conditions prevail in over 80% of this area where there are some wet lands settings like Azraq Basin.

The kingdom is divided administratively into twelve governorates distributed into three regions: the Northern Region (includes the governorates of Irbid, Mafrqa, Jerash and Ajloun) while the Central Region (includes the governorates of the capital, Zarqa, Balqa, Madaba) and the Southern Region (includes the governorates of Karak, Tafila, Ma'an, Aqaba), and the major cities are Amman (the capital), Zarqa and Irbid.

2.2 Population

Based on the General Census of Population and Housing in 2015, the population in the kingdom amounted to about 9.5 million people with a population density of 107.3 inhabitants per km², where the Capital City knocked off other governorates by population amounting to about 4 million people and a population density of 538.8 inhabitants per km², mainly because Amman is the most attractive governorate for Jordanians and for those coming to Jordan from other countries, followed by Irbid Governorate with a population of 1.8 million people, and then Zarqa Governorate with a population of 1.4 million. Tafila Governorate which is considered to be the least populous governorate whose population is about 96 thousand people.

Table 2: Number of population and population density in the Kingdom for 2015

Governorate	Population (people)	Area (Km ²)	Population density (people/ km ²)
Central Region			
Capital	4007526	7,579	528.8
Zarqa	1364878	4761	286.7
Balqa	491709	1120	439.0
Madaba	189192	940	201.3
North Region			
Irbid	1770158	1572	1126.1
Mafraq	549948	26551	20.7
Jerash	237059	410	578.2
Ajloun	176080	420	419.2
Southern Region			
Karak	316629	3495	90.6
Tafeileh	96291	2209	43.6
Maan	144082	32832	4.4
Aqaba	188160	6905	27.2
Total of Kingdom	9531712	88793.5	107.3

Source: Department of Statistics, Jordan General Population and Housing Census, 2015

On the other hand, the population growth rate has reached about 3% in 2010 and increased to 9% during the years 2013 and 2014 and then dropped a little during 2015 to reach about 8%, according to demographic surveys for the Department of Statistics. The reason for the high growth rates is attributed to the influx of large numbers of refugees from Syria to the Kingdom which resulted in a marked decline in per capita real GDP index by 5.4% to JD 1,197.4, based on the Statements of the Central Bank of Jordan.

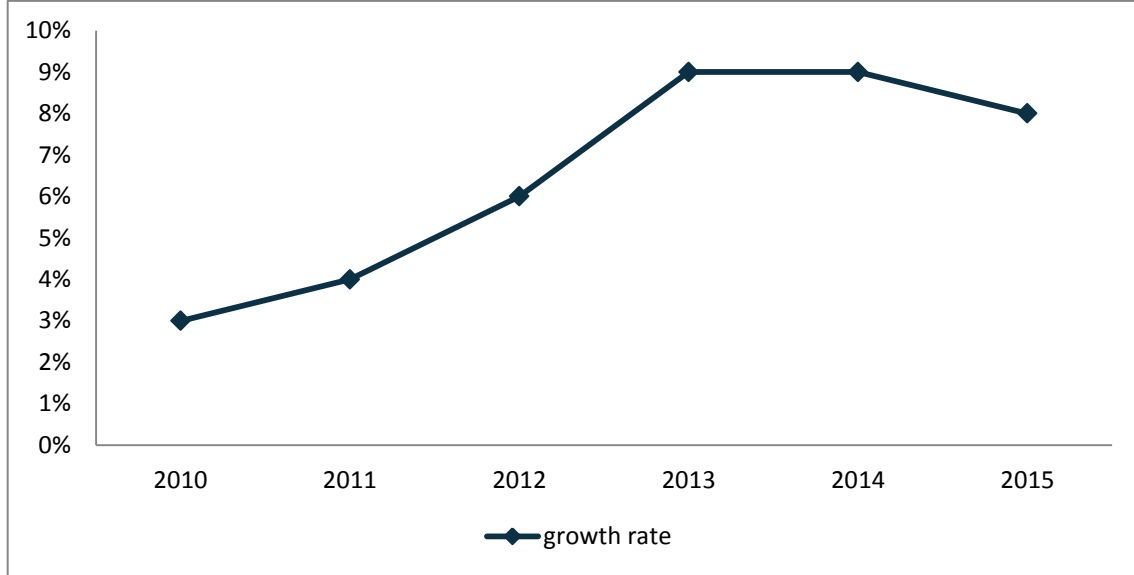
The unemployment rate among Jordanians also witnessed a rise by 1.1 percentage to reach to 13%, due to the structural imbalances that the labor market is suffering from and the acquisition of the low-paid foreign workers on a large number of new jobs in the economy, according to the Central Bank of Jordan.

Table 3: Number of population and population growth in the Kingdom, thousand

	2010	2011	2012	2013	2014	2015
population	6698.0	6993.0	7427.0	8114.0	8804.0	9531.7
growth rate	%3	%4	%6	%9	%9	%8

Source: Department of Statistics

Figure 2: population growth rate in the Kingdom



2.3 Economic Indicators in the Kingdom ¹

Countries across the Middle East are still suffering from instability and closure or partial closure of borders; including the borders of important markets for the Kingdom's products. These factors led to a decline in the performance of many of the economic sectors, including the external sector, national exports, touristic income, and Foreign Direct Investment (FDI), and they contributed to a slowdown in the economic growth to about 2.4% in 2015, compared to 3.1% in 2014. The growth achieved in 2015 came from growth across several economic sectors, especially in the finance, insurance, and real estate services; the transport, storage, and communications services; the mining industry; the manufacturing industry; and the agriculture sector. These sectors contributed a combined 1.8 percentage points (or 75%) of the growth rate achieved during 2015, reflecting the diversity of the economic growth sources in the Kingdom.

Additionally, the general price level registered a decline in the prices of oil, commodities, and other related services in the global markets. Therefore, the general price level, measured by the relative change in the average consumer price index deflated by 0.9% in 2015, compared to the inflation of 2.9% in 2014.

The budget deficit, after aid, increased by 1.2% to a record 3.5% of GDP, compared with 2.3% in the previous year. In addition, the Balance of Payments' Current Account recorded a deficit of 8.9% of GDP, compared with 7.3% in 2014. At the end of 2015, the net public debt amounted to 22,847.5 million Jordanian Dinars (85.8% of the GDP), with an increase of 5.0% of the GDP. However, the total public debt reached 24,876.5 million Jordanian Dinars (93.4% of GDP). This increase resulted from financing both the general budget deficit and the guarantees for loans for the National Electricity Company and the Water Authority, as well as the slowdown of economic growth during 2015. The indebtedness of the National Electricity Company and the Water Authority recorded 6.7 billion Jordanian Dinars at the end of 2015.

On the monetary and banking front, most monetary indicators experienced positive development in performance in 2015, primarily in the Central Bank's foreign reserves, which maintained comfortable levels that amounted to about \$14.2 billion. The dollarization rate decreased, which reflected positive demand for Jordanian Dinars in comparison to other major foreign currencies. With regards to the activities of licensed banks, the outstanding balance of credit increased by 9.5%, to reach 21,103.5 million Jordanian Dinars at the end of 2015. The total deposits registered with licensed banks increased by 7.7%, to reach 32,598.5 million Jordanian Dinars at the end of 2015. The increase in deposits came as a result of the high dinar deposits, which increased by 2,001.4 million Jordanian Dinars (8.3%), and higher foreign currency deposits, which increased by 336.1 million Jordanian Dinars (5.4%).

Furthermore, many of the external sector indicators registered a drop in performance in 2015 due to the deepening instability in the region and almost full closure of the borders

¹ The Central Bank of Jordan

with Iraq and Syria. However, the drop in oil prices in the global markets contributed to the decline in the Kingdom's imports bill for energy, as it dropped by 40.6%, which in turn contributed to a decline in total imports and the trade deficit by 11.4% and 14.0%, respectively. Thus, the Current Account, excluding aid, declined to 11.9% of GDP, compared to 12.4% in 2014.

The Current Account deficit increased after aid, to reach 2,365.6 million Jordanian Dinars (8.9% of GDP) in 2015, compared with a deficit of 1,851.7 million Jordanian Dinars (7.3% of GDP) in 2014. This decline is due mainly to the decline in total exports by 6.6% and the decline in surplus in the services account by 27.7%, as touristic income decreased by 7.1%, and the decline in the surplus in the current transfers account decreased as a result of reduced foreign aid.

Capital and financial accounts resulted in a net inflow of 1,593.7 million Jordanian Dinars in 2015, compared to 909.0 million Jordanian Dinars in 2014; this was due to the Kingdom's higher net obligations towards the outside world. Foreign Direct Investment registered a net inflow of 909.4 million Jordanian Dinars, and the reserved investment registered an inflow of 918.4 million Jordanian Dinars due to the Kingdom issuing Eurobonds that are worth \$2.0 billion in the global markets. The withdrawal of bank loans on behalf of the Central Bank increased the use of funds from the International and Arab Monetary Funds by 543.3 million Jordanian Dinars. This led to the registration of a surplus in the overall Balance of Payments of 328.7 million Jordanian Dinars during 2015, compared to a surplus of 1,550.7 million Jordanian Dinars during 2014.

According to the Central Bank of Jordan, the increased international investment at the end of 2015 showed an increase in the external net liabilities of the Kingdom, which reached 24,357.5 million Jordanian Dinars, compared with 22,578.8 million Jordanian Dinars at the end of 2014. This was due to an increase in the external balance of assets and financial liabilities for all of the economic sectors in the Kingdom, which reached to 18,657.9 million Jordanian Dinars and 43,015.5 million Jordanian Dinars, respectively, during 2015.

Table 4: main economic indicators 2011 to 2015 in millions of dinars

	2011	2012	2013	2014	2015
Population (millions)	6.993	7.427	8.114	8.804	9.532
Unemployment rate	12.9	12.2	12.6	11.9	13.0
Production and Prices					
GNP at current market prices	20,288.8	21,690.0	23,611.2	25,141.2	26,289.6
GDP at current market prices	20,476.6	21,965.5	23,851.6	25,437.1	26,637.4
The rate of growth in GDP at constant market prices (%)	2.6	2.7	2.8	3.1	2.4
The total national disposable income at current prices	23,743.5	24,774.9	28,424.5	30,302.1	30,234.7
The rate of growth in gross national disposable income at current prices (%)	4.7	-0.2	8.6	3.1	-2.4
Change in the index of consumer prices (%)	4.2	4.5	4.8	2.9	-0.9
The change in the GDP deflator (%)	6.4	4.5	5.6	3.4	2.3
Money and Banking					
Exchange rate of the Jordanian dinar to the US dollar	1.410	1.410	1.410	1.410	1.410
Money supply (P2)	24,118.9	24,945.2	27,363.4	29,240.4	31,605.5
Net foreign assets of the banking system	9,370.1	6,665.5	6,923.4	7,932.3	8,137.3
Net domestic assets of the banking system	14,748.8	18,279.7	20,440.0	21,308.1	23,468.2
Net debt of the government	6,701.4	9,461.3	10,494.8	10,473.9	11,386.4
Private sector debts (Residents)	14,925.0	15,953.6	17,222.5	17,852.8	18,704.5
Other factors ⁽¹⁾	-6,877.6	-7,135.2	-7,277.3	-7,018.5	-6,622.7
Deposits in dinars at licensed banks	19,119.1	17,711.1	21,003.0	24,013.1	26,014.5

	2011	2012	2013	2014	2015
Foreign currency deposits at licensed banks	5,258.8	7,258.6	6,590.2	6,247.9	6,584.0
Rediscount rate (%)	4.50	5.00	4.50	4.25	3.75
Treasury bills interest rate for 6 months (%)	3.232	3.788	-	-	-
Public Finance					
Total revenue and foreign aid	5,413.9	5,054.2	5,758.9	7,267.6	6,796.4
Ratio to GDP (%)	26.4	23.0	24.1	28.6	25.5
Total spending	6,796	6,878.2	7,077.1	7,851.1	7,722.9
Ratio to GDP (%)	33.2	31.3	29.7	30.9	29.0
Overall deficit/savings (on an accrual basis)	-1,382.7	-1,824.0	-1,318.2	-583.5	-926.5
Ratio to GDP (%)	-6.8	-8.3	-5.5	-2.3	-3.5
Net outstanding balance of the domestic public debt	8,915.0	11,648.0	11,863.0	12,525.0	13,457.0
Ratio to GDP (%)	43.5	53.0	49.7	49.2	50.5
Outstanding external public debt ⁽²⁾	4,486.8	4,932.4	7,234.5	8,030.1	9,390.5
Ratio to GDP (%)	21.9	22.5	30.3	31.6	35.3
Foreign Trade and Balance of Payments					
Current account	-2,098.8	-3,344.9	-2,487.7	-1,851.7	-2,365.6
Ratio to GDP (%)	-10.2	-15.2	-10.4	-7.3	-8.9
Trade balance (Deficit)	-6,261.7	-7,486.6	-8,270.1	-8,495.6	-7,249.3
Ratio to GDP (%)	-30.6	-34.1	-34.7	-33.4	-27.2
Commodity exports	5,684.5	5,599.5	5,617.9	5,953.6	5,558.3
Imports of goods (FOB) ⁽³⁾	11,946.2	13,086.1	13,888.0	14,449.2	12,807.6
Balance of services (net)	896.0	1,332.3	1,209.5	1,778.9	1,286.4

	2011	2012	2013	2014	2015
Income account (net)	-187.8	-275.5	-240.4	-295.9	-347.8
Current transfers (net)	3,454.7	3,084.9	4,813.3	5,160.9	3,945.1
Capital and financial account (net)	2,298.9	3,808.9	1,811.1	908.9	1,593.7
Direct foreign investment in Jordan (net)	1,055.0	1,074.3	1,281.2	1,426.7	905.1

Source: Monthly Statistical Bulletin, Central Bank of Jordan

1. Includes the debts of public and financial institutions and other factors, as shown in the Monetary Survey Agenda.
2. This represents the total balance of drawn loans, minus total repayments.
3. Does not include imports of non-resident entities.

2.4 The Jordanian Investment Environment

Investment Law No. 30 for 2014

Investment Law no. 30 for 2014 is considered an appropriate legislative framework to attract foreign investments and stimulate local investments. It is considered a competitor to other investment laws in the region because it contains many advantages, incentives, and guarantees, and it offers a range of incentives and benefits in and outside the Development and Free Zones. The law includes a series of public provisions, such as foreign investment guarantees (depositing and withdrawal of capital, investment management, and transfers) and the inadmissibility of the disbarment of investment property. The law offers provisions to settle investment disputes, protection, and encouragement of mutual investment agreements between the Kingdom and other countries.

The following shows the major incentives granted by the law:

❖ **Incentives and Benefits outside the Development and Free Zones**

- The production inputs for the industrial and crafts sectors are exempted from customs duties.
- The return of the general sales tax on the production inputs for the industrial and crafts sectors within 30 days.
- Production inputs and fixed assets of the industrial and crafts sectors are exempted from customs duties and are granted a reduction in general sales tax to 0%.
- Returning to the sales tax on the services needed to practice economic activity within 30 days.
- The goods that are necessary for the economic activities of the following sectors are exempted from customs duties and are subject to 0% general sales tax:
 - Agriculture and livestock, hospitals and specialised medical centres, hotels and touristic facilities, touristic entertainment and recreation centres, call centres, scientific research centres and laboratories, art and media production, convention centres and exhibitions, transfers and/or distributions and/or extraction of water, gas and oil derivatives, air transport, maritime transport, and railways.

❖ **Incentives and Benefits inside the Development and Free Zones**

- 5% income tax on the income generated from economic activity within the Development Zone.
 - 5% income tax on income generated from economic activity in the industrial sector.
 - Tax exemptions that are granted in the Kingdom on goods and services exports.
 - Reduction of sales tax to 0% on goods and services that are used by the establishment in order to exercise its activity inside the Development Zone.
 - 7% sales tax on specific services provided by a registered company in the zone when these services are consumed in the zone.
 - Exemptions from customs duties except for a specified number of goods.
- ❖ **The Reduction of Income Tax in the Least Developed Areas for Regulation No. 44 for 2016**

- The reduction of income tax in the least developed areas for Regulation No. 44 for 2016 was approved. It aims to create an attractive environment for investments that promote economic development through the reduction of income tax outside the Development Zones and in the least developed areas in the Kingdom. The regulation specified the areas that are considered least developed and identified the activities that are excluded from this reduction.
- Under the provisions of Articles 4 and 5 of this regulation, the areas that were categorised as least developed and enjoy the reduction in income tax are divided into four categories; each category enjoys a reduction in income tax on their activities for a period of 20 years.
- Category A includes the Northern Valley District, Deir Alla District, Shouneh Al-Janoubieh District, the Southern Valley District, Rweished District, the Northern Desert District, the North Western Desert District, Al-Azraq Province, Al-Jiza District except for the borders of the new Al-Jiza municipality, Al-Moakar District except for the borders of Al-Moakar municipality, and the Governorate of Aqaba except for the Aqaba Special Economic Zone. The reduction rate for this category is 100%.
- Category B includes the Governorates of Maan, Tafileh, Karak, and Ajloun. The reduction rate for this category is 80%.
- Category C includes the Governorates of Jarash, Mafraq, and Irbid except the borders of the Greater Irbid Municipality. The reduction rate for this category is 60%.
- Category D includes the Governorates of Madaba, Balqa, Amman except for the Greater Amman Municipality, and Zarqa except for the borders of Zarqa Municipality and Russaifeh Municipality. The reduction rate for this category is 40%.

❖ Trade and Free Trade Agreements

The most important agreements are:

- Jordan joining the World Trade Organisation in 2000, which led to the opening of the markets of 150 countries for Jordanian exports in goods and services, and provided new opportunities of access to other countries within a clear and transparent environment of laws, regulations, and procedures.
- A series of regional trade agreements, such as the Jordan Partnership Agreement with the European Union, Agadir Agreement, Free Trade Arab Agreement, the free trade agreement between Jordan and the European Free Trade Association, and the adoption of the Euro-Mediterranean simplification of the rules of the Origin System, which includes the decision to simplify the rules of the origins of Jordanian products between Jordan and the European Union came into effect on July 19, 2016, and will remain in effect until December 31, 2026.
- A series of bilateral trade agreements with many countries, such as the free trade agreement between Jordan and the United States of America, the Qualified Industrial Zones Agreement, the free trade agreement between Jordan and Singapore, the free trade agreement with Turkey, the free trade agreement with Canada, and many other agreements.

- Jordan has signed more than 35 agreements with Arab and foreign countries in order to prevent double taxation between Jordan and these countries, thus protecting investors' rights.
- The Agreement of Promotion and Protection of Investments and the Movement of Capital between the Arab Countries was signed in 2000 with 11 Arab countries who are members of the Arab Economic Unity Council, in order to establish an appropriate environment for investments and economic cooperation between investors in the Arab countries, thus pushing and stimulating investment activities by providing encouragement and mutual protection for Arab investments.

Human Development Report for 2015

The Human Development Report that was issued by the United Nations Development Program in 2015 showed that Jordan fell 3 points to number 80. Please note that Jordan's place on the Human Development Report index value has improved slightly.

Global Competitiveness Report

The Kingdom's rank has improved by one point in the Global Competitiveness Report for the year 2016/2017, at 63 out of 138 countries compared to 64 out of 140 countries in the 2015/2016 report. It is considered an insignificant improvement, especially because of the reduction in the number of countries participating in this year's report. Amongst the Arab countries, Jordan was ranked after the United Arab Emirates, Qatar, the Kingdom of Saudi Arabia, Kuwait, and Bahrain, who were ranked 16, 18, 29, 34, and 39, respectively.

Doing Business Report

In the Doing Business Report that was issued by the World Bank Group, Jordan is still ranked 118, up one rank from the 2016 report, because of the variation in the performance of the different sub-indicators. Jordan ranked ninth among the Arab countries; the United Arab Emirates was ranked first among the Arab countries at 26, followed by Bahrain at 63 and Oman at 66.

2.5 The Economic Environment in the Short and Medium Term

Risks analysis implemented by BMI indicates that the Jordan's political and economic risks in the short and medium term are less than the overall average of the world and the Middle East. The state's risks and the operational risk are estimated to be within the acceptable levels. The international institutions' forecasts point out that the economic and foreign trade indicators are expected to achieve acceptable rates of growth with the exception of the continued increase in internal and external indebtedness.

Table 5: Assessment of short and long-term risks

	Long term		Short term		Operational risks	State risks
	political	Economic	political	economic		
Jordan	63.1	39.2	66.6	46.2	58.7	55.4
Turkey	60.2	49.4	58.4	56.9	55.9	56.1
Egypt	53.3	45	52.4	48.7	42.9	47.5
Lebanon	45.8	54	55.4	53.5	44.2	49.5
West Bank and Gaza	33.1	38.1	32.2	36.5	32.5	34.3
Syria	22.9	24.4	22.4	23.6	29.3	26.1
Regional average	49.4	46.9	51.2	48.7	46.6	48.3
global average	64.1	50.7	61.3	51.9	49.8	54.6

Source: the economy and state risks, IHS, 15/09/2016

Table 6: The most important key economic indicators 2016-2020

Indicator	2016	2017	2018	2019	2020
The growth rate of GDP	2.6	2.7	2.8	3.2	3.1
GDP (in USD billions)	39.6	42.1	44.8	47.8	50.9
Population (In millions)	9.8	10.1	10.4	10.7	11.0
Consumer Price Index (% change)	-0.7	1.8	3.3	4	3.2
Exports (in USD billions)	7.3	7.6	8.2	8.8	9.6
Imports (in USD billions)	18.3	19.2	20.1	21.3	22.8
Foreign direct investment, the net value (in USD billions)	1.5	1.5	1.6	1.6	1.7
Foreign direct investment, the net value (% of GDP)	3.7	3.7	3.6	3.4	3.3
Foreign exchange reserves (in USD billions)	13.9	14.9	15.7	16.8	17.7
Total external debt (in USD billions)	24.4	27.8	30.7	33.7	36
Total external debt (% of GDP)	61.6	66	68.6	70.4	70.6
Total external debt (% of foreign currency earnings)	127.3	138.3	143.6	147.5	147.8

Source: the economy and state risks, IHS, 15/09/2016

3. Market Study

3.1 Project Description

The project involves the establishment of a factory for producing alcohol-free multi-flavor malt beverages, depending on the availability of some raw materials required for this industry in the Kingdom to be marketed and sold in the local market. The project also aims at meeting the growing demand of young clients for alcohol-free malt beverage as well as the demand of some families for the purpose of treatment as these drinks contain minerals and various healthy components. Most of the Kingdom's needs for alcohol-free beverages products are met by imported products due to the limited number of local factories producing alcohol-free malt beverages at the moment.

3.2 Expected Products Description

The expected products include the manufacture of alcohol-free malt beverages in the following flavors:

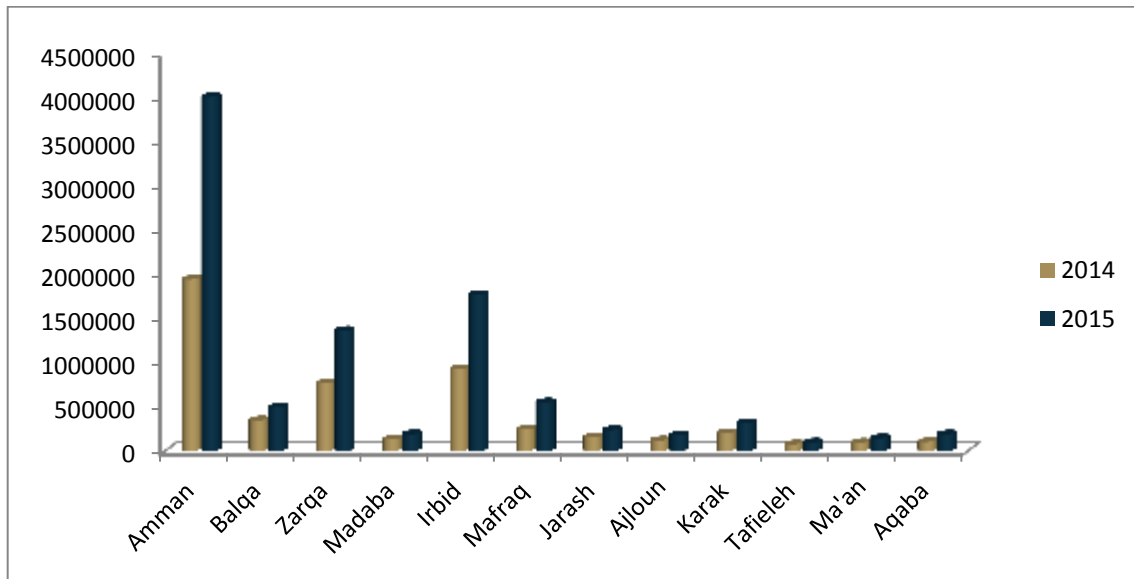
- The original taste (malt) without flavors
- Strawberry
- Apple
- Peaches
- Mulberry
- Pineapple
- Pomegranate
- Lemon

3.3 Analysis of the Expected Demand

Selected Demographic Indicators

According to the results of the General Population and Housing Census in 2015, the population of the Kingdom were about 9,531,712 persons, males accounted for 53%, while females represented 47% of the total population in Jordan. Moreover, the Capital Governorate accounted for the largest proportion of the total population, which amounted at about 42 % of the total population, followed by the governorates of Irbid and Zarqa with ratios of 18.57% and 14.31% of the total population, respectively, while the governorates of Ma'an and Tafileh were the lowest in the population, with ratios of 1.01% and 1.51%, respectively of the total population.

Figure 3: Population of the Kingdom by Governorate in 2015



Source: Population and Housing Census 2015

The population has increased rapidly over the period of 2004-2015, where the population growth rate for the total population was about 50.3% within the same period. This increase is due to the influx of refugees to the Kingdom. The data of Population and Housing Census for 2015 indicates that the growth rate of non-Jordanians reached 18% compared to 3.1% for Jordanians.

Food Industries Sector

The sector of food, supply, agricultural and livestock industries is one of the most important industrial sectors in Jordan. It has a daily effect on the Jordanian citizen's life in terms of the variety and diversity of its products offered in the local markets.

According to the studies prepared by Jordan Chamber of Industry, the food industries sector is considered as one of the most important industrial sectors, which occupies an important position and a high market share in the local market. It was found that the volume of local production of foodstuffs covers an average of 49% of the Kingdom's food consumption, and about 51% of the domestic consumption of food is met by the products imported from abroad, showing the competitiveness and quality of local products and the adequate status in addition to the high confidence they have amongst local consumers.

According to the study and the certificates of origin issued by the local chambers of industry, the total exports of the food industries sector amounted at JD 508million during 2014, recording a slight decrease of 0.2% compared to JD 509million in 2013. The food industries sector comes in fourth place out of ten industrial sectors in terms of volume of exports by possessing 10% of the total industrial exports. In general, the Arab countries are considered the first trading partner of Jordanian exports of the food industries sector, whose exports account for more than 90% of the total exports of the sector ; Iraq comes in the first place, followed by the Kingdom of Saudi Arabia and the United Arab Emirates.

The industrial survey data, which shows the current production volume of the food, supply, agricultural and livestock industries according to the ISIC4 industrial classification, indicates that the non-alcoholic beverage industry and the bottling of mineral water and other water bottles produced a value of JD 388.7 million or 11.9% of the total production of the food, supply, agricultural and livestock industries.

The number of establishments operating in the food industries sector increased by 3.9% in 2014 to reach 2,132 local establishments compared to the number of establishments registered in 2013 which amounted at 2,052 establishments according to Jordan Chamber of Industry. It was found that the registered capital of establishments operating in the food industries sector at the end of 2014 was JD 628 million distributed by JD 584 million for establishments classified as industrial establishments and about JD 44 million for establishments classified as craft establishments. The capital registered by Amman Chamber of Industry amounted at JD 472 million and it amounted to be about JD148 million in Zarqa Chamber of Industry, while the capital of the establishments registered by Irbid Chamber of Industry did not exceed JD 8million.

It is worth mentioning that the food industries sector employs a large number of employees. The number of employees in the establishments registered by the three industrial chambers at the end of 2014 reached about 40,893 male and female workers distributed by 33,059 workers in the establishments classified as industrial establishments and about 7,834 workers in the establishments classified as craft establishments, about 30,356 of which work in the establishments registered by Amman Chamber of Industry, and about 8,810 workers work in the establishments registered by Zarqa Chamber of Industry, while the number of workers in the establishments registered by Irbid Chamber of Commerce was 1,727 workers.

In terms of the average number of workers in the single establishment working in the food industry, the number reached about 19.2 workers. As it amounted at 81.6 workers in the industrial establishments and 4.5 in the craft establishments.

Analysis of the demand for alcohol-free malt beverages products

The study team carried out a field survey on the opinions of a sample of 974 individuals in six governorates (the capital, Irbid, Zarqa, Balqa, Jerash and Madaba) to identify their tendencies and consumption of alcohol-free malt products. The following are the main findings of the study team:

Demand Factors

Demand for alcohol-free malt beverage products is influenced by the following key factors:

- Growth in population
- Average per capita income
- Seasonality, as demand is increasing in the summer months
- Product prices and promotions
- Simulation and social imitation

The standards for Purchase

The field survey showed that there are several main standards to be considered by clients when comparing between the alcohol-free malt beverage products available in the local market, the most important of which are as follows:

- Price
- Quality of taste
- The flavors that are available for the product
- The manufacturer

Motivations of purchase

The main Motivations of purchasing alcohol-free malt products can also be identified as follows:

- Changing mood and recreation
- Imitation of close friends
- Proving the strength of personality, independence and maturity.
- Maintenance of good health.

Places to Buy

Clients purchase and consume alcohol-free malt products from the following main locations:

- Grocery stores and supermarkets
- Hypermarkets
- Cafes and coffee shops
- Hotels and restaurants
- Points of Sale at colleges and universities.

Trends of Consumption

The following is an explanation of the main findings of the study regarding the consumption trends of alcohol-free malt beverage products in the local market:

- About 35% of individuals consume alcohol-free malt products.
- The annual per capita consumption rate of all alcohol-free malt beverage products was 72.
- 40% of people consume alcohol-free malt products without flavor, while 60% of them go to consume these products with different flavors.
- 58% of people consume locally produced alcohol-free malt products as compared to 42% for imported products.

The volume of demand size for alcohol-free malt beverage products

The volume of demand size for alcohol-free malt beverage products in the Kingdom can be estimated through calculating individual consumption rates of these products annually based on the field survey results in this regard, which are described above and the results of the General ceases of Population implemented by the Department of Statistics in 2015. Therefore, the demand (in quantity) on to alcohol-free malt products will be calculated using the following equation:

$$\begin{array}{ccccccc}
 \boxed{\text{The demand size for alcohol-free malt beverage products}} & = & \boxed{\text{The total number of people in the kingdom aged over 15 years}} & \times & \boxed{\text{Ratio of consumers of alcohol-free malt drinks in the Kingdom}} & \times & \boxed{\text{Average annual consumption per individual of alcohol-free malt beverages}}
 \end{array}$$

By applying the above equation, the following table shows the estimated demand size for alcohol-free malt products in 2016.

Table 7: Estimated volume of demand for alcohol-free malt beverage products for the year 2016

Statement	Number of people who are over the age of 15 *	Ratio of consumers of alcohol-free malt products **	Average annual per capita consumption of alcohol-free malt **
Demand for alcohol-free malt products	6,255,969	35%	72
Total volume of demand (package)	157,650,419		

Source: * Population and Housing Census 2015

** Field survey and study team calculations

The Household Expenditure and Income Survey for 2013 showed the average annual household spending on beverages and refreshments at about 158.2 dinars. The following table shows the average annual household spending in Jordanian Dinars on food and beverage groups in the Kingdom according to the results of the Household Income and Expenditure survey for 2013.

Table 8: Average annual household spending for 2013

Item	Average annual household spending (JD)
Grain and its products	376.4
Meat and poultry	895.3
Fish	70.8
Dairy products and eggs	470.9
Oils and fats	159.2
Fruits	216.8
Vegetables	350.8
Dry beans and canned	34.8
Spices and food products	69.4
Nuts	61.7
Sugar and honey products	231.2
Tea, coffee and cocoa	150.5
Other food	253.9
Beverages and Refreshments	158.2
Total	3,499.90

Source: Household Income and Expenditure Survey 2013

If we look into the estimated total demand size above and assuming that the average price per bottle is JD (0.5), we find that the average spending per person is about JD8.3 annually on alcohol-free malt products which constitutes approximately 27% of the average spending per person for beverages and refreshments (assuming the number of family members is 5.2).

3.4 Supply Analysis

Alcohol-free malt beverages products

Statistics of Foreign Trade

The following table shows the values and quantities of imports, exports and re-exports of non-alcoholic beverages except fruit juices and vegetables 2013 - 2015 according to the published data of Foreign Trade from Department of Statistics.

Table 9: the value and quantity of imports, exports and re-exports for the years of 2013-2015

Item	2013	2014	2015
Imports			
value (JD) / CIF	55,945,375	63,040,825	70,734,056
amount (kg)	105,192,470	117,253,442	136,790,195
Exports			
value (JD) / FOB	6,436,910	9,414,098	11,399,740
amount (kg)	50,389,199	52,400,239	21,856,052
Re-exports			
value (JD) / FOB	368,081	355,583	217,509
amount (kg)	456,334	405,877	356,837

Source: Foreign Trade Statistics 2015

Overview of competitors

In the local market, there are many Alcohol-free malt products either locally manufactured and/or those imported from abroad. The field survey showed the manufacturers of these products are two companies Alshahd Company for Food Industries (Alshahd) (MAUD) and SAMA Jo. Foods Industries Co. (RAZ), In addition to a group of importing companies which the most important are Pepsi Jordan (baru), Aujan for Refreshments (Barbican), arrow for Refreshments Co. (Moses/ Hulett), kassatly chtaur (proud). The following table shows some of the details on the products of alcohol-free malt beverage provided in the points of sale and retail shops in the market in terms of brand of the product, the flavors that are provided and the type of packaging and weight.

Table 10: alcoholic-free malt products at points of sale

Brand	Available flavors	Type of package	Weight of Package
Local production			
MAUD	Original flavor, berries, pineapple, strawberries, Peaches, Lemon, Apple, Cherry	Glass/ Metal	330 ml
RAZ	Original flavor, berries, pineapple, strawberries, Peaches, Lemon, Apple, Cherry	Glass/ Metal	330 ml
Imported products			
Barbican	Original flavor, peach, cranberry, strawberry, Pineapple, Mango, Grapefruit Apples, Lemon, Pomegranate	Glass/ Metal	330 ml
Bariu	Original flavor, strawberry, apple, pineapple, pomegranate, peach	Glass	330 ml
Moses	The original flavor of apples, lemon and mint, Strawberry, Peach, Mulberry, Pomegranate	Glass	330 ml
Brod	The original flavor, pineapple, strawberry, pomegranate, Apple, kiwi, honey, cranberry	Metal	250 ml
Bavaria	Original flavor, strawberry, apple, pineapple, pomegranate, peach	Glass	330 ml
Holstein	Original flavor, strawberry, apple, pineapple, pomegranate, peach	Glass	330 ml

Source: Market Survey

The Prices

The following table shows the final selling prices to the consumer of the Alcohol-free malt beverage products at points of sale in the local market as it is appeared by the results of the market survey.

Table 11: Prices of Alcohol-free malt beverages at points of sale

Brand	Price (JD) / Glass package of 330 ml
Local Products	
Maud	0.6
RAZ	0.33
Imported products	
Barbican	0.6
Bariu	0.5
Moses	0.7
Brod	0.3

Brand	Price (JD) / Glass package of 330 ml
Bavaria	0.7
Holstein	0.6
Barbican	0.75

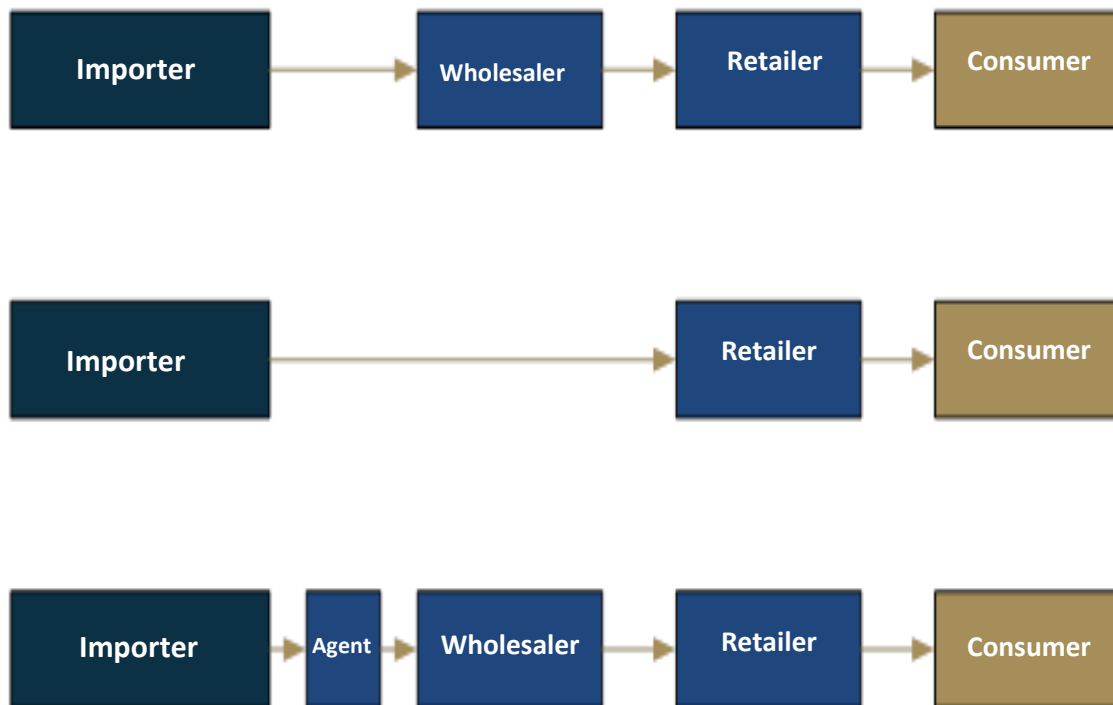
Source: Market Survey

Note: These prices are for the purchase of one bottle, while many companies make offers on 6 bottles and therefore the price reduces to reach between JD 0.4 to 0.5 of the bottle at the time of offer.

Distribution

The following figure shows the distribution channels used by manufacturers/ importers of Alcohol-free malt beverages products.

Figure 4: Distribution process by manufacturers/importers of Alcohol-free malt beverage products.



3.5 Marketing Strategy

The target market

The project targets each of the following categories:

- All wholesalers and retailers
- Hypermarkets
- Hotels and restaurants
- Schools and universities
- Individual clients

Before talking about strategic marketing elements, it is necessary to identify the main desired objectives of the implementation of this strategy, which can be summarized in the following points:

- Attracting the demand for alcohol-free malt beverage products to maximize the market share.
- Creating a distinctive position for the products of the project in the market to penetrate it and reduce the risks of potential competition.
- Growth of the market share of the project as compared to local competitors.
- Generating long-term profits of the project and over its lifetime

To achieve these objectives, we provide the following suggested recommendations for each of the elements of the marketing strategy.

Expected Products

To focus on the perceived quality of final products as it is one of the key elements in the clients' prompt acceptance of new products in addition to enabling the project and its products to gain a distinctive position among the current competitors in the local market. In this regard, the following should be considered:

- **Diversity of product mix:** The ability of manufacturers of alcohol-free malt beverage products to provide a wide and diverse number of flavors for their products is one of important elements that are taken into consideration by the persons concerned with selling and clients while choosing the products. It is proposed that the projects production focus on the products of malt beverage with its flavor / original taste and other flavors, especially strawberry, apple, peach, pomegranate, mulberry, lemon and pineapple.
- **Brand of the Product:** The following should be considered when selecting the trade names (brands) of project products:
 - The ability of the trade name to be remembered by the clients.
 - Having a clear meaning.

- Project product Distinction from others available in the local market.
- **Way of Packaging and packing:** It is proposed to study suitable choices for determine packaging the most of project products (glass bottles or ten which have 330 ml) and to appropriate in the local market and target export markets.
- **Commitment to Delivery Schedules:** This is an important factor in the distribution strategy of the company and its points of sale as it affects sale volume .
- **after-sale service:** which mainly refer to the alteration of damaged or slow moving products which form an increasing cost to retailers .
- **Ability to provide special orders:** This factor is considered quite important to some retailers, especially in case of increasing demand on alcohol free malt, thus the ability of the project to provide retailers with extra quantities in due time is one of the important marketing factors.

Expected prices

to achieve the expected market share of the project and guarantee a competitive and reasonable price in local market, It is necessary to follow a strategy of fast (penetration) of the project products through offering lower prices than the others found in the market and accompanying it with extensive promotional efforts due to the existence of current competition in the Jordanian market.

And for persuading and motivating retailers to offer the products and give it preference and priority over competitive products and thus increasing the amounts. Therefore, it is proposed to grant the following incentives for the sake of production activation sales, especially at the initial stage:

- Grant the sale point a Profit margin between (15-20%), and the possibility of increasing these rates for some sale point .
- Arrange for large payments for a period ranging between (1-2) months.
- Deductions on quantities.

Accordingly, it is proposed to offer the products of the project and selling them to target clients with the following price structure:

- Wholesaler: The selling price of alcohol free malt beverage 330 ml : (JD 0.32).

Promotion:

The promotion strategy aims at increasing the confidence of consumers and target points of sale of the project's products to maximize demand and gain the expected market share.

The following table indicates the context of promotion messages to the target audiences and proposed media in communicating the marketing messages to them.

Target	Promotional messages	Promotional means
consumers	<ul style="list-style-type: none"> ▪ The modern beverage of distinguished flavor that matches their personalities and satisfy their taste. ▪ Affordable price with ▪ The beverage contains the minerals and the necessary healthy elements. ▪ Variable mix of flavors 	<ul style="list-style-type: none"> ▪ Social media ▪ Television advertising ▪ Outdoor advertising ▪ Marketing sponsorship of the tourism activities and events.
Wholesalers/ retailers	<ul style="list-style-type: none"> ▪ Feasible profit margin as compared to competitors ▪ Deductions and facilities of payment and additional quantities in case the target sales are exceeded. ▪ Compliance with time of delivery of orders and after sale services 	<ul style="list-style-type: none"> ▪ Personal meetings with decision-makers ▪ Various sales promotion means.

Selling/ Distribution

The project distribution strategy aims at achieving the following objectives:

- To guarantee the supply of the products without damage at the points of sale.
- To assure that quantities and items ordered from the points of sale are delivered according to the set contracts.
- To comply with the delivery times (timely delivery of the required quantities of products).
- To reduce the overall distribution costs and potential risks.

Taking into account the nature of the project's products, it is proposed to follow one of the following methods of distribution:

- **(Project → wholesaler → retailer → consumer).** This method is the most common channel of distribution for the food products companies in delivery of their goods to the consumers. However, it is noteworthy that for this channel there is a need for granting incentives and discounts to wholesalers and retailers to strongly push them to sell the products, and to consumers to encourage them to consume the products.
- **(Project → Retailer → consumer).** This is the shortest distribution channel that can be followed. This method is distinguished by high profit margin for the company that will be more than what is achieved by the previous distribution method. In case good relations are built with the points of sale and reinforced by activities that serve the project marketing parties and to improve its sales levels. However, such method requires an investment in a fleet of transport vehicles for distribution, in addition to

the high costs of maintenance and operation expected from depreciation of the vehicle fleet.

3.6 The Expected market share

The following table shows the project market share according to the following assumptions:

- Targeting the retailers in the domestic market.
- The designed production capacity of the project is 18 million cans of alcohol-free malt beverage per year operating a single shift throughout the life of the project.
- Actual utilization rate of the factory designed capacity is as follows:

	Years									
	1	2	3	4	5	6	7	8	9	10
Actual utilization rate	50%	53%	57%	60%	64%	69%	73%	78%	83%	88%

- The main production relies on the production of alcohol-free malt products of the 330 ml. The percentage of production of those products represents 100% of the production over the ten years of operation.
- The average sale price of the alcohol-free malt product of 330 ml is JD 0.32 with annual growth rate of (1%) per year.
- Number of work hours: (8) hours/ day.
- Work days (350) days/ operation year.
- Work in the proposed project is expected to start in 2020.
- Growth rate of demand is estimated at 3% per year, from 2017 to 2019, so the forecasted demand is as follows:

	2017	2018	2019
Forecasted demand	162,379,932	167,251,330	172,268,869

- It was assumed that the demand will continues to grow by 3% during the life time of the project.

Table 12: Market share of the project

Particulars	First year	Second year	Third year	Fourth year	Fifth year	Sixth year	Seventh year	Eighth year	Ninth year	Tenth year
Designed capacity (thousand can)	18,182	18,182	18,182	18,182	18,182	18,182	18,182	18,182	18,182	18,182
Utilization rate (%)	0.50	0.53	0.57	0.60	0.64	0.69	0.73	0.78	0.83	0.88
Production quantities of malt beverage (thousand can)	9,091	9,682	10,311	10,981	11,695	12,455	13,265	14,127	15,045	16,023
can price(JD)	0.23	0.323	0.326	0.330	0.333	0.336	0.340	0.343	0.347	0.350
Forecasted demand (thousand can)	177,437	182,760	188,243	193,890	199,707	205,698	211,869	218,225	224,772	231,515
Market share(%)	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.07
Total revenues (thousand JD)	2,909	3,129	3,366	3,621	3,894	4,189	4,506	4,847	5,213	5,608

4. Technical study

4.1 The Designed Project Capacity

The designed capacity of the project, represented in the number of cans of alcohol-free malt beverage expected to be produced is about 18 million cans per operation year, by working a single shift, as indicated in the following table.

Table 13: Design capacity of the project

Item	Number
Designed capacity (can)	18,181,818

To reach the estimated designed capacity of the project, this requires purchase of land with an area of 5000 m², and establishment of factory with total area of 2,700 m² for the buildings and stores.

Table 14: Required areas of the project

Item	Unit
Land m ²	5,000
Buildings m ²	2,000
Stores m ²	700

4.2 Production process

The following table shows of production of alcohol-free malt beverage. Malt is collected, cleaned and sterilized, and then it is rinsed and milled, to be boiled with ginger and sugar. Afterwards, it is cooled and fermented, and then alcohol is separated, packed, filled and stored for transport and sale.

Figure 5: Production Process of alcohol-free malt beverage



4.3 The Required Fixed Assets

The following table shows the material resources required for the project.

Table 15: required materials resources for the project

Item	Unit	Price	Value (JD)
Land (m ²)	5,000	25	125,000
Buildings (m ²)	2,000	250	500,000
Stores(m ²)	700	200	140,000
Machinery and Equipment	-	-	4,500,000
Transportation vehicles	8	25,000	200,000
Information technology	-	20,000	20,000
Labs and other assets	-	-	30,000
Total			5,515,000

* Numbers are estimated based on the market study findings

4.4 Required human resources

The following table shows the human resources required for the project. The number of employees required is about 57 employees with total salaries of JD 348,600 annually.

Table 16: Human resources required for the project

Item	Number of employees	Salary (JD/monthly)	Total salary (JD/annually)	Operation (JD/annually)	Administration (JD/annually)
General manager/ factory manager	1	3,000	36,000	-	36,000
Financial manager	1	1500	18,000	-	18,000
Marketing manager	1	1500	18,000	-	18,000
Quality control manager	1	1500	18,000	18,000	-
Maintenance manager	1	1500	18,000	18,000	-
Accountant	1	600	7,200	-	7,200
Marketing and sales officer	12	400	57,600	-	57,600
Procurement officer	1	450	5,400	-	5,400
store keeper	2	400	9,600	-	9,600
IT officer	1	600	7,200	-	7,200
Lab technician	2	800	19,200	19,200	-
Production supervisor	1	1000	12,000	12,000	-
Maintenance officer	2	600	14,400	14,400	-
Workers	30	300	108,000	108,000	-
Total	57	16,150	348,600	189,600	159.00

In addition, the following table indicates the general job description of the required jobs of the project.

Table 17: General Job description of the jobs required in the project

Job	Job description
General manager/ manager factory	Planning, organization, coordination and control of issues related to the internal management of the company and participation in defining the company's policy and management of issues related to work, review of the reports to be received by the department of management, supervision of their analysis and study of the problems that may arise and setting their solutions, technical and administrative supervision of the employees and raising their efficiency, application of the occupational health and safety instructions.

Job	Job description
Factory manager	Sets the strategies, plans and general objectives of the production and quality control activities, research and development of products, maintenance and supervision of their execution within the available capacities and means by the highest degree of effectiveness and quality, and supervision of the progress of the factory operations and follow of works by all employees, guarantee of safety and security of those works and discovery of the problems and working on solution of them, coordinates with all departments to guarantee flow of operations as required.
Production supervisor	Sets the production plans, prepares the operational orders, supervises their execution at the required quality and standards, prepares the required production reports in time
Quality control manager	Assures the quality of raw materials and packing materials and end products and their compliance with the required and specified standards and prepare the required examination reports in time and supervise the system calibration.
Financial manager	Supervise implementation of the company's financial policy and manage cash policy and prepare the balance sheets, estimated budget and assure safe application of the accounting regulations and procedures, issue the financial reports and controls the financial resources and expenditures, in addition to preparation of estimated budgets and settlements of bank accounts with the local and foreign banks.
Marketing manager	Sets the suitable marketing plans, objectives and strategies, supervises preparation of the internal and external sales plans and approve them according to the directions and capacities of the company, direct the market studies that aim at following the competitors' activities, open new marketing outlets and strengthen relations with clients and consider their affairs.
Sales officer	Implements the executive policies and programs of sales management, and implements the approved sales policy and all work orders and all duties required by the sales and marketing manager, marketing and sales coordinators within work in the marketing and sales department and refers weekly report to the sales and marketing manager to indicate the completion and the adjourned work to indicate the reasons.
Accountant	Records the entries of accounting operations and prepares monthly account statements to be sent to the clients and suppliers, in addition to review and matching of balances of bank accounts in the records with the account statements of those banks.

Job	Job description
Procurement officer	Ordering and keeping the records and forms of procurement department, entering the data and act on behalf of the procurement manager in case of his absence, participating in planning and preparation of the implementing programs of the procurement department, training the personnel of procurement department in their works and assuring the suppliers' ability to satisfy the requirements to purchase orders, request quotations and edit the suppliers' entry record, participating in the preparation of the procurement department budget.
Warehouse keeper	Supervises materials when inventory in warehouse reaches the re-order point, follows up preparation of item cards, records the necessary information and continuously upgrade them, organizes, registers and re-receives the borrowed materials and inventory from the warehouse to the employees as required, assumes the responsibility for the warehouse assets and considers application of general safety and occupational health in the warehouse.

4.5 Special Conditions

Appendix (1) highlights the general and special conditions of licensing the food workshops and factories to be considered for development and execution of the project.

4.6 Required licenses

The following table indicates the licenses required from the various authorities for the implementation of the project.

Table 18: Required licenses

Particulars	Analysis
Registration of the company	<ul style="list-style-type: none"> ▪ Ministry of Industry and Trade.
Operation	<ul style="list-style-type: none"> ▪ Food and Drug Administration, Ministry of Health, Ministry of Environment, Income and Sales Tax Department, Social Security Corporation, municipality.

4.7 project Timetable

The following table indicates the period of time required for execution of the project (20 months) as follows:

Phase	First year (month)												Second year (month)							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Studies	■	■	■																	
Approvals and registration of company				■	■	■														
Building and cleaning							■	■	■	■	■	■	■	■						
Furniture and Equipment												■	■	■	■	■	■	■		
Commissioning and employment																	■	■	■	■
Total period	20 months																			

5. Financial Study

5.1 Financial Assumptions

The following table illustrates the financial assumptions of the project.

Table 19: The Financial Assumptions of the Project

Item	Assumption
Inflation Rate	3%
Financing Structure	Equity constitutes 75% of the investment and loans constitute 25%
Interest rate	9%
Working Capital	3 months of annual costs
Pre-Operating Expenses	1% of total investment
Tax Rate	14%
exemptions	Exemptions of income, exports, and machinery taxes, as the investment law of the Industrial cities illustrates. The exemption is by 5%, as the project will be in Ad Dulayl industrial district
Raw materials cost	40% of total revenues
Staff Benefits	25% of salaries
Annual increase of salaries	5%
Assets Depreciation Rate	4%-20% of the asset value
Maintenance	0.5% of total investment
Growth rate of expenses	3 - 5%
Electricity cost	4% of total revenues
Accounts Receivable	45 days of total revenues
Inventory	16.6% of raw materials cost

5.2 Investment Cost

The project's Investment cost is estimated at JD 6 million distributed among fixed assets of JD 5.5 million, working capital and pre-operating expenses totaled of JD 498 thousand.

The following table shows the project's Investment cost.

Table 20: the project's investment cost

Item	Value (in thousand JD)
Fixed assets	5,515
Pre-operating expenses	60
Working capital	438
Total	6,013

5.3 Financing

The project will be financed by the partners' shares (shareholders) in the company by 75% which is estimated at about JD 4.5 million, while the other 25% of the project investment cost will be financed through bank loans of about JD 1.5 million.

The following table shows the financing structure for financing the project.

Table 21: Project financing schedule

Item	Value (in thousand JD)	%
Equity	4,509.6	%75
Loan	1,503.2	%25
Total	6,103	100%

5.4 Revenues

The following table shows the total revenues of the project, where it is noted that the revenues in the first year amounts to about JD 2.9 million, and increased to reach up to JD 5.6 million in the tenth year.

Table 22: The Expected Revenues

Particulars	First year	Second year	Third year	Fourth year	Fifth year	Sixth year	Seventh year	Eighth year	Ninth year	Tenth year
Designed capacity (thousand can)	18,182	18,182	18,182	18,182	18,182	18,182	18,182	18,182	18,182	18,182
Utilization rate (%)	0.50	0.53	0.57	0.60	0.64	0.69	0.73	0.78	0.83	0.88
Production quantities of malt beverage (thousand can)	9,091	9,682	10,311	10,981	11,695	12,455	13,265	14,127	15,045	16,023
can price(JD)	0.23	0.323	0.326	0.330	0.333	0.336	0.340	0.343	0.347	0.350
Forecasted demand (thousand can)	177,437	182,760	188,243	193,890	199,707	205,698	211,869	218,225	224,772	231,515
Market share(%)	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.07	0.07
Total revenues (thousand JD)	2,909	3,129	3,366	3,621	3,894	4,189	4,506	4,847	5,213	5,608

5.5 The Projected Costs

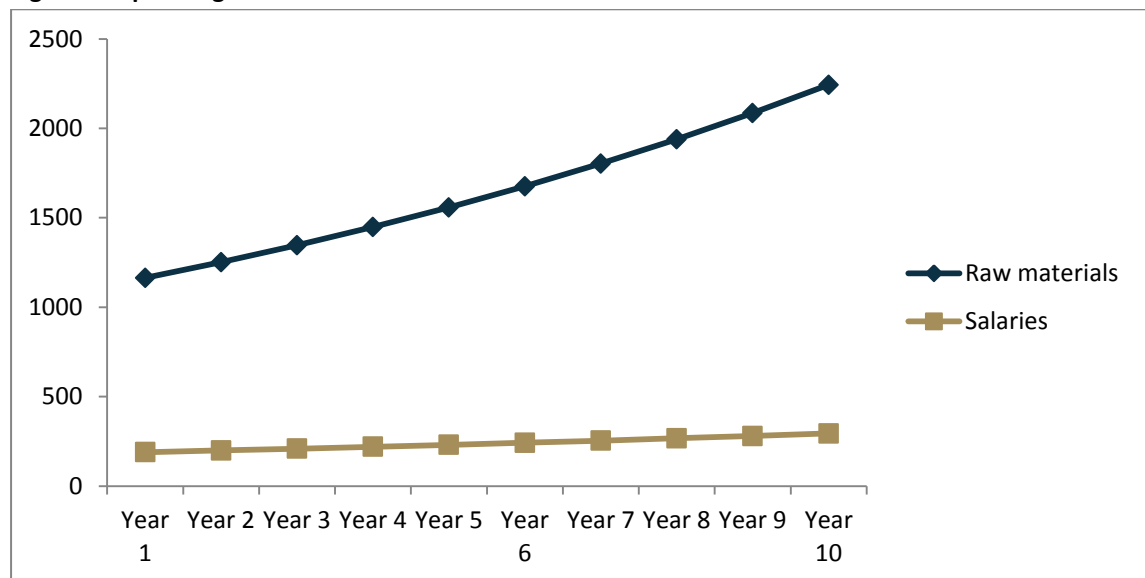
Operating Costs

The following table shows the project's operating costs according to the previous assumption over ten years. Raw materials cost in Year 1 amounted to JD 1.1 million which increase to reach JD 2.2 million in Year 10. Moreover, the salaries amount to JD 190 thousand in Year 1 which increases to JD 294 thousand in the year 10.

Table 23: Operating Costs

Operating Costs (in thousand JD)										
Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Raw materials	1163.6	1251.7	1346.4	1448.2	1557.8	1675.6	1802.4	1938.7	2085.4	2243.1
Electricity	116.4	125.2	134.6	144.8	155.8	167.6	180.2	193.9	208.5	224.3
Salaries	189.6	199.1	209.0	219.5	230.5	242.0	254.1	266.8	280.1	294.1
Staff Benefits	47.4	49.8	52.3	54.9	57.6	60.5	63.5	66.7	70.0	73.5
Distribution	203.6	219.0	235.6	253.4	272.6	293.2	315.4	339.3	364.9	392.5
IT cost	5.0	5.3	5.5	5.8	6.1	6.4	6.7	7.0	7.4	7.8
Depreciation	525.6	525.6	525.6	525.6	525.6	525.6	525.6	525.6	525.6	525.6
Maintenance	27.6	29.0	30.4	31.9	33.5	35.2	37.0	38.8	40.7	42.8
Others	10.0	10.5	11.0	11.6	12.2	12.8	13.4	14.1	14.8	15.5
Total	2278.8	2404.5	2539.4	2684.1	2839.4	3006.1	3184.9	3376.8	3582.7	3803.8

Figure 6: Operating Costs



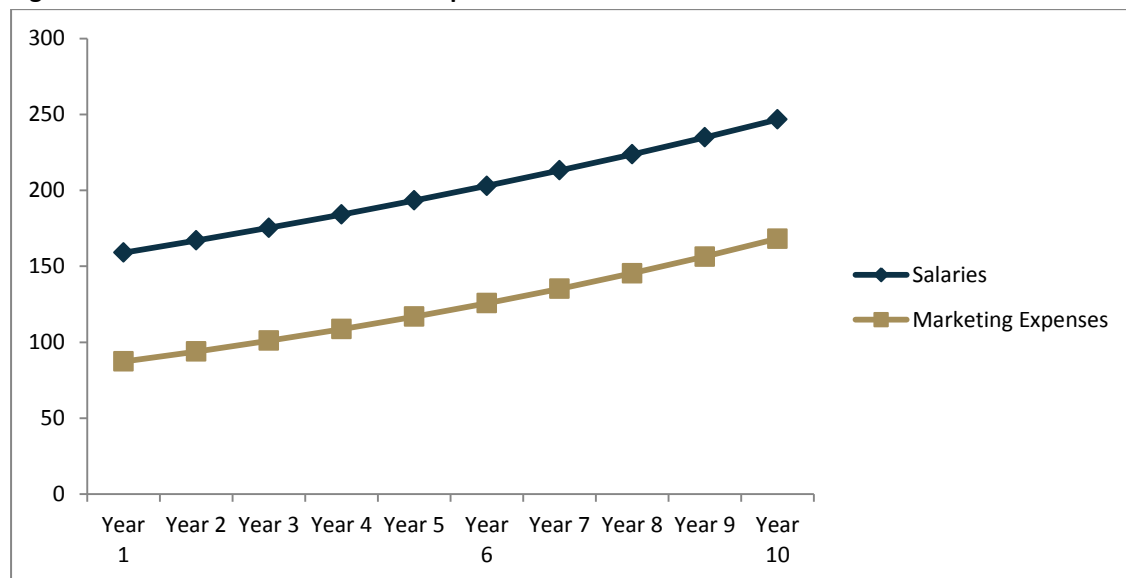
Administrative Expenses

The following table shows the projected administrative expenses of the project. Employees' salaries reach JD 159 thousand in the first year and increase to JD 247 thousand in the tenth year. The marketing expenses are about JD 87 thousand in the first year and increase to reach JD 168 thousand in the tenth year.

Table 24: General and Administrative Expenses

General and Administrative Expenses (in thousand JD)										
Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Salaries	159.0	167.0	175.3	184.1	193.3	202.9	213.1	223.7	234.9	246.7
Staff Benefits	39.8	41.7	43.8	46.0	48.3	50.7	53.3	55.9	58.7	61.7
Stationery	6.0	6.3	6.6	6.9	7.3	7.7	8.0	8.4	8.9	9.3
Professional Fees	3.0	3.2	3.3	3.5	3.6	3.8	4.0	4.2	4.4	4.7
Marketing Expenses	87.3	93.9	101.0	108.6	116.8	125.7	135.2	145.4	156.4	168.2
Other Expenses	10.0	10.5	11.0	11.6	12.2	12.8	13.4	14.1	14.8	15.5
Amortization	59.5									
Total	364.6	322.5	341.0	360.7	381.5	403.6	427.0	451.8	478.1	506.0

Figure 7: General and Administrative Expenses



5.6 Projected Financial Statements

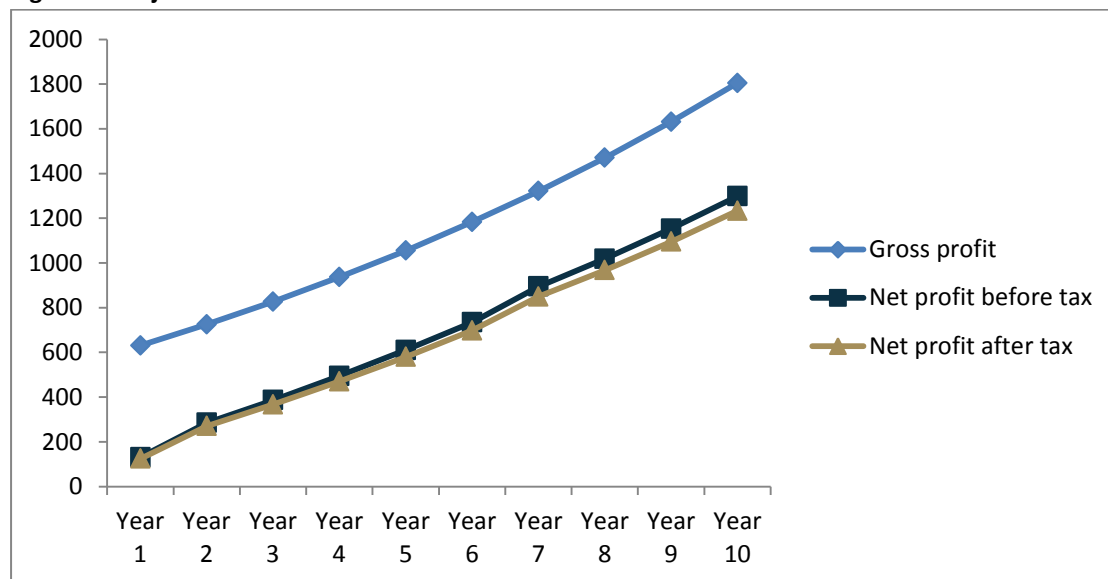
Income Statement

The following table shows the projected income statement of the project. It indicates that gross profit will increase from JD 630 thousand in the first year to JD 1.8 million in the tenth year. The net profit before tax will increase from JD 130 thousand in the first year to JD 1.3 million in the tenth year, the net profit after tax will increase from JD 124 thousand in the first year to JD 1.2 million in the tenth year.

Table 25: The Projected Income Statement

Income Statement (in thousand JD)										
Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenues	2,909.1	3,129.2	3,365.9	3,620.5	3,894.4	4,189.0	4,505.9	4,846.8	5,213.4	5,607.8
Operating costs	2,278.8	2,404.5	2,539.4	2,684.1	2,839.4	3,006.1	3,184.9	3,376.8	3,582.7	3,803.8
Gross profit	630.3	724.6	826.5	936.4	1,055.0	1,183.0	1,321.0	1,470.0	1,630.7	1,804.0
Administrative expenses	364.6	322.5	341.0	360.7	381.5	403.6	427.0	451.8	478.1	506.0
Net profit	265.7	402.1	485.4	575.7	673.5	779.4	894.1	1,018.2	1,152.6	1,298.0
financial expenses	135.3	117.3	99.3	81.3	63.3	45.3	-	-	-	-
Net profit before tax	130.4	284.8	386.1	494.4	610.2	734.1	894.1	1,018.2	1,152.6	1,298.0
Tax	6.5	14.2	19.3	24.7	30.5	36.7	44.7	50.9	57.6	64.9
Net profit after tax	123.9	270.6	366.8	469.7	579.7	697.4	849.4	967.3	1,095.0	1,233.1

Figure 8: Projected Income Statement



Projected Balance Sheet

The following table shows the projected balance sheet of the project during the first ten years. It indicates that total assets will increase from JD 6 million in the year of incorporation to about JD 7.5 million in the tenth year. The Total liabilities will decrease from JD 1.5 million thousand in the first year to about JD 380 thousand in the fifth year. Moreover, the Shareholders' Equity will increase from JD 4.5 million in the year of incorporation to reach JD 7.1 million in the tenth year.

Table 26: Projected Balance Sheet

Projected Balance Sheet (in thousand JD)											
Statement	Year of incorporation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
Cash	438	485	885	1,321	1,795	2,060	2,315	3,132	3,991	4,898	5,855
Receivables		364	391	421	453	487	524	563	606	652	701
Inventory		194	209	224	241	260	279	300	323	348	374
Pre- Paid Expenses	-	58	63	67	72	78	84	90	97	104	112
Total Current Assets	438	1,101	1,547	2,033	2,561	2,884	3,202	4,085	5,017	6,001	7,042
Fixed Assets	5,575	5,575	5,575	5,575	5,575	5,825	5,825	5,825	5,825	5,825	5,825
Cumulative Depreciation	-	585	1,111	1,636	2,162	2,688	3,213	3,739	4,264	4,790	5,316
Net Fixed Assets	5,575	4,989	4,464	3,938	3,413	3,137	2,611	2,086	1,560	1,035	509
Total Assets	6,013	6,090	6,011	5,971	5,974	6,021	5,813	6,171	6,577	7,036	7,551
Cash	438	485	885	1,321	1,795	2,060	2,315	3,132	3,991	4,898	5,855
Shareholders Equity and Liabilities											
Accrued Expenses and Payables		228	240	254	268	284	301	318	338	358	380
Long Term Loans	1,503	1,303	1,103	903	703	503	-	-	-	-	-
Total Liabilities		1,531	1,344	1,157	972	787	301	318	338	358	380
Shareholders Contributions	4,510	4,510	4,510	4,510	4,510	4,510	4,510	4,510	4,510	4,510	4,510
Retained Earnings		50	158	305	492	724	1,003	1,343	1,730	2,168	2,661
Shareholders' Equity	4,510	4,559	4,667	4,814	5,002	5,234	5,513	5,853	6,240	6,678	7,171
Shareholders Equity and Liabilities	6,013	6,090	6,011	5,971	5,974	6,021	5,813	6,171	6,577	7,036	7,551

Cash Flow Statement

The following table shows the projected cash flow statement of the project during the first ten years. It indicates that the cash flow from operation will reach JD 321 thousand at the first year, where it will increase to JD 1.7 million in the tenth year; while the Cash at the ending period will increase from JD 438 thousand in the year of incorporation to JD 5.8 million in the tenth year.

Table 27: The Expected Cash Flows Statement

Cash Flow Statement (in thousand JD)											
Statement	Year of incorporation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Operation Activities											
Net Profit	-	124	271	367	470	580	697	849	967	1,095	1,233
Depreciation	-	585	526	526	526	526	526	526	526	526	526
Change In Working Capital	-	(388)	(34)	(37)	(39)	(42)	(46)	(49)	(53)	(57)	(61)
Cash Flow From Operation	-	321	762	856	956	1,063	1,177	1,326	1,440	1,564	1,697
Investing Activities											
Fixed Assets	(5,575)	-	-	-	-	(250)	-	-	-	-	-
Cash From Investing Activities	(5,575)	-	-	-	-	(250)	-	-	-	-	-
Financing Activities											
Capital (Equity)	4,510	-									
Loan	1,503	(200)	(200)	(200)	(200)	(200)	(503)	-	-	-	-
Dividends		(74)	(162)	(220)	(282)	(348)	(418)	(510)	(580)	(657)	(740)
Cash Flow From Financing Activities	6,013	(274)	(362)	(420)	(482)	(548)	(922)	(510)	(580)	(657)	(740)
Net Cash Flow	438	47	400	436	474	265	256	816	860	907	957
Cash At The Beginning Period	0	438	485	885	1,321	1,795	2,060	2,315	3,132	3,991	4,898
Cash At The Ending Period	438	485	885	1,321	1,795	2,060	2,315	3,132	3,991	4,898	5,855

5.7 Financial, Economic and Social Analysis

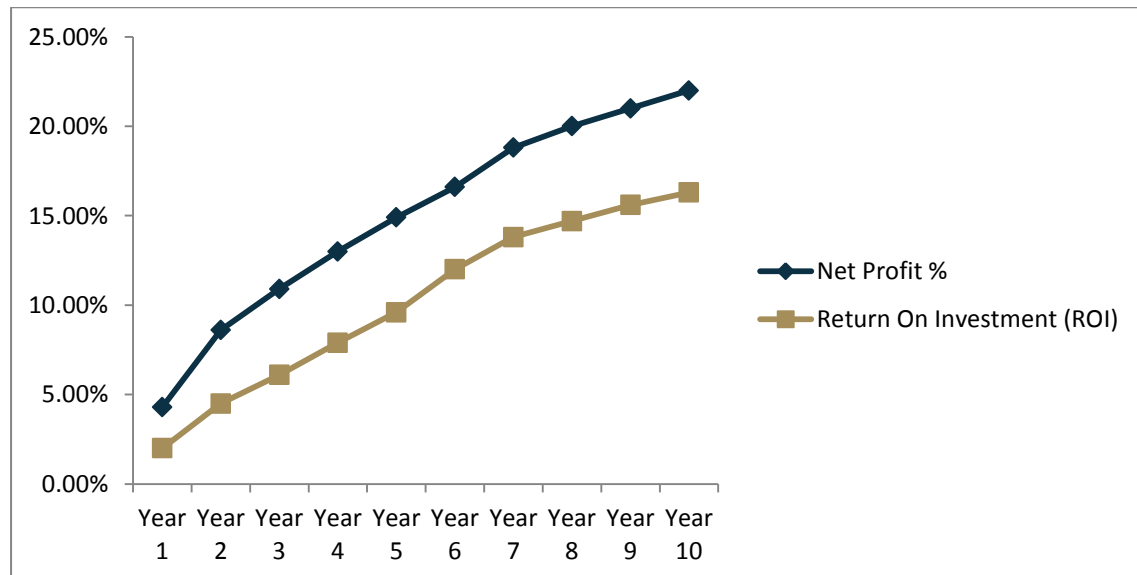
Financial Analysis

The following table shows the financial analysis of the project. It indicates that the net profit ratio will increase from 4.3% in the first year to 22% in the tenth year, and the return on investment will increase from 2% in the first year to 16.3% in the tenth year.

Table 28: Financial Analysis

Financial Analysis (In Thousand JD)										
Item	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets	6,090	6,011	5,971	5,974	6,021	5,813	6,171	6,577	7,036	7,551
Revenues	2,909	3,129	3,366	3,621	3,894	4,189	4,506	4,847	5,213	5,608
Profits	124	271	367	470	580	697	849	967	1,095	1,233
Capital (Equity)	4,510	4,510	4,510	4,510	4,510	4,510	4,510	4,510	4,510	4,510
Net Profit %	4.3%	8.6%	10.9%	13.0%	14.9%	16.6%	18.8%	20.0%	21.0%	22.0%
Return On Investment (ROI)	2.0%	4.5%	6.1%	7.9%	9.6%	12.0%	13.8%	14.7%	15.6%	16.3%
Return On Capital (ROC)	2.7%	6.0%	8.1%	10.4%	12.9%	15.5%	18.8%	21.4%	24.3%	27.3%
Net Profit On Revenues	4.3%	8.6%	10.9%	13.0%	14.9%	16.6%	18.8%	20.0%	21.0%	22.0%
Assets Turnover (Time)	47.8%	52.1%	56.4%	60.6%	64.7%	72.1%	73.0%	73.7%	74.1%	74.3%

Figure 9: The Financial Analysis



Economic Analysis

The following table shows the economic analysis of the project during the first ten years, we conclude that:

- The Internal rate of return is 19%. It exceeded five times the risk free rate, which means the economic feasibility of the project
- The present value of the project reached about JD 6.4 million. It exceeds the investment value with JD 4.5 million, which means the economic feasibility of the project.
- The profitability index of the project reached 1.44 times, which means that the expected value of the project will increase by one time the investment value, which proves that the project is feasible.
- The project payback period is 6.6 years.

Table 29: The Economic Analysis

Economic Analysis (In Thousand JD)											
Statement	Year of incorporation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Net cash flow from operating and investing activities	(4,510)	121	562	656	756	863	674	1,326	1,440	1,564	1,697
terminal value											7,171
Net Cash flow	(4,510)	121	562	656	756	863	674	1,326	1,440	1,564	8,868
Internal Rate of Return (IRR)	19%										
present Value	6,496										
Net present value	1,986										
Profitability Index (Time)	1.44										
Payback period (Year)	6.6										

Social Analysis

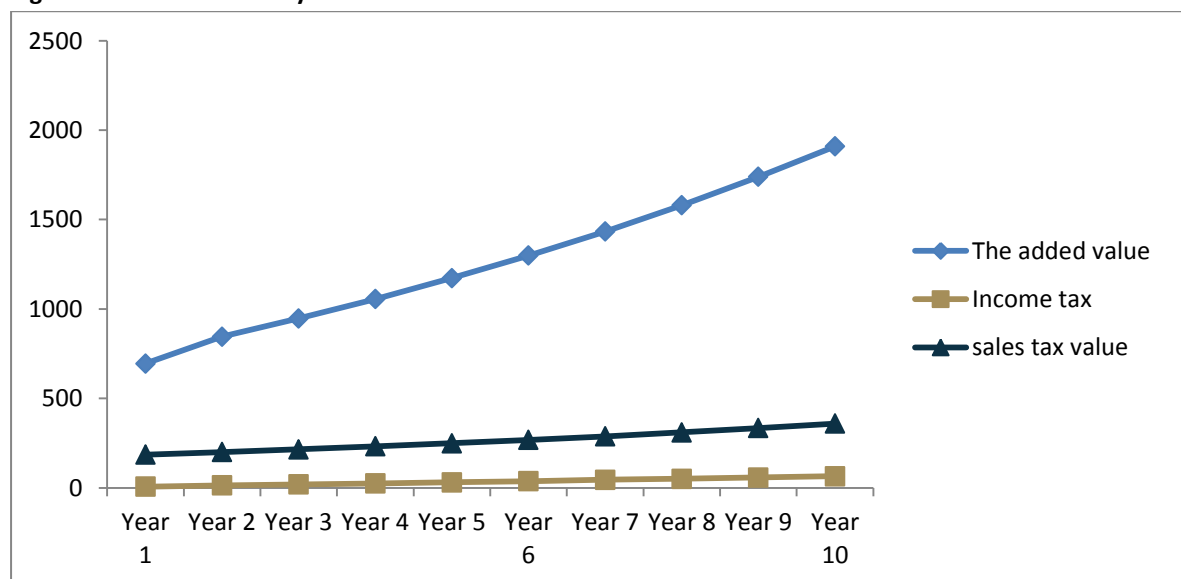
The following table shows the social analysis of the project. It is noticed that the number of staff required for the project will increase from 55 employees in the first year to 66 employees in the tenth year.

The added value of the project will also increase from JD 695 thousand in the first year to JD 1.9 million in the tenth year. The income tax will also increase from JD 7 thousand to reach JD 65 thousand in the tenth year.

Table 30: The Social Analysis of the Project

Social Analysis										
Statement	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Number of Employees	55	56	57	58	60	61	62	63	64	66
Jordanian employees	55	56	57	58	60	61	62	63	64	66
The added value –thousand JD	695	845	947	1,055	1,173	1,299	1,433	1,580	1,739	1,909
Income tax –thousand JD	7	14	19	25	31	37	45	51	58	65
sales tax value –thousand JD	186	200	215	232	249	268	288	310	334	359
Exports value –thousand JD	582	626	673	724	779	838	901	969	1,043	1,122

Figure 10: The Social Analysis



6. Risk and Sensitivity Analysis

6.1 Risk Analysis

The following table shows the risk matrix analysis that may face the project.

Table 31: Project Risk Matrix

Risks	Type of Risks	Risk Assessment
Financial Risks	<ul style="list-style-type: none"> ▪ Credit Risk Credit risk represents the risk of the company's financial loss as a result of the customer's default of the contractual obligation or that of the party dealing with the company through a financial instrument. These risks are mainly caused by trade receivables and others. ▪ Liquidity Risk Liquidity risk is the risk resulting from the company's inability to meet its financial obligations at time. The company's liquidity management is to ensure as much as possible that the company always maintain enough liquidity to meet its obligations as they become due and payable in normal and emergency conditions without incurring unacceptable losses or risks that affect the company's reputation. ▪ risk of currency fluctuation Currency risk is the risk of the fluctuation of the value of financial instrument, due to fluctuations in foreign currency exchange rates. 	<ul style="list-style-type: none"> ▪ The financial risks that may face the company are moderate, as the method of payment is credit ▪ There is no risk of currency exchange, because the company sales and purchases by local currency ▪ There is no risk of inflation because the company's pricing is based on a annual basis

Risks	Type of Risks	Risk Assessment
	<ul style="list-style-type: none"> ▪ inflation risk It is the risk associated with the possibility that the inflation or the rise in the cost of living might lead to the decrease the real value of the investment. 	
Business risk (sector risk)	<ul style="list-style-type: none"> ▪ Strategic Risk It is the risk resulting from taking bad decisions by the company's management, or implementing the decisions in a wrong way, or not taking the decisions at the right time; which leads to losses or causes loss of alternative opportunities. ▪ Legal and Regulatory Risks These risks are reflected as a result of non-compliance with laws, guidelines and instructions governing the work. Legal risks are caused by the company's break of the laws governing the work in the state in which the company operates. While regulatory risks arise from the company's violation of laws and standards issued by the regulatory authorities. ▪ Reputation Risk Reputation risk arises from influential negative public views which result in great losses of customers or money. It includes the actions of the company's management or its employees which project a negative image of the 	<ul style="list-style-type: none"> ▪ The risks are considered moderate before the company's establishment, because of getting the approval of the official authorities such as the municipality ▪ Reputational risk is moderate as the company deals with very sensitive issue ▪ Market risk in the short term will be moderate because there is no competition from other companies

Risks	Type of Risks	Risk Assessment
	<p>company, its performance and its relationships with customers and other stakeholders. Reputation risk also results from circulating rumors about the company and its activities.</p> <ul style="list-style-type: none"> ▪ Competition Risk Competition risk results from domestic and external competitors and reduces sales and profits. 	
<p>Operational Risk</p>	<p>Operational risk involves losses resulting from the failure of internal operations, human resources and systems. It includes:</p> <ul style="list-style-type: none"> ▪ IT Risks They are losses arising from downtime or systems failure due to the infrastructure, information technology, or the lack of systems, and any failure or malfunction in the systems. They include: the crash of computer systems, breakdowns in communication systems, programming errors, computer viruses and opportunities losses due to breakdown. ▪ Human Resources Risk Losses caused by employees or related to them (intentionally or unintentionally). It also includes acts that are intended as methods of cheating, abusing property or 	<ul style="list-style-type: none"> ▪ Operational risks are very low, for the company will contract with specialized technical bodies to develop the required information systems, in order to manage operations ▪ Competitive salaries will be paid ▪ An advance training center for staff will be established ▪ Information security plan will be put in place to safely keep the company information

Risks	Type of Risks	Risk Assessment
	circumvent the law, regulations or company policy by officials or employees, as well as losses arising from the relationship with the customer, shareholders, regulators and any third party.	
State Risk	State Risk includes politicians' interference, civil unrest, wars, financial and monetary policies and high level of debts.	<ul style="list-style-type: none"> ▪ State Risk is considered to be low, due to security and political stability; international reports indicate that State Risk is low both in medium and long terms

6.2 Sensitivity Analysis

First: Increase of Investment Cost By 10%

The following table shows the results of the sensitivity analysis when investment cost increases by 10%.

Table 32: Investment Increase by 10%

Index	Base	Impact	Change
Internal Rate of Return (IRR)	19.0%	17.3%	1.7%
The Present Value at a discount rate of 13% (In Thousand JD)	6495.8	6496.0	-0.2
Net Present Value at a discount rate of 13% (In Thousand JD)	1986.2	1535.4	450.8
Profitability Index (Time)	1.4	1.3	0.1
Payback period (Year)	6.6	7.2	-0.6
The Net Profit Ratio – an average of 10 years	15.0%	14.8%	0.2%
Return on Investment - an average of 10 years	10.3%	9.4%	0.8%
Return on Capital – an average of 10 years	14.8%	13.3%	1.5%
Net Profit On Revenues - an average of 10 years	15.0%	14.8%	0.2%
Return Assets % – an average of 10 years	0.6	0.6	0.0
The added value - an average of 10 years (in thousand JD)	1267.5	1267.9	-0.4
income tax - an average of 10 (in thousand JD)	35.0	34.6	0.4
sales tax - an average of 10 years (in thousand JD)	264.2	264.2	0.0

The above analysis refers to the feasibility of investment in the project, in light of the high cost of the total investment of the project, which increased by 10%. It is noted that:

- The internal rate of return reaches 17.3%, which is considered high for investment purposes
- The new payback period is 7.2 years, and it is reasonable for recovery purposes
- The return on capital is 13.3%, which is suitable for investment purposes

Second: Reducing Revenues by 10%

The following table shows the results of the sensitivity analysis when reducing revenues by 10%.

Table 33: Reducing Revenues 10%

Index	Base	Impact	Change
Internal Rate of Return (IRR)	19.0%	16.0%	3.0%
The Present Value at a discount rate of 13% (In Thousand JD)	6495.8	5434.9	1060.8
Net Present Value at a discount rate of 13% (In Thousand JD)	1986.2	953.4	1032.7
Profitability Index (Time)	1.4	1.2	0.2
Payback period (Year)	6.6	7.5	-0.9
The Net Profit Ratio – an average of 10 years	15.0%	11.8%	3.2%
Return on Investment - an average of 10 years	10.3%	8.1%	2.2%
Return on Capital – an average of 10 years	14.8%	10.8%	3.9%
Net Profit On Revenues - an average of 10 years	15.0%	11.8%	3.2%
Assets Turnover (Time)– an average of 10 years	0.6	0.6	0.0
The added value - an average of 10 years (in thousand JD)	1267.5	1087.1	180.4
income tax - an average of 10 (in thousand JD)	35.0	25.5	9.5
sales tax - an average of 10 years (in thousand JD)	264.2	237.8	26.4

The above analysis shows the low sensitivity of the project in case of reducing the revenues or demand by 10%. It indicates that:

- The internal rate of return is 16%, which is considered low for investment purposes
- The new payback period is 7.5 years, and it is high period for recovery purposes
- The return on capital reaches 10.8%, which is acceptable for investment purposes

Third: Increasing the Operating Costs by 10%

The following table shows the results of the sensitivity analysis when increasing the operating costs by 10%.

Table 34: Increasing the Operating Costs by 10%

Index	Base	Impact	Change
Internal Rate of Return (IRR)	19.0%	13.7%	5.2%
The Present Value at a discount rate of 13% (In Thousand JD)	6495.8	4744.1	1751.7
Net Present Value at a discount rate of 13% (In Thousand JD)	1986.2	234.4	1751.7
Profitability Index (Time)	1.4	1.1	0.4
Payback period (Year)	6.6	8.2	-1.6
The Net Profit Ratio – an average of 10 years	15.0%	8.1%	6.9%
Return on Investment - an average of 10 years	10.3%	6.6%	3.7%
Return on Capital – an average of 10 years	14.8%	8.5%	6.3%
Net Profit On Revenues - an average of 10 years	15.0%	8.1%	6.9%
Assets Turnover (Time)– an average of 10 years	0.6	0.7	-0.1
The added value - an average of 10 years (in thousand JD)	1267.5	985.4	282.2
income tax - an average of 10 (in thousand JD)	35.0	20.2	14.9
sales tax - an average of 10 years (in thousand JD)	264.2	264.2	0.0

The above analysis shows the feasibility of the project in light of increasing the operating costs of the project by 10%. It indicates that:

- The internal rate of return is 13.7%, which is considered high for investment purposes
- The new payback period is 8.2 years, and it is reasonable for recovery purposes
- The return on capital reaches 8.5%, which is suitable for investment purposes

7. Appendix (1)

Table 35: General and special conditions of licensing the food workshops and factories

Particulars	Conditions
Location	<ul style="list-style-type: none"> ▪ The establishment shall be located in industrial zone or zone out of a planned zone to be approved by the appropriate authorities. ▪ Location shall be in area free of odors, smoke, dust or any other contaminants, and location shall not be subject to flood. ▪ Roads and yards in the establishment shall have strong surfaces suitable for movement of the wheeled means of transport, and shall have the means of drainage required and shall secure the requirements of cleaning.
Buildings	<ul style="list-style-type: none"> ▪ The building shall be made of refractory or cement brick to be casted or of main material of building, and shall satisfy the conditions of general safety. ▪ The building shall be designed to be easily and efficiently cleaned and it can be kept in good usable condition continuously and shall be provided with means of protection against infiltration of rodents and insects and prevention of their having shelter for them. ▪ It shall be supplied with sufficient natural or artificial lighting and ventilation. ▪ The building shall be supplied with means of healthy drainage of wastes. ▪ The building shall be provided with additional sieve doors and windows of stainless steel material, provided these doors are opened out and automatically locked.
Halls	<ul style="list-style-type: none"> ▪ There shall be separate hall for preparation of raw materials to be moved to the processing hall. ▪ There shall be special separate hall for production operations.
Other rooms	<ul style="list-style-type: none"> ▪ There shall be special place for the automated sterilization systems and machines, antiseptics and other cleaning tools. ▪ There shall be special place for storage of raw materials and cans for packing the end product. ▪ There shall be special place for storage of materials. ▪ There shall be change room with sufficient capacity to be provided with steel safe for every worker. ▪ There shall be a separate WC that does not be opened directly to the processing places or warehouses with no less than one WC per twenty persons, and there shall be sufficient numbers of latrines in the men WC rooms. These WCs shall be provided with antiseptics, detergents and diapers, women WCs shall be provided with acceptable means for removal of wastes and shall satisfy the health conditions. ▪ Rooms location shall be suitable in terms of health and they shall be manufactured from materials that can be efficiently and easily cleaned and they shall be well covered.

Particulars	Conditions
	<ul style="list-style-type: none"> ▪ They shall have their own windows and windows shall open out. ▪ Doors shall efficiently and tightly be locked and shall be automatically locked. ▪ Banners shall be put to attract the users' attention to wash their hands before return to work. ▪ The room shall have laundries to open on the WC rooms and shall be provided with sufficient number of laundries supplied with hot and cold water, soap, nail brush and hand driers to be no less than one laundry per ten persons. ▪ WCs shall contain showers with average of at least one shower per 25 workers and the same for women workers. ▪ The room shall have workers' rest.
Floor	<ul style="list-style-type: none"> ▪ Floor shall be leveled without water on it, and shall be free of cracks and open spaces and shall not cause sliding. Floor shall be easy to clean and bear frequent work, continuous cleaning and shall not absorb water and humidity. ▪ Floors shall slide to the manholes with inclination of 2.5 cm per three meters. ▪ Floors shall be made of materials not affected by acids and alkyls, provided colors are light.
Walls	<ul style="list-style-type: none"> ▪ That they are made of bright Chinese tiles or any other material approved by the Ministry of Health in suitable height according to the manufacturing standards and shall be free of fissures and toxics and resist water. It shall be impermeable and easy to clean. ▪ Walls shall be painted by the bright oil paint in the other rooms out of the manufacturing rooms, provided they are well decorated and be soft without infiltration of water, and shall be cleanable and free of protrusions and angles in the positions of contact of walls on which dust is collected. ▪ There shall be wall mounted hand washers in the processing halls in sufficient numbers. Washers shall be supplied with the healthy cleaning and drying means and hot and cold water continuously according to the best practices. ▪ Health utilities shall be tiled by Chinese tiles from floor to ceiling.
Ceiling	<ul style="list-style-type: none"> ▪ Shall not attract dirt. ▪ Shall be easy to clean, and its color shall be bright. ▪ Shall absorb humidity according to the industry requirements. ▪ Shall be abraded and soft, unless the building structure and industry type requires otherwise, and the tools and production lines, etc. upon prior approval from the licensing authority. ▪ There shall be no angles in the point of contact of ceiling and walls. ▪ Ceiling of processing halls shall be heat resistant if heat resulted from processing materials, provided the ceiling in this case is painted with

Particulars	Conditions
	bright solid paint.
Hinges	<ul style="list-style-type: none"> ▪ Internal hinges shall be simply designed without complication. ▪ Hinges shall be tightly sealed.
Doors	<ul style="list-style-type: none"> ▪ Shall be made of level surface without protrusion. ▪ External doors shall open outside and automatically lock. ▪ Lower surface of the wood doors of door sides shall be covered with protective panels provided these panels are no less than ten centimeter high. ▪ External doors shall be provided with sieve doors of no less than six holes per square centimeter and shall prevent infiltration of insects and rodents. ▪ Doors shall be tightly sealed and nonabsorbent.
Windows	<ul style="list-style-type: none"> ▪ Windows shall be located to be easily cleaned at the inside and outside. ▪ Internal window thresholds shall incline and their inclination and regression shall be 45° angle to prevent use of them as shelves. ▪ All windows shall be supplied with sieve wire of no less than six holes per square centimeter and shall prevent infiltration of insects and rodents. ▪ They shall be tightly sealed.
Ventilation	<ul style="list-style-type: none"> ▪ Ventilation shall be sufficient in all rooms and halls to keep the rooms cold and to remove any vapors in the processing halls and to prevent visual rot, offensive odors or excess condensed vapors. ▪ It is favorable to air condition the various rooms if natural ventilation does not supply what is required, and the manufacturing rooms shall be provided with gas vapors and water vapors absorbing halls and shall be easy to clean by hand. ▪ Air flow shall not be from the dirt sites to the clean sites.
Lighting	<ul style="list-style-type: none"> ▪ Every room and hall shall be supplied with natural or artificial lighting sufficient for the purpose of use. ▪ Lighting shall be supplied everywhere in the establishment in the manner that allows vision for cleaning and carrying out the health inspection provided there is no dark angle or corridor. ▪ Lamps in the processing hall shall be provided with protective covers. ▪ Artificial lighting lamps shall be installed in suitable places so as to avoid sight deviation or shadows, and light that results from artificial lighting shall be natural so that it does not affect the color of processed foods and reflect on them colors that appear with color different from their natural color (installation of small multiple lighting points instead of one large light prevents the occurrence of this). ▪ Fluorescent light shall be used in this establishment. ▪ Light shall be shed over the food processing tables and over the areas of processing and preparation of foods, noting that lighting shall be relatively symmetrical in all sites of the establishment.
Prevention	<ul style="list-style-type: none"> ▪ Periodic regular inspection of insect killing to prevent pollution of foods

Particulars	Conditions
from rodents and insects	<p>with ants, Cockroach</p> <ul style="list-style-type: none"> ▪ Rodents and insects shall be killed by the healthy means provided this is done by specialized authorized persons to prevent pollution of food, and use of insects only in case of infeasibility of use of other prevention. ▪ All antiseptics and insecticides and other toxics shall be kept in special sealed safe the key of which shall be kept by the employee in charge to prevent any potential pollution of food with its contents, and they shall be handled and used in safe methods to be approved by the appropriate authorities. ▪ Necessary measures shall be taken to prevent access of all types of animals to the establishment, including cats, dogs, birds and other domesticated animals.
Water	<ul style="list-style-type: none"> ▪ Water shall be supplied only from potable water. ▪ Water shall conform with the Jordanian standards of potable water. ▪ Hot and cold water shall be supplied in sufficient quantities. ▪ Hot and cold water shall be supplied in sufficient quantities on continuous basis. ▪ In case only water is used, temperature of hot water used in purification of utensils and tools shall be at least 82° C
Cleaning basins	<ul style="list-style-type: none"> ▪ If the nature of work in the establishment requires supply of washing basins and cleaning basins, this shall be in sufficient numbers, and they shall be soft and flat, and shall be made of stainless materials, non-toxic and easy-to-clean materials.
Waste disposal	<ul style="list-style-type: none"> ▪ Liquid wastes shall be disposed either to the public sewerage after purification or according to the health conditions to be drafted by the appropriate authorities. ▪ Solid wastes shall be disposed by special garbage bags so long as this is possible, and shall be placed in sufficient numbers in the various sites of the establishment, and they shall be closed and locked by tying and removing them by healthy methods on daily basis and whenever full, provided they are kept in sealed containers.
Waste water	<ul style="list-style-type: none"> ▪ Industrial water network shall be separated from the human wastewater. ▪ Disposal of wastewater to the sanitary sewerage network. In case the area is not served by public sanitary sewerage network, it shall be collected in impermeable cement holes and shall be pumped by reservoirs and disposed in the places to be determined by Ministry of Water and Irrigation for this purpose. ▪ The industrial wastewater shall be treated to comply with the instructions of disposal to the sanitary network in case the area is served by public sanitary sewerage network. Otherwise, it shall be treated to comply with the approved Jordanian standards. ▪ Attention to all solid wastes produced by the Institution following

Particulars	Conditions
	<p>healthy and environment-friendly methods during the phases of handling from collection of customized containers and storage in particular places (if required) and movement of them by means that guarantee no pollution to the environment and disposal in officially approved dump according to the instructions of the appropriate authority.</p> <ul style="list-style-type: none"> ▪ Control of air emissions, including dust and vapors to air for those that directly or indirectly result from manufacturing according to the applicable related limits of the appropriate authorities.
Machinery and equipment	<ul style="list-style-type: none"> ▪ Machines, equipment, utensils and cans used in the sites of food handling and in contact to foods for packing of foods must be made of non-toxic materials and shall not generate odor, shall be non-absorbent and resist stain and corrosion. They shall bear the processes of frequent cleaning and purification. Their surfaces shall be soft and free of scratches and fissures. Wood and other materials that are difficult to clean and purify effectively shall be avoided. ▪ Design and manufacturing of all machines, equipment and utensils shall prevent the health hazards and allow easy cleaning and purification of them. They shall be visible to facilitate inspection. Concerning the immovable machinery and equipment, they shall be well mounted to facilitate access to them to be well cleaned. ▪ Any device or basin used for storage or presentation of inedible or polluting materials shall be marked to prevent their use for storage or presentation of foods. Materials used in handling of invalid foods and impurities shall be clearly marked from the materials used in handling of consumable foods. ▪ Gloves and head caps shall be used by workers, and they shall be of the disposable types. ▪ Special program shall be sent for daily progressive cleaning and purification. ▪ Cold air current shall be allowed in the institutions instead of the sieve doors to prevent access of insects and ants. ▪ Insects shall be regularly inspected and removed. Electric devices are recommended to remove them. ▪ When wood or plastic straws and spoons are manufactured to be used in taking drinks, dessert, etc., they shall be mechanically sealed with particular seals for each straw or spoon.
Cleaning and purification	<ul style="list-style-type: none"> ▪ Full cleaning and purification shall be carried out after use of cans allowed to be used several times, and the machinery, equipment and utensils used in handling, processing, storage or transport of the product to provide suitable utilities for cleaning and purification, provided they are supplied with the necessary systems manufactured from stainless and easy-to-clean materials, provided those utilities are supplied with

Particulars	Conditions
	<p>cold and hot water in adequate quantities.</p> <ul style="list-style-type: none"> ▪ All rooms and places used for receipt, manufacturing or storage of food items or end product shall be always clean provided this is done by healthy methods to prevent possible germ, chemical or physical pollution. ▪ Hard water, particularly that used in the mechanical wash and purification facilities to prevent leakage of salt on their holes of which water comes. ▪ It is not recommended to use chlorine in concentration of more than 40 mg per liter of water to remove the spots since this is not necessary and can damage the metal parts. ▪ Waste vessels shall be washed and purified on daily basis. ▪ Detergents and purification shall be approved by the official authorities, and shall not leave color, odor or remains on the machinery, devices and tools to be used.
Processing methods	<ul style="list-style-type: none"> ▪ Manufacturing and packing operations shall be mechanical as much as possible, or by use of devices, machinery and equipment that prevent any pollution of the end product. Hands may not be used in contact with food except in cases of dire necessity for completion of work. Tools shall be used instead of touching it, such as spoons, forks and knives. ▪ All production operations, including packing, shall be done without unnecessary delay and under conditions that prevent pollution or gradual damage or formation of pathogenic or damaging microorganisms. ▪ Processing, packing, canning, wrapping and storage of foods shall be done in the manner that prevents their pollution and does not catalyze gradual damage or spoil the end product from health perspective. ▪ Hand wash tools shall be provided in every room and in the places and manufacturing rooms, including the hot and cold water, soap and effective hand drying tools.
Food health control	<ul style="list-style-type: none"> ▪ The factory or lab shall assure that health control is available on the raw materials and end products. ▪ The lab or factory shall carry out the sensitive, chemical and germ examinations on raw materials and end products to assure their safety and validity for human consumption. ▪ Records and dossiers that prove all required examinations shall be available. These records, dossiers and lab results shall be ready for inspection by the appropriate authorities.
Coolers and freezers of industries and products that so require	<ul style="list-style-type: none"> ▪ Necessary raw material or end production preservation means shall be availed to be kept cold and frozen according to their condition. ▪ the necessary facilities shall be designed in the manner that does not cause food pollution or fraud. ▪ in each cooling room or fridge there shall be thermometer approved by

Particulars	Conditions
	<p>the appropriate authorities in the hottest areas of the room, and each room shall be provided with internal temperature reading devices.</p> <ul style="list-style-type: none"> ▪ temperature of every room shall be controlled in the morning, afternoon and evening on daily basis, and the heat record shall be valid for inspection from time to time. ▪ temperature and cooling and freezing means shall be according to the material storage requirements as defined by the appropriate official authorities provided the cooling and freezing devices can reduce their temperature to -1 c to -40 c for the purposes of rapid cooling and freezing, respectively. ▪ foods shall be put on wood or plastic pallets or in metal chests that do not pollute the product, to be strong, clean and on shelves and to satisfy the health conditions and be customized for this purpose, and shall prevent crowd in refrigerators, and shall be processed according to the generally acceptable health conditions so that the cold air current reaches every stored food item and the refrigerator remains clean on continuous basis. ▪ every fridge of each type of the following foods shall be allocated to the industries and products that so require: <ul style="list-style-type: none"> – dairy products – meat – fish – fruit – vegetables – sweet ▪ no unprocessed raw foods shall be kept or stored with any foods processed in certain refrigerator under any conditions. ▪ food freezers and refrigerators of all types and forms shall be emptied and cleaned well when necessary, and shall be kept clean and ordered on continuous basis, noting that supply of automatic ice solvent is important and essential. ▪ antiseptics shall not be used for cleaning or purification of the inside refrigerators to prevent pollution and damage of stored foods. ▪ ice shall be automatically melted in the modern establishments to be licensed for the first time. ▪ cleaning time shall be consisted with the ice melting time in the old establishments to be licensed. ▪ no expired foods shall be stored or used according to the period of validity to be determined by the appropriate authorities. ▪ old items shall be cleaned before the new items of stored foods to prevent old foods from losing part of their nutritional value if the period of storage is long, and to prevent any natural changes such as the change of color, particularly in frozen foods.

Particulars	Conditions
	<ul style="list-style-type: none"> ▪ Frozen processed foods shall not be stored for more than three months from the date of processing or preparation, particularly the cooked foods. ▪ Hot food shall be put in refrigerators or freezers only after cooling within no more than one and half hours up to temperature of no more than 30 C to prevent high temperature of stored foods and therefore reduce the refrigerator's cooling capacity. ▪ Movable cooling refrigerators shall be used for cooling of hot foods up to 4 C after which cooled foods shall be preserved in refrigerators. ▪ Ready manufactured foods or foods to be kept by freezing shall be cooled and frozen to reach temperature of storage (-18° C) as soon as possible after direct preparation in the manner that maintains their natural and sensory properties.
Uncooled storage	<ul style="list-style-type: none"> ▪ There shall be places allocated for storage of raw materials, cans and end products, each separately, and there shall be room for storage or preservation of devices and tools. ▪ These places shall be clean, healthy and well maintained, and their ventilation and lighting shall be good, noting that the optimum storage temperature of non-perishable foods is 16C and no more than 20 C. Mobile stands with stainless steel storage shelves shall be used provided the lower shelf is no less than 25 cm from floor. ▪ Modern storage methods that reduce damage and prevent pollution shall be used. ▪ Shelves, safes and wood pallets shall be used when necessary for prevention of pollution provided they are checked to facilitate cleaning and inspection, and there shall be corridors among the food stacks. ▪ Foods shall not be put directly on floor regardless of the package type and method, and they shall not reach the ceiling. They shall be at least 70 cm from it and shall not stick to walls. They shall be no less than 50 cm from floor.
Conditions of transport of goods from and to the establishment	<ul style="list-style-type: none"> ▪ Cars and means of transport shall be used to prevent pollution or spoil of their load of food. ▪ Cars and means of transport shall be clean and well maintained on continuous basis. ▪ No cars or means of transport allocated for foods shall be used for transport of poisonous or harmful materials that cause pollution or damage of goods. ▪ Cars or means of transport shall be equipped to secure freezing and/ or cooling temperature according to the type of transported foods regardless of distance or period of time. ▪ Washing, cleaning and purification of cold car inside shall be conducted after the end of daily work using cleaning solution authorized by the health authority.

Particulars	Conditions
	<ul style="list-style-type: none"> ▪ Cooled cars or those used for transport of confectionary shall be supplied with devices for recording of temperature during transport of cooled or frozen foods.
Water transport means and vehicles	<ul style="list-style-type: none"> ▪ Regardless of the shape and size of the means of transport of water shall meet the required conditions. ▪ They shall not be used for any other purpose than transport of water and shall be designed and maintained so that no foreign material enters or affects it due to handling and transport. ▪ Reservoirs shall be manufactured of strong soft corrosion proof material, and shall be designed to prevent any sediments when they are required to be discharged and all surfaces shall be round. ▪ They shall have covers to be possible to open and generally access in the existing reservoirs for cleaning and maintenance. ▪ Holes of reservoir water outlets and ventilation pipes shall not be positioned to make suction direct of the exhaust vapors, etc. difficult during operation of the engine. ▪ There shall be special tap connected to the reservoir holes for water sampling. ▪ The pores of packing and emptying holes shall be automatically controlled with no return, and shall be of the rapid opening types with special caps to be used during suspension of work. ▪ Hoses shall be made of non-poisonous impermeable material and shall admit continuous use and do not add taste to water. ▪ Hoses shall be covered and kept from pollution during suspension of work either by use of its cap or flooding it in basin of chlorinated water. ▪ Hoses shall be washed at the inside before every use by pumping little water through it. ▪ Cars and means of transport of water shall be cleaned regularly on weekly basis. ▪ Purification shall be done at least once per week by filling the reservoirs with excess solution of chlorine with average of 50 mg per liter, provided the solution is retained in the reservoir for at least half an hour to prevent discharge of water by hoses through the drain to open the reservoir drain after it and to suck the reservoir at the inside with potable water. ▪ No chlorhexidine in purification. ▪ To get the excess chlorine with average of 50 mg per liter, the percentage of sodium hypochlorite or calcium hypochlorite concentration to be used shall be defined. ▪ When the percentage of concentration of the solution to be used is 10%, 300 ml of it shall be added per 500 liter of water so that this mix covers 60 mg of hypochlorite per liter, after few minutes to become 50 mg per liter as required. When the percentage of concentration of chlorine to be

Particulars	Conditions
	<p>used is 5%, the quantity of sodium or calcium hypochlorite to be added shall be doubted to become 600 ml per 500 liter of water.</p> <ul style="list-style-type: none"> ▪ Concentration of antiseptic mix shall be increased to become 200 mg per liter, if this is more suitable. In this case, the time required for retention of mix in the reservoir shall become three minutes instead of half an hour. ▪ The reservoir shall be ground and abraded to remove sediments with average of once per month, either by use of brush with hard fiber after immersion in strong concentrated solution of sodium hypochlorite provided immersion in solution is repeated frequently during the grinding process, either by use of vapor current if suitable, and rinsing the reservoir with fresh water, and repeat processing with hypochlorite solution in the manner specified in section 12/24. ▪ Reservoir cleaning and purification instructions shall be posted on the water reservoirs for reference by the concerned employee when he does so, and the dates of cleaning and purification shall be recorded against signature of the person in charge of those operations in special record ready for inspection and shall be kept in the vehicle.
Food handlers	<ul style="list-style-type: none"> ▪ The establishment management shall be responsible for assurance that the persons who do not hold health certificates or who are clearly patient or infected with polluting wounds or open ulcers or other injuries do not work on the exposed parts of the body in the handling places. ▪ Workers on any of food handling lines for processing shall wear clean external clothes and head caps and white rubber shoes to be kept in the establishment after completion of work and to be completely separated from the personal clothes and food. ▪ Workers shall practice acceptable health habits and shall be prevented from eating, smoking or gumming of tobacco or expectoration in the food handling places. ▪ No food handler shall be allowed to work unless he shows in advance health certificate with medical examination of no more than one month and the scan image or scan endoscopy shall not pass more than one year to prove that he is free of diseases. The certificate shall be kept in the establishment and shall be ready for inspection from time to time. The certificate shall be renewed every six months. ▪ Food handlers shall include all persons who work in public service for supply of water or who work for any other establishment or place where potable water is prepared or filled. ▪ Before health certificate of new and old food handlers are issued, they shall be medically examined to prove that they are free from diseases and injuries that can be transmitted to man by food such as typhoid, paratyphoid, diarrheas, salmonella, dysentery or other contagious diseases and epidemic hepatitis. Medical examination shall include the

Particulars	Conditions
	<p>following, as minimum:</p> <ul style="list-style-type: none"> ▪ Medical examination that covers all points required in the form provided in paragraph 10-6-26. ▪ Scan image or scan endoscopy of lungs, unless this is performed within the last twelve months and tuber clean examination in the cases that the medical doctor finds necessary. ▪ Examination of sample of stalls for salmonella, Shegella, cholera, parasites and abdominal worms. ▪ Medical doctor shall carry out any further medical examinations he deems necessary for issuance of the required certificate. ▪ Medical examination shall be carried out every six months and scan examination of lungs shall be done once after two years of the first examination. ▪ Food handlers who stopped this work for one or more years shall be medically examined like those licensed for the first time. ▪ Food shall be touched by hands only in the dire necessity cases for completion of work and tools shall be used instead of contacting them such as spoons, forks, knives and tweezers. ▪ Ornaments other than ring shall not be worn during handling of unwrapped foods for prevention of food. ▪ Medical examination shall be filled in case of desire to employ new food handlers, and in case of renewal of the health certificate of old handlers as follows A, B, C and shall be kept with the medical doctor.