

An Economic Study of the Possibility of Decreasing Arab imports of the Most Important Agricultural Commodities

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Abstract: The study concluded that increasing the area of land cultivated with the agricultural commodities under study that is outcome from re-cultivated this land which was before cultivated leads to an increase in production by 16.26% for grains, 18.81% for wheat, 15.03% for rice, 15.83% for maize, 39.76% for barleycorn, 22.32% for legumes, 28.31% for raw sugar, and 36.09% for milk and dairy products in the Arab countries, during the average period covered by the study which is from 1990 to 2003. In comparing the self-sufficiency percentage resulting from cultivating the low Arab cultivated areas to the percentage before cultivation, it becomes clear that the increase in the percentage of grains, wheat, rice, maize, barley, legumes, raw sugar, milk and dairy products is 10.6%, 12.49%, 10.23%, 8.4%, 25.56%, 19.48%, 14.3%, and 38.05%, respectively, in the Arab countries, during the average period covered by this study. This, in turn, leads to a decrease in the amount of the Arab imports as follows: 21.93% in grains, 24.73% in wheat, 35.81% in rice, 12.41% in maize, 40.44% in barleycorn, 49.39 in legumes, 14.8% in raw sugar, and 109.74% in milk and dairy products in the Arab countries during the average period covered in the study.

Key words: Economic Study, Arab imports and Agricultural Commodities

INTRODUCTION

In the framework of the joint collective efforts adopted recently by the Arab League, after the pattern of regional and international blocs such as the European Union and the Asian countries, the League has been keen on activating the signed collective agreements that aim at achieving a joint Arab economic integration through applicable mechanisms. In order to realize this, emphasis had to be placed on economic integration among member countries in general, and on agricultural integration in particular as the latter is the cornerstone of economic integration as a whole and is, at the same time, a way to attain to the pursued Arab economic development^[10]. The Arab countries have a lot of cultivated lands that are far away from perfect usage. Making the best use of such lands by cultivating them would lead to a decrease in the amount of the Arab imports of foodstuffs. The increase in the amount of these imports in comparison to the amount of exports leads to deficiency in trade balances as well as in the balances of payment in most of the Arab countries^[2] which is reflected in the small amount of foreign currency these countries have and in wasting such currency on importing luxuries consuming commodities (luxuries importing). The result of this

may be pressuring the balance of foreign currency and the exchange rate of the local currencies of these countries in comparison to that of foreign currency. Out of its keenness on achieving the pursued Arab economic integration and in order not to have a place on the map of regional and international economic blocs, the Arab League has taken a number of **steps**. The most important of these steps are: activating the free Arab trade zone, consolidating economic cooperation between the Arab countries in general and the agricultural cooperation in particular with the aim of activating inter-Arab trade, making use of the unused cultivated areas, and creating new job opportunities in the Arab agricultural sectors^[11]. The amount of Arab agricultural production was about 143.19 million tons and the amount of the imports was about 76.035 million tons. In addition, the amount of the food gap was about 15.226\$ billions. The share of grains, legumes, raw sugar, and dairy products in this gap is 51.19%, 2.66%, 9.11%, 12.27%, respectively, during the period 2001-2003^[11].

Problem of the Study: The problem of the study revolves around the decrease in the self-sufficiency percentage of the most important basic Arab agricultural commodities, on which all Arab peoples

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depend. The percentage has reached about 54.6% in grains, 68.8% in legumes, 25.6% in raw sugar, 67.4% in milk and dairy products. The Arab countries try to bridge this food gap through importing its needs of these necessary commodities. Such imports have a high share in the consumed amounts of these commodities. This share reached 48.3% in grains, 39.4% in legumes, 76.2% in raw sugar, and 34.7% in milk and dairy products in the period 1990-2003^[6]. This is a very clear indicator on the economic and political dependency of the Arab countries, especially as the amount of trade among the Arab countries did not exceed 8% during the average period covered in the study^[7].

Study Objective: The research aims at analyzing the current and future situation of the Arab agricultural imports of the most important agricultural commodities under study through studying the percentage of the cultivated areas, the amounts of production, imports and exports, and the self-sufficiency percentage. The study also aims at specifying the most important factors influencing the Arab imports of the agricultural commodities under study. In addition, the study tackles the possibility of decreasing such imports in the light of the available resources, the adoption of imports replacement policy through activating Arab economic integration and the cultivation of the unused agricultural areas on the long run.

MATERIALS AND METHODS

The study depends on the data of the Year Book of Arab Agricultural Statistics published by the Arab Organization of Agricultural Development during the period from 1990 till 2003. To achieve the objectives of the present research and to show the most important factors influencing Arab imports, both percentages and the gradual inclination method are used for comparison^[8].

The Present Situation of the Most Important Arab Imports:

1. Cultivated Areas: The total cultivated area in the Arab countries is about 69.1% hectare, which is about 4.91% of the total geographical area. In addition, the area that could be cultivated in the Arab countries is about 1.23% of the total geographical area during 2003. The study concentrates on the most important agricultural commodities that have a low self-sufficiency percentage and a high importing percentage. These are grains, legumes, raw sugar, milk and dairy products. As for grains, the total cultivated area is about 28.9 million hectares, which is about 41.8% of the total Arab cultivated area^[9]. Table (1) shows that the cultivation of grains is concentrated in Sudan

(26.73%), Morocco (18.31%), Syria (11.8%), Iraq (10.91%), Egypt (9.05%), and Algeria (8.95%). This constitutes about 85.8% of the total Arab area cultivated with grains.

The most important grain crops in the Arab countries are wheat, rice, maize and barley. As for wheat, the total Arab area cultivated with wheat is about 10.4 million hectares, which is 15.1% of the total Arab cultivated area in general and 35.9% of the total Arab area cultivated with wheat. Table (1) shows that the cultivation of wheat is concentrated in Morocco (25.77%), Algeria (15.91%), Syria (15.15%), Iraq (14.35%), Egypt (9.35%), Tunisia (9.26%) – which constitutes 99.79% of the total area cultivated with wheat in the Arab countries, during the average period of 1990-2003. The total Arab area cultivated with rice is about 0.678 million hectares – which constitutes 2.3% of the total area cultivated with grains and about 0.98% of the total Arab cultivated area in general. The former table also shows that the cultivation of rice is concentrated in Egypt (84.61%) and Iraq (11.9%). This constitutes 95.8% of the total area cultivated with rice in the Arab countries. The total area cultivated with maize is 1.5 million hectares, which is about 5.2% of the total area cultivated with grains and about 2.2% of the total cultivated area in the Arab countries in general. The same table shows that the cultivation of maize is concentrated in Egypt (52.35), Morocco, (20.71), Somalia (9.12) – which constitutes 82.16% of the total area cultivated with maize during the average period of 1990-2003. However, the area cultivated with barleycorn in the Arab countries is about 7.3 million hectares – which constitutes about 25.3% and 10.7% of the total area cultivated with barleycorn and the total cultivated area in the Arab countries in general, respectively. The table shows that the cultivation of barleycorn is concentrated in Morocco (30.04%), Syria (23.77%), Iraq (20.01%), Algeria (17.24%) – which constitutes 91.15% of the total area cultivated with barleycorn during the average period 1990-2003. As for legumes, the total cultivated area in the Arab countries is 1.2 million hectares, which is 1.7% of the total cultivated area in the Arab countries in general. Table (1) shows that the cultivation of legumes is concentrated in Morocco (29.84%), Syria (20.62%), Egypt (13.54%), which is 64% of the total area cultivated with legumes in the Arab world during the average period of 1990-2003. In addition, the total area cultivated with sugar crops is 45.29% in Egypt, 31.36% in Morocco and 19.89% in Sudan. This constitutes about 86.54% as a total area cultivated with sugar crops in the Arab countries, as shown in Table (1), during the average period of 1990-2003.

Green Fodders is considered as the main source for the production of milk in the Arab World. The total

Table 1: The relative importance of the Arab cultivated area of the most important agricultural commodities during the period 1990-2003 (areas given in thousand hectares).

Country	Grains %	Wheat%	Rice%	Maize%	Barleycorn%	Legumes%	Raw Sugar%	Dairy products%
Jordan	0.34	0.51	-	0.42	0.62	0.63	-	0.09
Emirates	-	-	-	-	-	0.02	-	0.47
Bahrain	-	-	-	-	-	-	-	0.03
Tunisia	4.82	9.26	-	-	7.06	6.74	1.35	7.35
Algeria	8.95	15.91	-	0.03	17.24	6.99	1.04	15.33
Djibouti	-	-	-	-	-	-	-	-
Saudi Arabia	2.8	5.25	-	0.25	1.27	-	-	8.13
Sudan	26.73	2.32	0.59	3.51	-	7.32	19.89	4.48
Syria	11.85	15.15	-	4.04	23.77	20.62	8.31	2.48
Somalia	1.85	0.02	0.64	9.1	-	3.77	1.44	-
Iraq	10.91	14.35	11.19	6.5	20.01	2.6	0.5	2.21
Oman	0.01	-	-	-	0.02	-	0.02	0.55
Palestine	0.12	0.2	-	0.05	0.19	0.54	-	0.18
Qatar	0.05	-	-	-	0.03	-	-	0.07
Kuwait	-	-	-	0.03	0.02	-	-	0.06
Lebanon	0.16	0.31	-	0.1	0.16	1.29	0.8	0.16
Libya	1.08	0.68	-	0.05	3.11	0.52	-	2.95
Egypt	9.05	9.35	84.61	52.35	0.85	13.54	45.29	41.54
Morocco	18.31	25.77	1.46	20.71	30.04	29.84	21.36	11.03
Mauritania	0.55	-	1.51	0.36	-	2.33	-	-
Yemen	2.42	0.92	-	2.5	0.61	3.25	-	2.89

Source: Data collected and calculated according to the Arab Organization of Agricultural Development, Year Book of Arab Agricultural Statistics, Different Issues (1990-2003)⁽¹⁾.

area cultivated with green Fodders is about 2.7 million hectares, i.e. 3.9% out of the total Arab cultivated area. The former table shows that the cultivation of green Fodders is concentrated in Egypt (41.54%), Algeria (15.33%), and Morocco (11.03%), i.e. 67.9% out of the total Arab area cultivated with green provender in the Arab world during the average period of 1990-2003.

Production: The total grain production of the Arab countries during the average period of 1990-2003 was about 43.1 million tons. It is clear from table(2) that the most important countries producing grains are Egypt (38.44%), Morocco (12.39%), Syria (11.53%) and Sudan (9.94%) – which constitutes 72.3% of the total grain production in the Arab countries. The amount of the production of wheat, rice, maize and

barleycorn is about 20.2 million tons, 5.2 million tons, 6.4 million tons, 6 million tons and 0.6 million tons respectively. This amount of production constitutes about 46.9%, 12.1%, 14.8% and 13.9% out of the total grain production in the Arab world during the average period of 1990-2003. The former table shows that the most important countries producing wheat are Egypt (28.06%), Syria (17.75%), Morocco (16.95%), and Saudi Arabia (12.36%) with a total of 75.12% out of wheat production in the Arab world. The table also shows that Egypt has the greatest share in the production of both rice (95.44%) and maize (84.87%) out of the total production of the Arab world of both crops during the average period covered by the study.

The production of barley is concentrated in Morocco (32.31%), Syria (18.19%), Iraq (14.6%) and

Table 2: The relative importance of the production of the Arab countries of the most important agricultural commodities during the period 1990-2003 (production given in thousand tons).

Country	Grains %	Wheat%	Rice%	Maize%	Barleycorn%	Legumes%	Raw Sugar%	Dairy products%
Jordan	0.22	0.27	-	0.06	0.65	0.28	-	0.99
Emirates	0.01	0.004	-	0.01	-	0.18	-	0.47
Bahrain	-	-	-	-	-	-	-	0.11
Tunisia	3.85	5.9	-	-	5.78	4.15	1.15	3.92
Algeria	5.97	8.37	-	0.01	14.11	3.95	-	7.28
Djibouti	-	-	-	-	-	-	-	-
Saudi Arabia	7.76	12.36	-	0.18	7.47	-	-	4.03
Sudan	9.94	2.18	0.09	0.61	-	9.61	23.98	32.75
Syria	11.53	17.75	-	3.43	18.15	16.61	4.38	8.78
Somalia	0.71	0.002	0.24	2.38	-	1.0	0.94	6.73
Iraq	6.11	6.5	3.68	3.95	14.6	2.72	0.14	2.1
Oman	0.04	0.008	-	-	0.05	-	0.01	0.44
Palestine	0.19	0.2	-	0.14	0.32	0.38	-	0.92
Qatar	0.01	0.002	-	0.14	0.07	0.02	-	0.17
Kuwait	0.02	0.01	-	0.09	0.02	-	-	0.16
Lebanon	0.27	0.38	-	0.06	0.42	0.43	0.57	1.11
Libya	0.64	0.34	-	0.01	3.09	1.17	-	1.4
Egypt	38.44	28.06	95.44	84.87	2.31	35.18	48.01	19.79
Morocco	12.39	16.95	0.55	3.16	32.31	18.32	20.82	5.73
Mauritania	0.29	0.004	-	0.08	0.03	1.45	-	2.13
Yemen	1.61	0.71	-	0.82	0.8	4.26	-	0.99

Source: Data collected and calculated according to the Arab Organization of Agricultural Development, Year Book of Arab Agricultural Statistics, Different Issues (1990-2003).⁽¹⁾

Algeria (14.11%), with a total of 79.21% out of barleycorn production in the Arab world during the average period covered in the study. The table also shows that the most important Arab countries producing legumes are Egypt (35.18%), Morocco (18.32%), Syria (16.61%), Sudan (9.61%), with a total of 79.72% out of legumes production in the Arab world during the period 1990 to 2003.

The production of raw sugar is concentrated in Egypt (48.1%), Sudan (23.98%), Morocco (20.82%) with a total of 92.9% out of the production of raw sugar in the Arab world. As for milk and dairy products, it is concentrated in Sudan (32.75%), Egypt (19.79%), Syria (8.87%), Algeria (7.28%) with a total of 68.6% of the production of dairy products in the Arab world, as shown in table 2, during the average period of 1990-2003.

Imports: The total amount of the Arab imports of grains was about 42.0 million tons. However, the total amount of the imports of wheat, rice, maize and barleycorn was about 10.5 million tons, 2.5 million tons and 9.8million tons respectively, with a total amount of 40.23%, 5.95%, 25.0% and 23.33% - also respectively – out of the Arab imports of grains in the average period of 1990-2003. Table (3) shows that the most important wheat-importing countries are Egypt (25.08%), Algeria (18.7%), Iraq (14.37%) and Morocco (11.58%) with a total of 69.73% out of the Arab imports of wheat during the average period covered in the study. The most important rice-importing countries in the Arab world are Saudi Arabia (22.56%), the Emirates (16.45%) and Iraq (15.88%), with a total of 54.89% out of the Arab imports of rice during the average period covered in

Table 3: The relative importance of the Arab imports of the most important agricultural commodities during the period 1990-2003 (amount given in thousand tons).

Country	Grains %	Wheat%	Rice%	Maize%	Barleycorn%	Legumes%	Raw Sugar%	Dairy products%
Jordan	4.07	2.89	3.81	4.28	4.64	4.06	3.95	2.71
Emirates	2.84	2.17	16.45	0.65	1.0	7.76	6.01	7.59
Bahrain	0.32	0.26	1.39	0.18	0.03	0.68	0.47	1.42
Tunisia	5.12	5.62	0.46	5.35	2.99	2.63	5.37	1.97
Algeria	15.36	18.70	1.74	15.15	3.42	19.52	17.93	23.06
Djibouti	0.27	0.17	0.9	0.03	41.08	0.23	0.2	0.3
Saudi Arabia	12.94	0.29	22.56	6.23	30.82	7.56	7.86	19.49
Sudan	1.78	2.25	1.08	2.35	--	2.44	0.33	0.52
Syria	3.29	1.39	6.02	5.82	2.87	0.45	10.29	1.91
Somalia	0.61	0.33	2.64	0.21	--	1.34	0.34	0.09
Iraq	6.66	14.37	15.88	6.78	1.17	5.68	5.4	1.89
Oman	1.12	0.97	3.96	0.57	0.55	0.69	0.72	3.85
Palestine	1.42	0.46	2.09	0.77	0.88	0.64	2.14	0.06
Qatar	0.39	0.19	1.38	0.17	0.37	0.65	0.34	1.44
Kuwait	1.41	1.0	3.76	0.95	1.49	1.55	1.37	3.62
Lebanon	1.93	2.0	1.61	2.35	0.59	3.07	2.85	4.59
Libya	5.34	2.18	5.08	1.49	4.31	2.21	3.93	3.36
Egypt	21.11	25.08	0.07	35.0	0.2	31.04	11.69	12.42
Morocco	8.07	11.58	0.29	8.5	3.57	3.37	9.54	5.7
Mauritania	0.58	2.39	1.96	0.2	0.01	0.13	2.22	1.01
Yemen	5.37	5.71	6.87	3.0	0.01	4.0	7.05	3.0

Source: Data collected and calculated according to the Arab Organization of Agricultural Development, Year Book of Arab Agricultural Statistics, Different Issues (1990-2003)⁽¹⁾.

the study. As for maize, the same table shows that the most important countries that import maize are Egypt (35%), Algeria (15.12%), Morocco (8.5%), Iraq (6.78%) and Saudi Arabia (6.23%), with a total of 71.63% out of the amount of the Arab imports of maize during the period 1990-2003.

The table also shows that the imports of barleycorn are concentrated in Djibouti (41.08%) and Saudi Arabia (30.82%), with a total of 71.9% out of the Arab barleycorn imports, during the average period covered in the study. The imports of raw sugar, however, as the table shows, is concentrated in Algeria (17.93%), Egypt (11.96%), Syria (10.29%), Morocco (9.54%) and Saudi Arabia (7.86%), with a total of 57.31% out of the Arab imports of raw sugar. The imports of milk and dairy products is concentrated in Algeria (23.06%), Saudi Arabia

(19.49%) and Egypt (12.42%), with a total of 54.97% out of the Arab imports of milk and dairy products in the average period of 1990-2003.

Exports: The total amount of the Arab exports of grains was about 2.66 million tons. However, the total amounts of the exports of wheat, rice, maize and barley were 1.7 million tons, 0.5 million tons, 0.09 million tons and 0.3 million tons, respectively. These amounts – also respectively – constitute for 63.91%, 18.8%, 3.38%, 11.28% out of the total amount of Arab exports of grains during the average period of 1990-2003. Table (4) shows that the most important exporting countries are Saudi Arabia (31.79%), Syria (17.95%) and Egypt (13.79%) with a total of 63.66% out of the Arab exports of grains during the average period covered in the study.

Table 4: The relative importance of Arab exports of the most important agricultural commodities during the period 1990-2003 (amount given in thousand tons).

Country	Grains %	Wheat%	Rice%	Maize%	Barleycorn%	Legumes%	Raw Sugar%	Dairy products%
Jordan	0.27	0.1	0.89	--	1.54	0.21	--	12.88
Emirates	12.78	0.46	35.15	15.03	1.06	23.92	61.82	23.97
Bahrain	0.11	--	0.16	--	--	0.02	0.06	1.03
Tunisia	5.63	--	--	74.23	4.25	0.07	0.3	3.57
Algeria	0.1	--	--	--	--	1.08	11.41	1.33
Djibouti	--	--	--	--	--	--	--	--
Saudi Arabia	31.92	82.34	0.86	0.21	1.47	0.65	3.81	25.46
Sudan	7.41	--	--	--	--	0.03	17.74	--
Syria	17.95	15.2	0.04	0.05	90.61	49.1	--	2.74
Somalia	--	--	--	--	--	--	--	--
Iraq	--	--	--	--	--	1.59	--	--
Oman	4.49	1.46	0.57	2.08	0.9	0.03	0.07	15.08
Palestine	--	--	--	--	--	0.43	--	--
Qatar	0.03	0.01	0.05	0.01	--	0.08	--	0.08
Kuwait	1.03	--	0.3	--	--	0.16	0.04	1.02
Lebanon	1.19	0.28	1.35	2.04	--	4.43	0.66	0.8
Libya	--	--	--	--	--	0.1	--	--
Egypt	13.79	0.05	60.63	1.03	0.08	11.69	3.84	5.19
Morocco	2.66	--	--	0.2	--	5.78	0.04	6.04
Mauritania	--	--	--	--	--	--	--	--
Yemen	0.64	0.1	--	5.3	0.9	--	0.21	0.81

Source: Data collected and calculated according to the Arab Organization of Agricultural Development, Year Book of Arab Agricultural Statistics, Different Issues (1990-2003)⁽¹⁾.

The table shows that Saudi Arabia comes on the top of the countries exporting wheat (83.34%), while Egypt comes in the first place among the countries exporting rice (60.63%). Tunisia, however, is on the top of the countries exporting maize because it re-exports its imports of barleycorn. Table (1) shows that Tunisia did not allocate any cultivated lands for maize during the average covered in the study. Finally, Syria is the top barleycorn exporting country as its share is 90.61% out of the total Arab exported amounts of rice, maize and barleycorn, respectively, during the period 1990-2003, as shown in table (4).

Consumption: The amount of food consumption is related to the number of population and the level of income in the Arab countries. Egypt is considered as the Arab country with the most population^[3].

Table (5) shows that Egypt comes in the first place among the Arab countries as far as the consumption of grains is concerned. Its percentage of consumption is about 30.78%. It is followed by Algeria (10.68%) and Morocco (10.59%). The consumption of the three countries constitutes about 52.05% out of the total grain consumption in the Arab world during the average period of 1990-2003. As for wheat, the table shows that Egypt, Morocco, Algeria and Iraq are the top consuming countries with the following percentages: 27.81%, 14.99%, 13.97%, and 10.77%, respectively. The total amount of their consumption is about 67.54% out of wheat consumption in the Arab world.

On the other hand, Egypt is the most consuming country of rice and maize with an amount of 65.3% and 54.28%, respectively, out of the total

Table 5: The relative importance of the Arab world consumption of the most important agricultural commodities during the period 1990-2003 (amounts in thousand tons).

Country	Grains %	Wheat%	Rice%	Maize%	Barleycorn%	Legumes% Sugar%	Raw Products%	Dairy
Jordan	2.08	1.6	1.24	2.68	3.15	1.78	3.01	1.35
Emirates	1.01	1.08	3.29	0.33	0.61	1.45	1.64	2.46
Bahrain	0.15	0.13	0.47	0.12	0.01	0.26	0.35	0.55
Tunisia	4.41	6.02	0.15	2.94	4.28	3.99	4.4	3.25
Algeria	10.68	13.97	0.59	9.41	7.62	10.29	13.11	12.87
Djibouti	0.13	0.09	0.33	0.03	25.96	0.09	0.16	0.1
Saudi Arabia	9.57	3.12	7.66	3.94	22.26	3.1	5.81	8.95
Sudan	6.07	2.31	0.43	1.7	--	7.47	6.26	22.25
Syria	7.36	9.6	2.06	4.93	7.15	7.89	9.09	6.52
Somalia	0.68	0.17	1.07	1.04	--	1.2	0.53	4.57
Iraq	6.55	10.77	7.95	5.73	6.39	3.97	4.15	2.07
Oman	0.43	0.43	1.32	0.34	0.35	0.27	0.55	1.32
Palestine	0.78	0.34	0.72	0.52	0.44	0.48	1.63	0.64
Qatar	0.2	0.1	0.47	0.16	0.26	0.26	0.26	0.61
Kuwait	0.66	0.51	1.27	0.63	0.95	0.6	1.04	1.34
Lebanon	1.05	1.2	0.46	1.47	0.54	1.18	2.3	2.32
Libya	2.93	1.28	1.74	0.93	3.92	1.66	2.99	2.12
Egypt	30.78	27.81	65.3	54.28	1.02	35.24	22.44	17.53
Morocco	10.59	14.99	0.48	6.5	14.76	13.33	13.22	5.71
Mauritania	0.44	1.21	0.67	0.16	0.01	1.02	1.69	1.78
Yemen	3.45	3.27	2.35	2.16	0.32	4.47	5.37	1.69

Source: Data collected and calculated according to the Arab Organization of Agricultural Development, Year Book of Arab Agricultural Statistics, Different Issues (1990-2003)⁽¹⁾.

consumption of the Arab world of both crops during the average period covered in the study. The former table also shows that the most important countries consuming barleycorn are Djibouti (25.96%), Saudi Arabia (22.26%) and Morocco (14.76%) with a total of about 62.98% out of barleycorn consumption in the Arab world during the average period covered in the study. As for legumes, the top-consuming countries are Egypt (35.24%), Morocco (13.33%) and Algeria (10.29%), with a total of 58.86% of legumes consumption in the Arab world during the average period of 1990-2003. When it comes to raw sugar, the most-consuming countries are Egypt, Morocco, and Algeria with the following amounts: 22.44%, 13.22%, and 13.11%, respectively. The total of these amounts is 48.77% out of the total raw sugar consumption in the Arab world. Finally, the table

shows that the Sudan is on the top of the countries consuming milk and dairy products with an amount of 22.25%. It is followed by Egypt (17.53%) and Algeria (12.87%). The total consumption of these three countries is 55.65% out of the consumption of the Arab world during the period 1990-2003.

Self-Sufficiency Percentage: Table (6) shows that the Arab countries can be divided into three groups based on the self-sufficiency percentage. The first group includes the countries in which the percentage is more than 80%.

The second group includes the countries with a percentage ranging between 50% and 80%. The third group, however, includes the countries in which the percentage is less than 50%^[4]. As far as grains are

Table 6: The relative importance of the self-sufficiency percentage of the most important agricultural commodities in the Arab world during the period 1990-2003.

Country	Grains %	Wheat%	Rice%	Maize%	Barleycorn%	Legumes%	Raw Sugar%	Dairy products%
Jordan	5.84	9.23	--	0.84	8.02	10.79	--	49.88
Emirates	0.19	0.24	--	0.25	--	8.58	--	12.85
Bahrain	--	--	---	--	--	--	--	13.38
Tunisia	47.62	52.81	--	--	52.32	75.35	7.5	81.18
Algeria	30.52	32.33	--	0.05	71.66	25.99	--	38.1
Djibouti	--	--	--	--	--	--	--	--
Saudi Arabia	44.24	213.34	--	1.73	12.63	--	--	30.31
Sudan	89.34	50.86	13.54	13.85	--	87.15	109.49	99.18
Syria	85.42	99.76	--	26.67	98.27	142.69	13.77	90.17
Somalia	56.66	0.77	15.48	87.35	--	56.25	50.86	99.31
Iraq	50.89	32.55	31.65	26.37	88.46	46.49	0.97	68.34
Oman	4.64	0.98	--	--	5.56	--	0.2	22.41
Palestine	13.04	31.51	--	10.3	28.36	53.82	--	96.62
Qatar	3.61	0.6	--	5.36	9.73	4.95	--	18.9
Kuwait	1.31	1.04	--	5.79	0.89	--	0.03	7.82
Lebanon	14.05	16.99	--	1.66	30.43	24.67	7.13	32.14
Libya	11.97	14.11	--	0.58	30.55	47.95	--	144.77
Egypt	68.16	54.42	100.05	59.89	87.49	67.67	61.15	76.04
Morocco	63.9	60.97	79.53	18.6	84.73	93.15	45.05	67.6
Mauritania	36.14	0.18	--	18.59	55.91	95.13	--	80.36
Yemen	25.38	11.8	--	14.55	98.76	64.7	--	39.49

Source: Data collected and calculated according to the Arab Organization of Agricultural Development, Year Book of Arab Agricultural Statistics, Different Issues (1990-2003)⁽¹⁾

concerned, and according to the former division, the first group includes the Sudan (89.34%) and Syria (85.42%). The second group includes Egypt (68.16%), Morocco (63.9%), Somalia (56.66%) and Iraq (50.89%). The rest of the Arab countries, shown in the table, belong to the third group. As for wheat, the first group includes Saudi Arabia (213.34%) and Syria (99.76%), the second group includes Morocco (60.97%), Egypt (54.42%), Tunisia (52.81%), and Sudan (50.86%), and the third group includes the rest of the Arab countries shown in the above table. As for rice, the table shows that the Arab countries belonging to the first and second groups are Egypt and Morocco with a self-sufficiency percentage of 100.05% and 79.53%, respectively. The rest of the Arab countries come in the third group, as shown in the table. The table also shows that the first-group

countries, as far as maize is concerned, are represented by Somalia (87.35%). Egypt, however, represents the second-group countries, with a self-sufficiency percentage of about 59.89%. The rest of the Arab countries come in the third group. Finally, as far as barleycorn is concerned, the most important first-group countries are Yemen, Syria, Iraq, Egypt and Morocco, with self-sufficiency percentages of about 97.76%, 98.27%, 88.46%, 87.49%, 84.73%, respectively. As far as the second-group countries are concerned, they are represented by Algeria (71.66%), Mauritania (55.91%) and Tunisia (52.32%). The rest of the Arab countries, as shown in table 6, belong to the third group in the average period of 1990-2003.

As for legumes, Syria (142.69%), Mauritania (95.13%), Morocco (93.15%) and the Sudan (87.15%) represent the first-group countries. The second group,

Table 7: The most important factors influencing the Arab imports of the most important agricultural commodities during the period 1990-2003.

No. of Equation	Crop	Equation	R	F
1	Grains	$\hat{Y}_w = - 27460.387 + 218.968 X_{2w}$ (2.843)	0.34	8.082
2	Legumes	$\hat{Y}_w = -82.014 + 111.165 X_{2w}$ (160.347)	0.99	25711.285
3	Raw sugar	$\hat{Y}_w = 2560.085 + 256.308 X_{2w} - 1.288 X_{1w} - 5295.838X_{3w}$ (2.466) (-1.503) (-0.065)	0.99	1510.681
4	Dairy Products	$\hat{Y}_w = 21979.755 + 0.804 X_{1w} - 104383.8X_{3w}$ (9.069) (- 6.387)	0.92	82.116

\hat{Y}_w = The estimated amount of imports in thousand tons
 X_{1w} = The amount of production in thousand tons
 X_{2w} = The average of the annual share of the individual in km tons
 X_{3w} = The price per ton in dollars

Source: Collected and calculated according to the data of the Arab Organization of Agricultural Development, Year Book of Arab Agricultural Statistics, Different Issues (1990-2003)⁽¹⁾.

however, includes Tunisia (57.35%), Somalia (56.25%) and Palestine (53.82%). The rest of the Arab countries belong to the third group. When it comes to raw sugar, however, Sudan (109.49%) comes in the first group, while Egypt (61.10%) and Somalia (50.86%) come in the second and the rest in the third, as shown in the table. Finally, the most important countries in the first group, as far as dairy products are concerned, are Somalia, Sudan, Palestine, Syria and Tunisia, with self-sufficiency percentages of about 99.31%, 99.18%, 96.62%, 90.17%, 81.18%, 80.36%, respectively. The most important countries in the second group are Egypt (76.04%), Iraq (68.34%) and Morocco (67.6%). As shown in the table, the rest of the countries come in the third group, during the average period of 1990-2003.

The Most Important Factors Influencing Arab Imports of the Agricultural Commodities under Study: These factors are the amount of production in thousand tons, the average of the annual share of the individual, the price per ton of the imported commodity in million dollars^[5]. To show the influence of these factors on Arab imports, the step-wise regression method was used as shown in table (7), is used, as the correlations estimated in the table were significant at 0.01. Equations 1 and 2 show that the most important factors influencing Arab imports of grains and legumes is the annual share of the individual. The values of the specification coefficient show that 34% and 99% of the changes in the amount of the Arab imports of grains and legumes go back to the change in the average of the annual share of the individual. Equation 3 shows that the most important factors influencing the Arab imports of raw sugar are the average annual share of the individual, the amount of production in thousand tons,

the price per ton of sugar imports in million dollars. The value of the specification coefficient show that 99% of the changes in the amount of Arab imports of raw sugar go back to the pre-mentioned factors. Finally, the value of the specification coefficient in equation 4 show that 92% of the changes in the amount of Arab imports of dairy products go back to the change in the produced amount of the agricultural commodity in thousand tons and the price per ton of the imported commodity in million dollars.

Future perspective of the most important Arab imports: This section gives a future perspective of the amount of the most important Arab imports of the agricultural commodities under study. There is a broad unused area of cultivated lands in many Arab countries, which is about 17.35 million hectares, i.e. 25.11% of the total Arab cultivated land. The maximum unused cultivated area is 75.49% in Saudi Arabia and the minimum is 3.52% in the Sudan, as shown in Table 8.

The table also shows the low percentages of the areas cultivated with the crops under study in many Arab countries. The total low amount of the agricultural area cultivated with grains is about 7.22 million hectares. The maximum amount is 2.22 million hectares in Iraq and the minimum is 0.06 thousand hectares in Qatar, during the average period of 1990-2003. As for wheat, the total low amount of the cultivated Arab area is about 2.96 million hectares. The maximum amount is about 0.53 million hectares in Algeria and the minimum amount is about 0.01 thousand hectares in Kuwait. As far as rice is concerned, the total low amount of the Arab cultivated area is about 0.13 million hectare. The maximum amount is about 0.09 million hectares in Iraq and the minimum is about 3.36 thousand

Table 8: Total cultivated and unused Arab area and the amount average of decrease in the Arab area cultivated with the most important agricultural commodities during the period (1990-2003). (area in 1000 hectares).

Country	Average amount of cultivated area								Arab total cultivated areas	Total uncultivated areas	% unused cultivated areas
	grains	wheat	rice	maize	Barley-corn	legumes	Sugar crops	Green provender			
Jordan	112.77	56.06	-	-	57.91	7.4	-	4.63	400.0	59.73	14.93
Emirates	1.52	1.52	-	-	-	0.04	-	11.48	247.83	-	-
Bahrain	-	-	-	-	-	-	-	0.05	4.58	1.31	28.6
Tunisia	491.1	349.3	-	-	140.6	45.7	6.20	329.1	5190.29	1119.7	21.57
Algeria	830.56	529.58	-	0.27	596.1	43.22	-	450.75	8458.68	3733.75	44.14
Djibouti	-	-	-	-	-	-	-	-	0.41	-	-
Saudi Arabia	433.5	390.01	-	-	255.98	-	-	100.25	5013.6	3785.0	75.49
Sudan	-	290.64	3.36	89.04	-	1.66	14.8	110.46	17891.58	630.0	3.52
Syria	939.22	-	-	12.5	1475.76	-	26.32	37.83	5478.3	830.0	5.15
Somalia	298.65	1.83	2.77	117.27	-	-	0.8	-	1603.0	260.0	16.22
Iraq	2219.25	803.5	87.95	51.6	880.32	5.45	3.25	7.0	6942.75	3149.75	45.37
Oman	3.18	0.56	-	-	0.18	-	-	2.7	69.44	-	-
Palestine	3.2	3.26	-	0.83	5.33	4.57	-	14.0	181.7	-	-
Qatar	0.06	0.27	-	0.01	0.28	0.01	-	1.3	27.12	17.42	64.23
Kuwait	-	0.01	-	-	0.59	-	-	-	8.81	-	-
Lebanon	7.05	13.49	-	1.28	1.24	19.77	6.76	2.38	272.0	-	-
Libya	71.2	266.0	-	1.0	-	7.22	-	29.0	2642.0	850.0	32.17
Egypt	120.76	2.01	25.73	83.49	139.71	45.67	7.82	-	3407.56	-	-
Morocco	523.4	223.5	7.3	206.9	315.9	142.7	4.3	-	9311.5	2340.5	25.14
Mauritania	13.7	0.69	5.13	12.51	0.53	26.14	-	-	282.29	36.41	12.9
Yemen	278.4	28.7	-	16.96	14.56	5.33	-	9.63	1668.79	535.4	32.08
total	7217.52	2960.93	132.24	593.66	3884.99	354.88	77.25	1110.56	69102.23	17348.97	25.11

Source: collected and calculated according to the data of the Arab Organization of Agricultural Development, the Year Book of Arab Agricultural Statistics, Different Issues (1990-2003⁽¹⁾).

hectares in the Sudan. The low amount of the Arab area cultivated with maize is about 0.56 million hectares. The maximum amount is 0.21 million hectares in Morocco and the minimum is about 0.27 thousand hectares in Algeria. Finally, the total low amount of the Arab area cultivated with barleycorn is about 3.88 million hectares. The maximum amount is 1.48 million hectares in Syria and the minimum is 0.18 thousand hectares in Oman, as shown in table 8, during the average period of 1990-2003.

As for legumes, the total low amount of the Arab cultivated area is about 0.35 million hectares. The maximum amount is 0.14 million hectares in Morocco and the minimum is about 0.04 thousand hectares in the Emirates. In addition, the total low amount of the Arab area cultivated with sugar crops is about 0.08 million hectares. The maximum amount is about 0.03 million hectares in Syria and the minimum is 0.8 thousand hectares in Somalia. Finally, the total low amount cultivated with green provender is about 1.11 million hectares. The maximum amount is about 0.45 million hectares in Algeria and the minimum is about 0.05 thousand

hectares in Bahrain, as shown in table 8, during the period 1990-2003.

From the foregoing, it is clear that if the low areas cultivated with these strategic crops are used, there would be an increase in production, as shown in Table 9. The cultivation of the total areas that are low in grains would lead to an increase in the total percentage of grain production in the Arab world to about 16.26%. The maximum increase may be 71.36% in the Emirates and the minimum increase may be 3.75% in Qatar. As for wheat, the amount of increase in the total percentage of production in the Arab world would be 18.81%. The maximum increase is 71.36% in the Emirates and the minimum increase is 0.21% in Egypt.

The reason behind the increase in the percentage of grains and wheat in the Emirates, despite the low percentage of the cultivated area in comparison with the other Arab countries, is the increase in the low average amount of the cultivated area. In 1991, the cultivated area was about 1.55 thousand hectares, while in 2003 it was about 0.03 thousand hectares, with a low average amount of about 98%. This is

Table 9: The percentage of increase in the production and self-sufficiency percentage resulting from cultivating the low areas during the period (1990-2003).

Country	Increase in Percentage of Production								Increase in self-sufficiency percentage							
	Grains%	Wheat%	Rice%	Maize% -corn%	Barley %	Legumes Sugar %	Raw products %	Dairy products	Grains%	Wheat%	Rice%	Maize%	Barley -corn%	Legumes %	Raw Sugar %	Dairy products
Jordan	54.02	51.25	-	-	56.06	49.2	-	64.13	6.86	9.71	-	-	10.23	10.44	-	89.18
Emirates	71.36	71.36	-	-	-	-	-	46.72	0.48	0.61	-	-	-	-	-	11.28
Bahrain	-	-	-	-	-	-	-	6.67	-	-	-	-	-	-	-	0.95
Tunisia	26.04	26.58	-	-	21.32	35.81	64.67	61.84	16.76	19.11	-	-	14.18	42.05	13.72	131.19
Algeria	24.28	24.2	-	44.99	39.88	33.72	-	51.56	9.79	10.33	-	0.05	47.53	13.21	-	40.56
Djibouti	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	34.82	41.62	-	-	73.23	-	-	44.64	23.62	152.1	-	-	34.56	-	-	13.53
Sudan	-	54.55	45.79	61.61	-	1.83	36.22	47.14	-	61.06	11.44	22.22	-	1.69	62.16	88.46
Syria	21.49	-	-	16.33	45.82	-	68.59	35.57	23.38	-	-	5.21	83.13	-	30.08	50.08
Somalia	35.83	58.29	38.85	44.9	-	-	13.74	-	31.64	1.08	9.84	71.18	-	-	8.1	1.39
Iraq	41.28	34.94	53.67	33.42	37.45	14.67	72.46	10.33	35.76	17.48	36.67	13.23	52.97	7.99	2.55	7.87
Oman	45.36	54.36	-	-	15.38	-	-	15.02	3.85	1.16	-	-	1.0	-	-	3.96
Palestine	8.35	13.65	-	52.87	27.84	40.85	-	74.31	1.28	4.98	-	11.56	10.94	37.17	-	279.47
Qatar	3.75	75.0	-	7.13	17.62	-	-	38.69	0.14	1.81	-	0.42	2.03	-	-	11.92
Kuwait	-	7.14	-	-	43.69	-	-	-	0.07	0.08	-	-	0.68	-	-	-
Lebanon	12.9	29.43	-	55.12	9.52	55.73	82.55	35.52	2.08	7.03	-	1.96	3.21	31.07	33.72	17.7
Libya	18.51	78.91	-	56.51	-	53.36	-	26.26	2.72	52.79	-	0.76	-	54.85	-	15.95
Egypt	4.41	0.21	4.29	9.16	69.06	21.71	14.4	-	3.14	0.12	4.48	6.05	195.26	18.77	10.28	-
Morocco	8.99	7.68	42.44	38.74	12.53	28.21	12.22	-	6.31	5.08	58.64	11.77	12.14	36.61	6.27	-
Mauritania	7.89	56.09	87.95	68.86	44.19	47.97	-	-	72.43	0.22	101.14	41.1	45.23	87.71	-	-
Yemen	28.46	23.04	-	71.89	24.4	11.87	-	10.77	10.1	3.53	-	37.23	31.88	8.72	-	4.76
Total	16.26	18.81	15.03	15.83	39.76	22.32	28.31	36.09	10.6	12.49	10.23	8.4	25.56	19.48	14.3	38.05

Source: collected and calculated according to the data of the Arab Organization of Agricultural Development, Year Book of Arab Agricultural Statistics, Different Issues (1990-2003⁽¹⁾).

the reason behind the increase in the percentage of production in the Emirates despite its low average amount of grain production, which is almost nothing in comparison to other Arab countries.

The total percentage of rice production in the Arab world would increase to about 15.03%. The maximum increase would be 87.95% in Mauritania and the minimum increase would be 4.29% in Egypt. The total percentage of maize production in the Arab world would increase to about 15.38%. The maximum increase would be 71.89% in Yemen and the minimum increase would be 7.13% in Qatar. Finally, the total percentage of barleycorn production in the Arab world would be about 39.76%. The maximum increase would be 72.23% in Saudi Arabia and the minimum increase would be 9.52% in Lebanon, as shown in table9, during the average period covered in the study. As for legumes, cultivating their low areas in the Arab world would lead to an increase of 22.23% in their production. The maximum increase would be 55.73% in Lebanon and the minimum increase would be 1.83% in Sudan,

as shown in table9. As far as sugar crops are concerned, cultivating their low areas would lead to an 28.31% increase in the production of raw sugar in the Arab world. The maximum increase would be 82.55% in Lebanon and the minimum increase would be 12.22% in Morocco, during the average period covered in the study.

The table finally shows that cultivating the areas that are low in green provender in the Arab world would lead to 36.09% increase in the production of milk. The maximum increase would be 74.31% in Palestine and the minimum increase would be 6.67% in Bahrain, during the average period of 1990-2003. Accordingly, the increase in the production of the agricultural commodities under study would lead to an increase in the percentage of self-sufficiency. When comparing the self-sufficiency percentage after and before the cultivation of the low areas, it would be clear that the percentages of increase all over the Arab world in grains, wheat, maize, barleycorn, legumes, raw sugar, and milk and dairy products are 10.6, 12.49, 10.23, 8.4, 25.56, 19.48, 14.3, 38.05,

Table 10: The decrease in the amount of Arab imports resulting from cultivating the low areas during the period (1990-2003).

Country	The low average amount of Arab imports							
	grains%	wheat%	Rice%	Maize%	Barley-corn%	Legumes%	Sugar crops%	Dairy products%
Jordan	7.25	10.66	-	-	11.02	11.6	-	128.1
Emirates	0.35	0.6	-	-	-	-	-	10.53
Bahrain	-	-	-	-	-	-	-	1.06
Tunisia	29.91	40.50	-	-	32.13	162.21	14.79	124.71
Algeria	14.08	15.26	-	0.04	167.73	17.68	-	65.3
Djibouti	-	-	-	-	-	-	-	-
Saudi Arabia	36.14	322.1	-	-	39.50	-	-	17.92
Sudan	-	124.26	13.23	25.8	-	12.61	155.57	108.27
Syria	108.2	-	-	7.1	328.07	-	34.88	493.4
Somalia	72.99	1.09	11.64	562.56	-	-	16.48	-
Iraq	72.83	25.91	53.65	17.98	459.14	14.17	2.54	24.86
Oman	3.07	1.02	-	-	1.02	-	-	3.93
Palestine	1.37	7.27	-	12.89	8.52	70.64	-	826.07
Qatar	0.15	1.81	-	0.62	2.3	-	-	14.65
Kuwait	-	0.08	-	-	0.69	-	-	-
Lebanon	2.33	8.4	-	1.37	4.6	30.34	35.78	25.83
Libya	3.09	61.46	-	0.76	-	104.49	-	28.87
Egypt	9.49	0.25	168.59	15.06	154.38	54.04	25.92	-
Morocco	17.13	13.0	285.32	14.45	79.5	366.88	11.41	-
Mauritania	4.85	0.23	189.53	50.48	103.38	179.96	-	-
Yemen	13.57	4.0	-	42.91	181.61	24.68	-	7.75
Total	21.93	24.73	35.81	12.41	40.44	49.39	14.83	109.74

Source: collected and calculated according to the data of the Arab Organization of Agricultural Development, Year Book of Arab Agricultural Statistics, Different Issues (1990-2003)⁽¹⁾.

Table 11: Evaluating the increase in the Arab production of the agricultural commodities under study.

Agricultural Commodity	Grains	Legumes	Raw Sugar	Dairy Products
Amount of increase in Arab world production in million tons.	8.380	0.372	0.710	9.754
Price average of imported ton in dollars during average period of 2001-2003 in the Arab world	155.75	406.63	234.002	264.08
Total amount of increase in the Arab world production in million dollars	1305.185	151.266	166.722	2575.836

Source: collected and calculated according to the data of the Arab Organization of Agricultural Development, Year Book of Arab Agricultural Statistics, Different Issues (1990-2003)⁽¹⁾.

respectively, during the average period of 1990-2003, as shown in table (9). In addition, increasing the production of the agricultural commodities under

study would lead to a decrease in the amount of the Arab imports that equals the amount of the increase in production. The percentage of decrease in the Arab

imports of grains would be 21.93%, as shown in table (10). The maximum decrease would be 108.2% in Syria – with 8.0% extra production for exportation.

The minimum decrease would be 0.15% in Qatar. As for wheat, there would be 24.73% decrease in the Arab imports. The maximum decrease would be 124.26% in Sudan, with 24% extra production for exportation. The minimum decrease would be 0.08% in Kuwait, as shown in the table. As for rice, there would be 35.81 % decrease in the Arab imports. The maximum decrease would be 189.53% in Mauritania, i.e. there would be 89% extra production for exportation. The minimum decrease would be 11.64% in Somalia. The table also shows that there would be 12.41% decrease in the Arab imports of maize. The maximum decrease would be 562.56% in Somalia, i.e. 462% extra production for exportation. The minimum decrease would be 0.62% in Qatar. Finally, as far as barleycorn is concerned, the table shows that the total amount of decrease in the Arab imports would be 459.14% in Iraq, i.e. 359% extra production for exportation. The minimum decrease, however, would be 0.69% in Kuwait, during the average period of 1990-2003.

As for legumes, Table (10) shows that the percentage of decrease in the total amount of Arab imports of legumes would be about 49.39%. The maximum decrease would be 366.88% in Morocco, i.e. 266% extra production for exportation. The minimum decrease would be 11.6% in Jordan, during the average period covered in the study. The table also shows that the percentage of decrease in the total amount of the Arab imports of raw sugar would be 14.83%. The maximum decrease would be 155.57% in Sudan, i.e. 55% as extra production for exportation. The minimum decrease would be 2.54% in Somalia. Finally, the total amount of decrease in the Arab imports of milk and dairy products would be about 109.74%, i.e. there would be 9% extra production for exportation. The maximum decrease would be 624.71% in Tunisia, with 524% extra production for exportation. The minimum decrease would be 1.06% in Bahrain, during the period covered by the study, as shown in table (10).

Assessing the Increase in the Arab Production of the Agricultural Commodities under Study: The study shows that the amount of increase in the Arab production, resulting from cultivating the areas low in the agricultural commodities under study will lead to a decrease in the amount of the Arab imports that equals the amount of increase in production. This amount is about 8.38 million tons in grains, 0.372 million tons in legumes, 0.710 million tons in raw

sugar, and 9.754 million tons in milk and dairy products, during the average period covered in the study. Parallel to the increase in the amount of production is a decrease in the amount of the Arab imports of the agricultural commodities under study. The amount of decrease equals that of increase, which is about \$ 1.305 billions in grains, \$ 0.151 billions in legumes, \$ 0.167 billions in raw sugar, and \$ 2.576 billions in dairy products, in the average import prices during the period of 2001-2003, as shown in table (11). This increase would result in about \$ 4.199 billions decrease in the amount of the Arab imports of the agricultural commodities under study.

RESULTS AND DISCUSSIONS

The study has reached many results as follows: There is a low self-sufficiency percentage in the agricultural commodities under study in many Arab countries.

The increase of the amount of Arab imports of the agricultural commodities under study.

The most important factor influencing the amount of Arab imports of grains and legumes is the average of the share of the individual. However, the most important factors influencing the imports of raw sugar are the average share of the individual, the amount of production, and the price per ton. As for dairy products, these factors are the amount of production and the price per ton.

There are about 17.35 million hectares in the Arab world that can be cultivated but still unused.

The area cultivated with the agricultural commodities under study in the Arab World is low. It is about 7.22 million hectares in grains, 2.96 million hectares in wheat, 0.13 million hectares in rice, 0.59 million hectares in maize, 3.88 million hectares in barleycorn, 0.35 million hectares in legumes, 0.08 million hectares in sugar crops, and 1.11 million hectares in green provender, during the average period of 1990-2003.

Cultivating the areas that are low in the agricultural commodities under study would lead to an increase in the Arab production as follows: about 16.26% in grains, 18.81% in wheat, 15.03% in rice, 15.83 in maize, 39.76% in barleycorn, 22.32% in legumes, 28.31% in raw sugar, and 36.09 in dairy products.

Cultivating the areas that are low in the agricultural commodities under study would also lead to a decrease in the amount of Arab imports as follows: about 21.93% in grains, 24.73% in wheat, 35.81% in rice, 12.41% in maize, 40.44 in

barleycorn, 49.39% in legumes, 14.83% in raw sugar, and 109.74% in dairy products.

The percentage of decrease in the amount of the imports of the agricultural commodities in many Arab countries is more than 100%, which results in having extra production that can be exported.

The decrease in the amount of the Arab imports of the agricultural commodities under study would result in decreasing the value of the Arab imports of these commodities to about \$ 1.31 billions in grains, \$ 0.151 billions in legumes, \$ 0.167 billions in raw sugar, \$ 2.57 billions in dairy products. This in its turn would lower the deficiency in the balance of trade in the Arab countries.

Accordingly, the Study Recommends the Following:

It is necessary to cultivate the unused Arab cultivable areas which have not been exploited yet, so that each Arab country should cultivate the commodities which enjoy high production in it as this would lead to an increase in the Arab production of the agricultural commodities under study. As a result, the Arab imports of such commodities would decrease.

It is necessary to cultivate the areas that are low in these basic, strategic commodities on which Arab peoples mainly depend. As a consequence, the amount of the Arab production of these commodities would increase and thus the amount of Arab imports would decrease.

It is necessary to achieve the pursued Arab economic integration and to activate the role played by the free trade zone, as far as the redistribution the Arab production of the agricultural commodities under study is concerned, especially at the countries in which the self-sufficiency percentage is more than 100%.

Summary: The present study aims mainly at examining the possibility of reducing the most important Arab imports of grains, legumes, raw sugar, and milk and dairy products as the most important strategic commodities on which all Arab people mainly depend. To attain the desired goal, the situation of the Arab imports under study was studied and analyzed through studying the areas of cultivated lands, production, imports, exports, consumption and the percentage of self-sufficiency. Also, the most important factors influencing Arab imports were identified using the step-wise regression technique. The most important factors influencing Arab imports of grains and legumes included the individual's average share per annum, while the most important factors influencing Arab imports of raw sugar included the individual's average share per annum,

amount of production, and import price per ton. Finally, the most important factors influencing Arab imports of milk and dairy products included the amount of production and import price per ton. The study also presented a future prospect of the size of Arab imports of the agricultural commodities under study. The study came to the conclusion that Arab imports of the agricultural commodities under study could be reduced through cultivating cultivable land which has not been exploited yet and whose area is about 17.35 million hectares. Arab imports of the agricultural commodities under study could also be reduced through increasing the area of land cultivated with these commodities in every Arab country. The area of land cultivated with these commodities is about 8.76 million hectares in the Arab World for grains, legumes, sugar crops, and green provender during the period of time under study. Cultivating these areas of land will increase the production of the agricultural commodities under study and, therefore, will reduce Arab imports of these commodities. Consequently, the study recommends achieving Arab economic integration and activating the role of the Free Arab Trade Zone so as to achieve balance among Arab countries by redistributing the production of agricultural commodities in Arab countries in which self-sufficiency in the agricultural commodities under study reaches over 100% to those countries in which self-sufficiency in these commodities is less than 50%. This cannot be achieved without the presence of an Arab joint economic integration and the activation of the role of the Free Arab Trade Zone.

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