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# **AGRICULTURAL DEVELOPMENT SYSTEMS EGYPT PROJECT**

**UNIVERSITY OF CALIFORNIA, DAVIS**

**EXPORT PROMOTION VS. IMPORT SUBSTITUTION:  
IMPACT OF THE TRADE STRATEGY ON ECONOMIC  
DEVELOPMENT**

**By**

**Hassan A. Khedr  
Ministry of Agriculture**

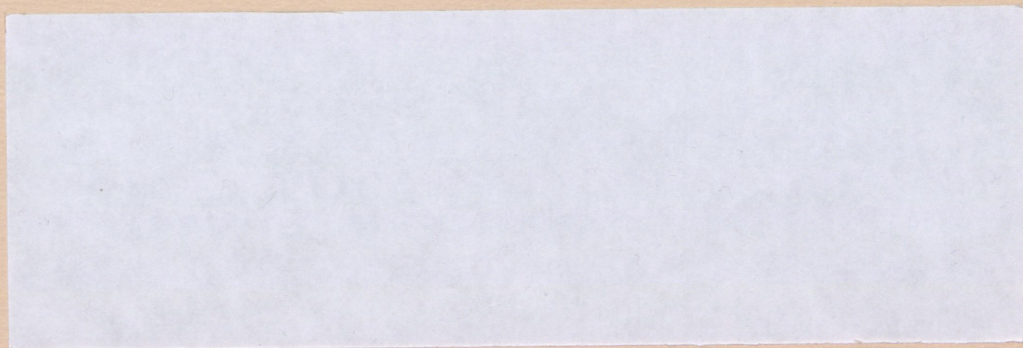
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EXPORT PROMOTION VS. IMPORT SUBSTITUTION:  
IMPACT OF THE TRADE STRATEGY ON ECONOMIC  
DEVELOPMENT

by

Dr. Hassan A. Khedr

Introduction

Economic theory suggests that, in general, resources should be allocated to export promotion and import substitution until the marginal amount of foreign exchange earned or saved is equal. The practical difficulty with that prescription from a policy guidance perspective is that it provides no hint as to the relative emphasis upon the two alternatives that would achieve the optimum mix (1).

In theory, four different trade regimes could be recognized. Two of them are specialized in either import substitution or export promotion, whereas the other two are biased toward either one of these trade regimes. This paper, for pragmatic reasons, presumes the simultaneous use of the two trade regimes.

The decision as to which trade strategy to emphasize is a complex problem which has major economic dimensions. Favoring a particular trade strategy in agriculture will presumably imply a certain pattern of resource allocation, price and wage changes and as a consequence a certain income distribution. Moreover, cropping, investment and trade patterns would also undergo substantial changes. In addition, such trade policy will result in secondary effects on other non-agricultural sectors.

This paper is an attempt to address the important policy question of the impact of the trade strategy on economic

development in Egyptian agriculture. In this respect some empirical examples will be discussed illustrating the experience of other countries. In addition, some comparative advantage criteria have been calculated for certain export crops and import substitutes with the objective of illustrating the major economic policy considerations to be taken into account when deciding an optimal trade strategy for the agricultural sector.

### Trade Strategies: Theoretical Background

The logic underlying trade did not vary drastically among classical and neoclassical economists. Classical economists focused primarily on gains from trade and emphasized comparative costs as basis for trade (2). Neoclassicals, on the other hand, have discarded the restrictive fundamental premises of the classical theory in favor of a more general framework, but without otherwise changing the basic argument. Their approach is customarily referred to as the opportunity cost theory of international trade (3).

There have been a number of studies on the impact of foreign trade regimes on economic development. Chenery and Bruno (4), Krueger and others (5) have done work in this area. Revision of trade strategies in ten different countries (Brazil, Chile, Colombia, Egypt, Ghana, India, Israel, South Korea, Philippines, and Turkey) and their resulting effects on economic development indicates that bias toward export promotion has resulted in faster growth than a bias toward import substitution. While examples can never prove a case, it might still be useful to point out reasons behind such a hypothesis.

Krueger argues that there are two classes of influences that appear to make an export oriented trade strategy more conducive

to rapid growth than import substitution. Firstly, there are some strictly economic factors such as returns to scale, relaxation of the link between agriculture and industry, the effect of increased competition of the performance of individual firms, and the likelihood of foreign exchange shortage with its deleterious effect on growth. Secondly, an export promotion strategy appears to place certain kinds of constraints upon economic policy. Those constraints, in turn, limit the magnitude and duration of policy mistakes and also tend to force policies to work through pricing rather than quantitative interventions. These influences suggest a particular logic to the evolution of economic policy under each strategy. It is possible that the evolution of import substitution over time rather than the level of bias itself that is responsible for the less satisfactory performance of such regimes. Other economists argue that an import substitution trade strategy is more conducive to development. Their reasoning is centered around the higher level of savings that may result, the rapid increase in the technological know-how, the development of the innovative capacity, and the uncertainty of the international markets (6).

#### Trade Strategies For The Egyptian Economy (1960-1980)

This section provides some indicators at the macro level which show the significance of the trade sector in Egypt and its evolution over the last two decades. Analysis of the trade strategies at the macro level can provide context to analyze trade within the agricultural sector.

Data of Table (1) indicate that while national exports have increased about 2.4 times in real terms over the last two decades, national imports in real terms have increased more

Table (1) : Significance of The Foreign Trade Sector and  
Dependence Ratios

Years	G N P (Real Terms)	Total Exports (Real)	Total Imports (Real)	Dependence Ratio %	Value of Ag., product (Real)	Ag. Exports (Real)	Ag. Imports (Real)	Dependence Ratio	%
1960/61	6272	188	224	15.42 100	580	161	76	40.86	100
1965/66	3598	220	315	14.87 96	754	197	144	45.29	111
1970/71	3892	241	291	13.67 89	784	211	114	41.45	101
1974	4541	331	513	18.59 121	1030	278	276	53.79	132
1975	4856	284	798	22.28 144	1063	221	352	53.90	132
1976	5241	284	711	18.98 123	1148	188	262	39.20	96
1977	5184	284	801	20.93 136	1069	191	276	43.69	107
1978	6436	258	999	19.53 127	1318	154	338	37.33	91
1979	7277	445	929	18.88 122	1297	221	313	41.17	101

Source : CAPMAS, Monthly Bul. for Foreign Trade and Annual Bul. for Stat., Cairo (Different Issues.)

$$\text{Dependence Ratio} = \left( \frac{\text{Trade Sector}}{\text{G N P}} \right) \text{Real \%}$$



remarkably about 4.2 times. These increases in the trade sector were accompanied by an increase in the GNP in real terms about 2.7 times. The increments were not even over the period since a sizable portion of them has occurred since 1974. About 38% of the increase in GNP, 26% of the increase in export and 46% of the increase in imports were following 1974.

Dependence ratios showing the relative significance of the trade sector to the GNP in real terms are calculated through the period 1960-79. The continual declining of this ratio over a considerable period of time would reflect bias toward import substitution policies than the converse. Turning these dependence ratios of the national economy to an index number (1960/61 = 100), then comparing it with its equivalent in the agricultural sector indicates that over the sixties and early seventies there was a noticeable bias to substitute for imports. However, the index started to pick up following 1974.

The change in the significance of trade sector following 1974 was coupled with a change in the composition of the trade balance. One reason for the change in the trade balance following 1974 is due to the rapid increase in the share of petroleum in the Egyptian exports. Data of Table (2) shows that total exports have increased from \$1.7 billion in 1974 to \$2.5 billion in 1979. The share of petroleum in these exports has increased from 6.2% in 1974 to 53.6% in 1979.

Table 3 shows the balance of payments current account through the period (1971-1979). The percentage rate of growth of exports and imports in the balance of trade were 12.9% and 23.4% respectively over this period. Three stages, however, could be recognized throughout that period in terms of rates of growth of exports and imports. The rate of increase of exports was about

Table ( 2 ) : Oil and Non-Oil Exports  
(Millions of U.S Dollars)

	1974	1975	1976	1977	1978	1979
Total Exports	1671	1566	1609	1992	1984	2512
%	100	100	100	100	100	100
Petroleum	104	164	268	600	687	1347
%	6.2	10.5	16.7	30.1	34.6	53.6
Non-Petroleum Exports	1567	1402	1341	1392	1297	1165
%	93.8	89.5	83.3	69.9	65.4	46.4

Source : Central Bank and Ministry of Petroleum. Note that petroleum exports do not include those of the partner companies.

Table (3) : Balance of Payments Current Account  
(Millions of U.S. Dollars)

	1971	1974	1975	1976	1977	1978	1979	Percentage Rates of Growth			
								1971-74	1974-78	1978-79	1971-79
Trade Balance	-294	-1796	-2755	-2679	-2521	-3299	-4163	82.7	16.4	26.2	39.2
Exports	950	1671	1566	1609	1992	1984	2512	20.7	4.4	26.6	12.9
Imports	-1244	-3467	-4321	-4288	-4513	-5283	-6675	40.7	11.1	26.3	23.4
Services (Net)	-92	169	285	1083	1277	2027	2559	-	86.1	26.3	-
Receipts	182	709	1080	1977	2547	3446	4080	57.2	48.5	18.4	47.5
Shipping	12	20	58	97	153	124	167	18.5	57.8	34.7	39.0
Suez Canal	-	-	85	311	423	514	589	-	-	14.6	-
Worker Remittances	6	189	365	755	896	1761	2214	215.4	74.7	25.7	109.3
Investment Income	23	87	87	72	113	144	305	55.7	13.4	111.8	38.2
Tourism	72	265	332	464	728	702	601	54.3	27.6	-16.8	30.4
Other	69	148	153	278	234	201	204	28.9	7.9	1.5	14.5
Payments	-274	-540	-795	-894	-1291	-1419	-1522	25.3	27.3	7.2	23.9
Shipping	-19	-23	-82	-79	-97	-75	-85	6.6	34.4	13.3	20.6
Invest. Income	-	-156	-189	-273	-319	-414	-428	-	27.6	3.4	-
Other Commercial	-106	-92	-166	-115	-126	-127	-109	-4.8	8.4	-16.5	0.3
Payments	-	-	-	-	-	-	-	-	-	-	-
Travel	-19	-105	-105	-123	-172	-258	-247	76.7	25.2	-4.4	37.8
Govt. N.i.e.	-82	-77	-102	-107	-167	-158	-192	-2.1	19.7	21.5	11.2
Other	-48	-87	-151	-197	-410	-387	-461	21.9	45.2	9.1	32.6
Current Account Balance	-386	-1627	-2470	-1596	-1265	-1272	-1604	61.5	-6.3	26.0	19.4

Source: Central Bank of Egypt. Exports and Imports do not include those affected by the foreign oil Companies.



20.7% through the period 1971-74. However, imports grew almost twice as much through the same period. Then a drastic reduction occurred in these rates through the period 1974-78. The rate of increase of exports amounted to about 4.4% through that period, whereas the rate of increase of imports has amounted to 11.1%. Due to some favorable factors, the rate of growth of exports increased to 26.6% in 1978-79, compared to 26.3% for imports. Ratios of values of imports to the value of exports have increased from 1.3 : 1 in 1971 to 2.7 : 1 in 1979. This indicates that the deficit of the trade balance has doubled. Ratios of the services component to the balance of trade component in net terms for the period (1974-1979) have decreased from 10.6 : 1 in 1974 to 1.6 : 1 in 1979. Additionally, the ratio of the imports of visibles corresponding to a unit value of imports of services has been declining.

#### Impact of The Pattern of Agricultural Resource

##### Utilization on The Structure of Agricultural Trade

Despite a twenty-five year development strategy which has heavily favored industry, agriculture remains the largest sector in the Egyptian economy. It employs 44% of the work force, provides 29% of GDP and about 30% of exports. In addition the textile industry and much of the service sector are directly connected to agriculture (7).

Total farming area amounts to about 6.5 million feddans. Land has traditionally been considered the binding factor of production. Labor and water for irrigation, however, are becoming binding factors as well.

Agricultural development is centered around and determined by a number of constraints of a technical, economic, and

institutional nature. Within the agricultural sector, production is characterized by technological dualism. The growth rate in the agricultural sector is between 1.5 - 1.7%.

Despite government imposed limitations, the structure of output continued to change from 1952-1978, moving away from cotton and cereals toward meat, fruit, and vegetables (8). Substitution of commodities with a high income elasticity of demand is a sign of economic development. However, when this shift occurs without a significant change in aggregate production it indicates that the effective demand has been modified by a change in income distribution. The breakdown of the value of agricultural output is as follows (9):

Field crops	56%
Vegetables	14%
Fruits	5%
Meat	11%
Dairy products	8%
Poultry, meat, eggs	4%
Wool, Honey	1%

From this sketch of the structure and performance of the agricultural sector, one could hypothesize that the pattern of resource use is the result of a particular trade strategy. The relationship between the trade strategy and pattern of resource use may take a distributed lead form until it fully materializes.

Major agricultural exports have been cotton, rice, onions, groundnuts, potatoes, and citrus. Agricultural imports, on the other hand, are wheat, maize, lentils, sesame and sugar. Analysis of the trends of such crops using linear, semi-log and double log forms over the period (1960/61 - 1978) indicates that:

1. Exports of traditional export crops (cotton, rice, fresh

onion) are decreasing.

2. Exports of other export crops (potatoes, groundnuts, water melons, citrus) are increasing.

3. All import substitutes (wheat, maize, lentils, sesame, meat) have increased dramatically over the same period.

Table (4) shows the regression trend equations of the quantities of exports and import substitutes.

#### Optimal Trade Strategy and Comparative Advantage:

The question of the choice of the optimal trade strategy is an empirical one which can only be answered by satisfactory evidence of comparative advantage. Governmental intervention and its impact on distorting markets, and the existence of conflicting policy objectives should not change this principal. What they do, however, is make the problem more complex. One way to answer such question is through a general equilibrium approach. A dynamic constraint optimization framework that introduces risk analysis could be used in this respect.

In this paper, we use some partial equilibrium comparative advantage measures to build an argument and make a case about major considerations to be taken into account when justifying promotion of exports of some nontraditional horticultural crops. These measures are meant only to be indicators to the net social profitability of particular export crops or import substitutes.

#### The Model

Three groups of crops have been identified as examples of the traditional export crops, the nontraditional horticultural exports and the major import substitutes.



Table (4): Trend equations of The Quantity of Exports  
or Import Substitutes through the period  
(1960/61 - 1978)

Commodity	Algebraic form	Trend Regression equation	R <sup>2</sup>
<u>Traditional Exports:</u>			
Cotton (Ginned)	Linear	$Y=7099.039 - 193.530 x$ (16.468) (-4.860)	0.60
	semi log	$\ln Y=8.939 - 0.043 x$ (94.279) (-4.913)	0.60
Rice	Linear	$Y=436.812 - 8.669 x$ (4.694) (-1.008)	0.06
Fresh Onion	Linear	$Y=173.318 - 6.496 x$ (17.593) (-7.178)	0.76
	semi log	$\ln Y=5.226 - 0.060 x$ (59.823) (-7.471)	0.78
<u>Non-Traditional Exports:</u>			
Potatoes	Linear	$Y=60.718 + 2.647 x$ (3.532) (1.667)	0.15
Groundnuts	Linear	$Y=7.339 + 0.347 x$ (3.401) (1.740)	0.16
	Double log	$\ln Y=1.673 + 0.289 \ln x$ (5.618) (2.106)	0.22
Water melons & Melons	Linear	$Y=2.322 + 0.700 x$ (0.876) (2.859)	0.34
	Semi log	$\ln Y=1.492 + 0.053 x$ (5.162) (1.983)	0.20
Oranges and mandarin	Semi log	$\ln Y=1.242 + 0.246 x$ (3.103) (6.647)	0.73

Cont. Table (4)

Commodity	Algebraic form	Trend Regression equation	R <sup>2</sup>
<u>Import Substitutes :</u>			
Wheat	linear	$Y = 696.006 + 72.615 x$ (2.355) (2.660)	0.31
	semi log	$\ln Y = 6.360 + 0.362 x$ (18.544) (2.289)	0.25
	semi log	$Y = 366.410 + 504.182 \ln x$ (0.949) (2.829)	0.33
Maize	linear	$Y = 57.769 + 19.642 x$ (0.695) (2.559)	0.29
lentils	linear	$Y = -7.316 + 2.759 x$ (1.070) (4.369)	0.54
	semi log	$\ln Y = 0.732 + 0.168 x$ (1.732) (4.299)	0.54
Sesame	linear	$Y = 7.870 + 0.594 x$ (2.206) (1.802)	0.17
	semi log	$\ln Y = 2.057 + 0.043 x$ (8.394) (1.900)	0.18
Frozen meat	semi log	$\ln Y = 1.444 + 0.094 x$ (3.959) (2.777)	0.33

Group I

Traditional Export Crop: Cotton, Rice, Onion

Group II

Nontraditional Export Crops: Potatoes, tomatoes, citrus, haricots

Group III

Import Substitutes: Wheat, Maize, Sugar

Analysis has used FOB or CIF border prices for outputs and tradable inputs (fertilizers, pesticides and seeds) for 1980. Crop yields were those of 1979 except for horticultural crops where a three-year area weighted average of the period 1977-79 was used.

Data of Appendix Table 1 present a summary of the results of the application of some social profitability criteria on the previous crops within each group. Analysis using any social profitability criterion will indicate that the social profitability for the nontraditional crops is very high. Net social profitability for such crops is higher than its equivalent in the traditional exports and the major import substitutes.

Previous discussion might raise a question regarding reasons why resources are not attracted to such paying production activities such as horticultural crops. It should be noted, however, that previous argument presumes equal risk for the production and marketing for the above three groups of commodities. Moreover, it gives an average result of the comparative advantage which might vary drastically if we introduce marginal analysis. The problem is not that simple. The existing cropping system seems to be the one which constitutes an equilibrium among sets of conflicting forces. Some of these are economic in nature having to do with the incentive structure from



private and social prospectives, availability of capital resources and degree of risk bearing. Other forces are social in nature reflecting the farmers needs and aspirations. The third group of forces are institutional reflecting the net resultant of governmental intervention. Lastly, a fourth group of forces are technological in nature reflecting technical constraints and know-how problems.

#### Major Issues Determining Direction of Biasness of The Trade Strategy

The selection of the optimal trade strategy as has been advocated in the previous section should be based on evidence of comparative advantage. There are other considerations, however, that should be regarded in this respect. For presentation convenience these considerations will be addressed in the form of a series of questions.

1. What is the best trade strategy that will consider simultaneously a number of policy objectives that have a higher likelihood of being conflicting rather than complementing?  
The answer is that the policy should have: predetermined assumptions about key macro-economic variables (savings, investments, employment) consider government commitments with some objectives (food security, subsidies to producers and consumers ...), and should not ignore efficiency and comparative advantage considerations. The weights attached to these objectives are presumably the combined effect of some economic, social political, and technological factors.
2. Can a question about optimal trade strategy for agriculture be addressed independently from other sectors?
3. What is the significance of the time element in selecting

optimal trade strategy? Is it a short term issue or long term issue? Can we argue favoring a particular trade strategy based on some static criteria of comparative advantage in one year or number of years, or that there must be a dynamic device that will correct the path of resource allocation towards higher efficiency? Could, in this respect, the irreversible long term investments be adjustable?

4. What are the arrangements needed within the financial setup for the different trade strategies? What are the laws and regulations governing the financial management? These factors are presumably major determinants of the success of a particular trade strategy and their change is a time consuming process.

The previous set of questions indicate that, unlike a "laissez faire" world, decisions about optimal trade strategy in a distorted command type economy is a complex problem that requires studying the performance of the sector over a considerable period of time different types of constraints on production, other non-economic objectives the sector has to stick with, the linkages between this sector and other sectors, and the demand in foreign markets and their future potentials.

#### Promotion of Horticultural Crop Exports:

In the context of promotion of truck crop exports there are some considerations and issues to be raised in the light of the previous discussion.

- 1) One should not call for nor expect drastic changes.
- 2) It is extremely important to observe major distinctions between the two trade regimes. Under export promotion, exports must compete satisfactorily in the international market. Meeting international competition requires not only cost consciousness,

but also quality control, meeting consumers' preferences, changing product lines with new technological developments, meeting delivery dates on time, and other requisites of a modern sector. Under import substitution, however, previous characteristics could be replaced with a protected environment in which substandard quality and high costs do not prevent profitability.

3) Serious domestic and foreign demand studies have to be undertaken to study potentials in the short and long run for these crops and nature of competition and shares analysis.

4) Distinction has to be made between old and new lands in this respect. In the so-called "old" "new" lands, management systems, scale of operation, X-efficiency considerations are manageable.

5) The problem with horticultural crops in general and vegetables in particular, is a problem of marketing rather than production. Marketing is hampered on both the domestic and export side. Export outlets are good in the short run but competition is very keen from the North African countries. Domestic sales are mainly in the urban areas where production has been limited to the capacity of storage and transport systems. The best long-run prospect is accompanied by investment in marketing infrastructure and in efficiently processing seasonal surplus.

6) Considerations of food security and other related policies should be handled as political constraints in the context of the mobilization of domestic agricultural resources if such programs would imply some deviations from optimal allocative efficiency.



FOOTNOTES

<sup>1</sup>Krueger, Anne O., Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences. (New York: National Bureau of Economic Research, 1978), P. 6.

<sup>2</sup>Heller, Robert H., International Trade Theory and Empirical Evidence. (Inglewood Cliffs, N.J.: Prentice Hall, 1973),

<sup>3</sup>Haberler, Gottfried, The Theory of International Trade. (London: William Hodge & Co. , 1963)

<sup>4</sup>Chenery, Hollis, and Michael Bruno, "Development Alternatives in an Open Economy: The Case of Israel," Economic Journal: 72, March, 1962. PP. 79-103.

<sup>5</sup>Krueger, Anne O., Op. cit... P. 283.

<sup>6</sup>The uncertainty of the international markets can be considered a point for either of the two trade regimes depending on the way dependence is conceptualized. If dependence means that the foreign trade sector has a large share of the GNP then export promotion economies are more dependent. If dependence, however, implies the vulnerability of the economy to international economic events the import substitution would be more dependent. A principal reason is that imports have been largely reduced to commodities not domestically produced.

<sup>7</sup>Ikram, Khalid, Egypt: Economic Management in a Period of Transition. A world Bank Country Economic Report. The Johns Hopkins University Press, Baltimore, and London, 1980. P. 169.

<sup>8</sup>Ikram, Khalid, Ibid, P. 175.

<sup>9</sup>This is as it appears in 1974.

References :

H. Robert Heller, International Trade Theory and Empirical Evidence, Printice - Hall, Inc. , Englewood cliffs, New Jersey, 1973.

Murray C. Kemp, The Pure Theory of International Trade and Investment, Printice -Hall of India Private Limited, New Delhi, 1971 .

Arghiri Emmanuel , Unequal Exchange: A Study of The Imperialism of Trade, New York, 1972 .

IBRD, Comparative Advantage & Comperative equilibrium : A sector Model of Turkey's Agriculture, Draft, 1982 .

Bela Balassa, " An Empirical Demonstration of Classical comparative Cost Theory ", Review of Economics & statistics, August, 1963 .

Richard E. Caves, Trade and Economic Structure : Models and Methods, Cambridge, Mass; Harvard University Press, 1960 .

J.E. Meade , The Theory of International Economic Policy. Vol. I , The Balance of Payments Chap. XII. London :Oxford Univ. Press, 1951 .

Anne O. Krueger, Foreign Trade Regimes and Economic Development : Liberalization Attempts and Consequences, National Bureau of Economic Research, New York, 1978 .

J.M. Page, Arab Republic of Egypt , shadow Prices for Trade Strategy and Investment Planning, IBRD, Preliminary Draft Report, Oct. , 1981 .

Arab Republic of Egypt, Domestic Resource Mobilization and Growth Prospects for the 1980's Report No. 3123 - EGT, IBRD, Dec. , 1980 .

Henry J. Bruton, Egypt's Development In The Seventies, Research Memorandum series, The Center for Dev. Econ., Williams College, Massachusetts, July , 1981.

Arthur Wallace, More Horticulture Will Improve the Economy of Egypt, Egypt. Jou. Hort. Vol. 5, 2, pp.(201-204), 1978.

(S)

# APPENDIX

Table (1) : Measurment of Some Social  
Profitability Criteria For Three Groups of Commodities  
(L.E. / Feddan )

Commodity Groups		Private Profitability	Social Profitability	Ratio Private Social	NSP L.E./Fe
<u>I. Non Traditional</u>					
<u>Exports :</u>					
(1) Potatoes	Nil	168.650	639.830	0.26	601
	Sum	158.120	727.940	0.22	604
(2) Tomatoes	Sum.	270.810	1140.120	0.24	998
(3) Citrus (Orange)		409.300	1310.160	0.31	1002
(4) Harri cot		308.110	1290.290	0.24	1174
<u>II. Traditional Exports:</u>					
(1) Cotton		77.220	645.160	0.12	599
(2) Rice		19.450	70.480	0.28	65
(3) Onions		21.830	1090.350	0.02	710
<u>III. Import Substitutes :</u>					
(1) Wheat		55.330	137.990	0.40	112
(2) Maize		78.220	239.160	0.33	200
(3) Sugar Cane		129.400	533.200	0.24	480



Notes on Table(1)

(1) Analysis of Social Profitability for the different crops has used FOB and CIF border prices for outputs and tradable inputs ( Fertilizers - Pesticides Seeds ) of 1980. Domestic prices were used for other non - Tradable inputs and for by - Products.

(2) Crop Yield were those of 1979 except for horticultural crops where the area weighted averages over the period (1977 - 1979) was used .

(3) 
$$NSP = [ \text{Social Revenue} - ( \text{Cost of Tradable inputs} ) ] - [ \text{Cost of Non Tradeable inputs (opportunity cost of Land + Capital + Labor ) } ] \geq 0$$

(4) Opportunity cost of non-tradables is based upon the calculations of :

J.M. Page, Shadow Prices For Trade Strategy and Investment Planning , Arab Republic of Egypt, IBRD , Preliminary Draft, October , 1981.

(5) Procedures for calculating private and social Profitability are explained in detail in:

Khedr & Clark, Policy Study on Pricing and Taxation of Major Agricultural Crops, ESU , 1979.

Khedr, Choice of Technique under price Distortions case Example of A Jeopardized Agricultural Sector , 1981.

Table (2): Area, Production, and Yield of Some Field, and  
Truck Crops and Fruits (1977-79)

Crop		Area Feddan	Production Ton	Yl
Nili	1977	78332	483544	6.17
Potatoes	1978	63218	352584	5.58
	1979	73357	486127	6.63
Summer	1977	73947	526822	7.12
Potatoes	1978	64432	419780	6.52
	1979	68812	532598	7.74
Summer	1977	102312	708946	6.93
Tomatoes	1978	107399	840235	7.82
	1979	113219	959053	8.47
Harri cot	1977	23210	82822	3.57
	1978	24980	89516	3.58
	1979	30361	109868	3.62
⌘ Cotton	1977	1423365	6977901	4.90
	1978	1188603	7546815	6.35
	1979	1195529	8177450	6.84
Rice	1977	1037490	2269808	2.18
	1978	1025068	2345476	2.28
	1979	1036683	3507179	2.41

⌘ Yield and Production of cotton is in MK .

Table (2) : Continued .

Crop		Area	Production	Yield
		Feddan	Ton	Ton
Onions.	1977	36927	262732	7.115
	1978	29182	223457	7.657
	1979	23180	156957	6.771
Wheat.	1977	1207151	1697395	1.406
	1978	1380612	1933073	1.400
	1979	1391324	1856375	1.334
Maize.	1977	1764945	2724083	1.543
	1978	1898103	3117024	1.642
	1979	1884652	2938208	1.559
Sugar Cane	1977	249305	8378669	33.608
	1978	247592	8296320	33.508
	1979	248650	8790517	35.353

Source : MOA, Dep. of Statistics .

Table (3) : Volume of Exports of Some Major  
Agricultural Commodities ( 1960 /61 - 1978 ) .

( 000 Tons )

Crop Years	Cotton Lint	Rice	Fresh Onions	Ground- Nuts	Potatoes	Orange and Mandarene	Water Melons & Melons	Ga
1960/61	6697.0	299.1	163.3	13.6	90.9	11.9	8.1	5.
1961/62	5312.0	70.6	151.8	4.1	114.9	6 .1	7.5	6.
1962/63	5697.0	385.7	132.4	3.8	93.7	5 .4	8.0	8.
1963/64	6147.0	532.6	168.7	429	57.1	11.6	5.8	9.
1964/65	6716.0	352.6	181.8	5.6	47.4	5 .3	6.9	4.
1965/66	6850.0	327.9	137.1	6.4	76.6	2 .9	7.6	5.
1966/67	6327.0	364.5	143.0	8.5	50.2	16.6	6.9	9.
1967/68	5055.0	499.5	92.1	17.6	25.7	30.9	2.3	7.
1968/69	4783.0	666.3	128.9	18.6	83.7	67.0	3.4	11.
1969/70	6187.0	688.9	98.4	14.2	88.7	90.0	3.7	9.
1970/71	6229.0	582.8	72.5	16.0	57.1	104.2	6.6	17.
1971/72	5802.0	491.6	71.2	13.2	82.7	146.4	3.6	9.
1973	5696.0	285.6	89.4	9.1	107.9	246.2	11.0	20.
1974	4645.0	136.1	103.9	9.4	99.8	161.7	5.0	20.
1975	3703.0	101.8	70.0	10.0	47.6	209.7	13.2	15.
1976	3304.0	208.2	62.1	8.9	157.7	169.7	13.0	11.
1977	2878.0	221.3	80.9	14.3	166.1	130.1	26.3	22.
1978	2661.0	165.1	57.4	13.2	97.8	133.1	22.6	19.

\* Cotton exports are in (000 MK).

Source : CAPMAS .

Table (4) : Volume of Imports of Major Agricultural  
Commodities ( 1960 / 61 - 1978 )

( 000 Tons. )

Years	Crops	Wheat	Maize	Lentils	Sesame	Frozen Meat	Wheat Flour
1960 / 61		438.7	55.3	0.9	5.3	6.2	233.0
1961 / 62		904.5	263.7	6.2	13.3	8.5	520.3
1962 / 63		786.9	286.0	2.9	11.1	4.9	672.6
1963 / 64		911.5	260.4	19.2	12.0	4.8	710.3
1964 / 65		932.4	218.9	2.6	5.0	6.9	701.0
1965 / 66		1220.3	187.8	2.6	7.9	24.1	510.4
1966 / 67		1629.3	122.5	8.7	8.7	13.9	625.7
1967 / 68		1895.3	229.4	12.1	11.8	9.5	638.6
1968 / 69		1287.9	15.1	16.8	7.0	2.9	473.7
1969 / 70		1036.1	64.3	25.6	27.6	2.5	295.8
1970 / 71		1097.4	75.8	4.1	18.4	12.7	213.8
1971 / 72		1246.6	47.7	13.8	7.3	8.8	258.3
1973		1460.0	67.0	8.0	10.6	11.8	227.0
1974		2251.0	388.4	4.6	21.2	6.3	257.7
1975		2680.6	417.6	49.0	14.3	11.2	521.4
1976		2457.7	408.8	61.0	33.3	35.6	404.1
1977		2416.0	509.8	50.7	16.9	46.8	615.2
1978		2831.0	730.1	51.3	8.5	55.7	909.7

Source : CAPMA'S .



