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**AGRICULTURAL DEVELOPMENT SYSTEMS
EGYPT PROJECT**

UNIVERSITY OF CALIFORNIA, DAVIS

**AGRICULTURE AND FOOD POLICY IN EGYPTIAN
NATIONAL PLANNING**

by

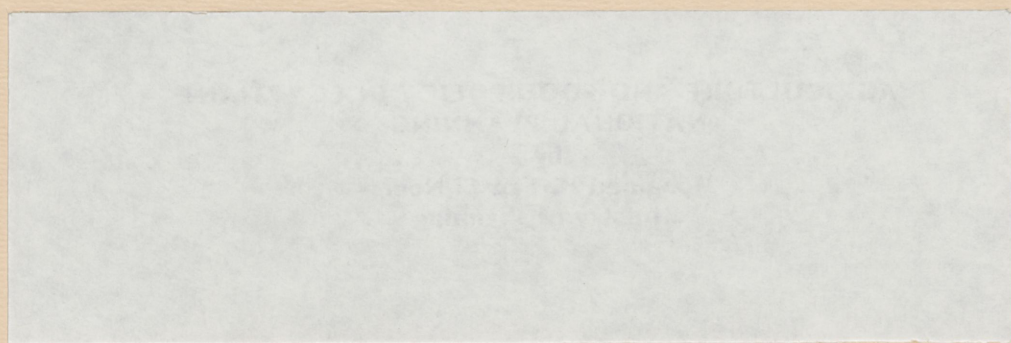
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Ministry of Planning**

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Economics
WORKING PAPER

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October, 1982

Agricultural Development Systems:
Egypt Project
University of California
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Agriculture and Food Policy
In the Egyptian National Planning

I. Introduction

All international agencies urge developing countries to establish national programs for rapid expansion in food production . The annual population growth rate in Egypt is 2.6 %; this, and such factors as increased incomes and changes in consumption patterns and the increase in consumption rate all point to the increased demand on food crops. Egyptian production of food crops hardly meets these increasing demands. The available cultivated area , under the present crop formation and land productivity has made it necessary to import many of its needed foods. The problem in Egypt is not thus, confined to the shortage of the cereals required for local consumption.

It is also represented in the need for foreign currencies required for imports, now that agricultural exports are no longer capable of providing foreign currencies in the needed quantities . The surplus realized in the agricultural trade balance in various degrees in favor of Egypt Up Untill 1973 tureded to

a deficit and kept deteriorating ever since .

The investigation into the growth rates of agricultural exports Vis-a-vis the growth rates of agricultural imports reveals that the latter was greater than the former, a clear indication of the deterioration of the Egyptian agricultural potential. This state of affairs is hardly encouraging, given the circumstances of the world food problem and the probable rise in food prices and in its production requisits . This will be particularly appreciated when we realize that the value of the imported food consumption goods was constantly on the increase at a greater rate than that of the value of the intermediate consumption goods . This means that it is easier to rely on imports than to develop the agricultural productive capacity. This situation is rather challenging for Egyptian planners and this paper seeks to give an overview of the trends in that respect .

II. Egyptian Agriculture in retrospect :

Agriculture was faced, since Egypt has taken national planning as the tool for managing the economy, with two major pressing forces:

First , Agriculture occupied a relatively low priority in relation to the rest of the economic sectors, particularly industry during the sixties and tertiary activities during the seventies. This has resulted in the allocation of relatively small volume of investments for vertical expansion during the sixties and horizontal expansion during the seventies.

It is to be noted that the allocation of huge investments for the construction of the Aswan high dam during the sixties has resulted in ensuring additional and more manageable water resources for agriculture as well as the transfer of flood irrigation lands to perennial irrigation . However, the small volume of investments allocated subsequently, did not save the Egyptian soil from the rise of underground water table level through the construction of drainage schemes or improving the then available drainage facilities to

...meet the requirements of the changing crop rotations or through modernization of agriculture . This has resulted in the deterioration of land productivity in many parts of the country .

It is also to be noted that while 891 thousand feddans were reclaimed in the sixties, only 321 thousand feddans were reclaimed in the seventies . With the rapidly growing population , this has resulted in furthering the imbalance between land and population to the extent that the percapita share of cultivated area amounting to . 30 feddan in 1947 declined to . 14 feddan in 1980 and the percapita share of crop area declined from .48 feddan to . 27 feddan during the same period . It is clear enough that such a share cannot accomodate the growing needs of the Egyptian population .

The second pressing force facing Egyptian agricultral development can be attributed to the development strategy adopted since the early sixties of transferring the agricultural surplus to be invested in non-agricultural sectors of the economy .

This has required a large degree of control in the form of agricultural organizations and marketing, agricultural productions as well as inputs through several government institutions.

These pressing forces resulted in low rates of growth in the agricultural sector in the vicinity of 2 % per annum . This in its turn has enhanced the already existing occupational shift from agriculture to non - agricultural activities as well as enhancing out migration from rural to urban areas, that turned to mass exodus to the oil rich Arab countries since the adoption of the open door policies in 1974.

III Performance of Agriculture in the past five years 1977-1981/82 *

As a result of the aforementioned pressing forces coupled with chronic problems of Egyptian agriculture , particularly small size farms and fragmentation of holdings, the food gap has widened . In consequence, more investments were allocated to the agricultural sector and the rigid controls were relatively relaxed.

Total investments that were allocated and actually executed in this respect amounted to 1.66 billion pounds during the period 1977 - 1981/82 , the equivalent of 8.95 % of the total national investments. Of this amount, 273.7 million pounds were allocated for horizontal expansion projects and 710 million pounds were allocated for irrigation and drainage .

Within investments allocated for vertical expansion 50% was directed to plant production, 35% to animal production and 10% to fish and fisheries . The relatively high proportion allotted for animal and fish production in comparison with their production value reflects the high priority given to meet the leaping demand for animal protein.

* Data of the Ministry of Planning .

As for horizontal expansion, it is to be noted that all new land reclamation schemes came to a halt in 1971. Activities in this sub-sector were limited to cultivation of the previously reclaimed land and / or completion of previous reclamation schemes .

In 1978 the ministry of land reclamation was reinstated . Since then, about 321 thousand feddans were additionally reclaimed , 40 thousand cumulative feddans were cultivated, in addition to completing reclamation requirements in 90 thousand feddans that had been initiated earlier. Total investments for these activities amounted to 679 million pounds during the period 1977-1981/82 divided in 339 million pounds public and 340 million pounds in private investments.

A. Production and productivity (1977-1981/82)

The major changes that occurred during this period can be summed up in the following table representing crop formation.

Table (1)
Major Crop Formation
in 1977 and 1981 / 82

Crop	Area cultivated in 1977 (feddan)	Area cultivated in 1981/82 (feddan)
Wheat	1.2 million	1.4 million
Corn	1.8 "	1.96 "
Vegetables	1.0 "	1.2 "
Soya Beans	37 Thousand	116 thousand
Suger Cane	252 "	267 "
Fruits	352 "	397 "
Clover	1.8 million	1.9 million
Cotton	1.4 "	1.2 "
Rice	1.1 "	1.0 "
Onion	67 Thousand	46 Thousand
Flask	66 "	61 "
Pea nuts	52 "	47 "

As for land productivity it is to be noted that the past five years witnessed arise in land productivity for most crops while witnessing some decline in productivity for some Crops. This can be presented in the following table (2).

Table (2)

Average Productivity per feddan
for selected crops
1977 and 1981/82

Crop	Unit	1977	1981/82	% change
Wheat	Ardeb	9.37	9.50	+ 1.4
Corn	Ardeb	11.02	12.28	+ 11.4
Rice	Ton	2.18	2.34	+ 7.3
Unginned cotton	Metric Quantar	4.90	7.38	+ 50.6
Sugar cane	Ton	33.65	35.00	+ 4.0
Onions	Ton	7.10	8.50	+ 19.7
Soya beans	Ton	.80	1.19	+ 49.0
Peaunts	Ardeb	11.00	11.99	+ 9.0
Bean	Ardeb	5.96	5.80	- 2.7
Lentiles	Ardeb	3.11	3.00	- 3.5

In view of the changes that took place with respect to both crop formation and productivity, the quantitative production of many crops showed some increase whereas quantities produced of other crops decreased. The increase in quantities produced was most apparent for wheat, Corn, Cotton, Fruits, vegetables, Soyabeans, Sugarcane, dairy products, Meat, Poultry and eggs as can be presented in the following table (3).

Table (3)
Production of Major Agricultural
Crops. 1977, 1981/ 82
In Thousand Tons

Crop	1977	1981/ 82
Wheat	1713	2063
Corn	2732	3375
Rice	2311	2326
Cotton	1099	1395
Sugar cane	8426	9235
Soyabeans	27	135
Vegetables	7147	9106
Fruits	1490	2450
Dairy products	1777	1932
Meat	324	362
Poultry	121	150
Eggs	70	90
Fish	147	155
Bean	277	230
Lentils	24	10
Onions	764	718
Peanuts	35	33

B. Value of Agricultural production and Generated Income

The value of agricultural production amounted to 2.05 billion pounds in 1975 at market prices. Agricultural income generated amounted to 1.47 billion L.E. in the same year .

The following table (4) presents the value of agricultural production , its composition and generated income in millions of pounds and 1975 prices , during the period 1977- 1981/82.

Table (4)

Value of Agricultural production, its composition, Index Numbers and agricultural income 1977-1981/82. (In fixed Prices of 1975 and Millions of Pounds).

ITEM	Fiscal Year	1977	1978	1979	1980/81	1981/82*
	Value of Agricultural Production		2065.2	2130.0	2196.7	2324.7
Index Number (1975 = 100)		100.6	103.8	107.0	113.3	116.1
Value of Plant Production		1395.4	1459.9	1510.4	1596.1	1634.9
Index Number (1975=100)		99.4	103.9	107.5	113.6	116.4
% of Total		67.6	68.5	68.7	68.6	68.6
Value of Animal Production		625.2	636.6	651.4	683.1	700.4
Index Number (1975=100)		102.4	103.9	106.3	111.5	114.3
% of Total		30.1	29.9	29.7	29.4	29.4
Value of Fish Production		44.6	33.5	34.9	45.5	47.0
Index Number (1975=100)		127.8	96.0	100.0	130.4	134.7
% of Total		2.2	1.6	1.6	2.0	2.0
Agricultural Income (Million L.E., 1975 Prices)		1485.1	1528.0	1580.0	1680.0	1725.0
Index Number (1975 = 100)		101.0	104.1	107.1	114.4	117.5

* Tentative .

It is to be noted that most of the agricultural income generated in the past five years was the result of activities on the old lands. Only 2.1% of the generated income in 1981/ 82 was contributed by the new lands .

C. Agricultural Employment and Wages

In 1975 Egyptian agriculture employed 4.22 million persons that were paid wages amounting to 449 million pounds. The following table (5) presents the development of agricultural employment and wages paid during th period 1977-1981/82.

Table (5)
Agricultural employment and wages
1977 - 1981/ 81

	1977	1978	1979	1980/81	1981/82 *
Agricultural Employment (thousand workers)	<u>4103.5</u>	4135.0	4178	<u>4200</u>	4247.5
Agricultural wages (million L. E.)	461.2	473.5	676.9	935.0	951.0
Average wage (L.E.)	112.4	114.5	162.0	222.6	223.9

* Tentative .

All the preceding tables clearly indicate that we should not be content with the agricultural performance of the past few years .

Despite the successes that took place on several fronts , still agriculture is expected to contribute more to the national development efforts. It is thus incumbent upon future agriculture plan to meet the ever- increasing demand for food and clothing for the citizens and to meet future requirements of the manufacturing sector .

IV Basic Directives for Agriculture in the Five Year Plan 1982/83-
1986/87 .

As was stated earlier, Egyptian agriculture was not capable of satisfying the leaping demand for food and industrial raw material in the past few years . This is considered as one of the major challenges facing the Egyptian economy at present . It is estimated that a rate of 4 -5% per annum is the critical minimum rate of growth for producing food that will enable Egypt meet food security objectives as well as making positive contribution to the national balance of payments . This is particularly important in view of the huge leap in food subsidization amounting to almost 2 billion pounds in 1981/82 compared with only 45 million pounds in 1971/72 .

This leap was the result of the increase in both food consumption and food imports .

For these reasons the five year plan 1982/83 - 1986/87 is seeking to alleviate the obstacles facing the agricultural sector to be able to achieve what is now considered one of the national aspirations.

This does, of course , require securing the necessary investments for agricultural projects after ascertaining their socio-economic

feasibility, in addition to making the required alterations in the institutional and organizational set up. The change in crop formation and rotations is leading in this respect. Furthermore, it is rather vital to follow a strategy aiming at modernizing agriculture and exploiting all the potentialities through the alleviation of production obstacles on the old lands, improving export capabilities and adopting a price policy promoting the adoption of the proposed crop formation and improving productivity levels of the new lands. Enhancing and encouraging mechanization is also important to meet the shortage of agricultural manpower now being experienced in many localities as well as to free animal power for the production of meat and dairy products. Intensifying production especially through poultry breeding and fish production is also a major goal.

To realize these major objectives the five year plan 1982/83-1986/87 is instituting some changes that stress expanding areas cultivated with major strategic crops with relatively large effect on the balance of payments.

These changes are presented in table (6) below.

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Table (6)

Actual crop Formation in 1981/82
and planned crop formation in 1986 / 87

Crop	Actual Crop Formation	Planned Crop Formation	% charge
	1981/82 (000 Feddands)	1986/87 (000 Feddands)	
Wheat	1465	1865	+ 27.3
Corn	1964	2080	+ 6.0
Rice	1016	1475	+ 45.0
Beans	261	375	+ 43.7
Lentiles	23	53	+130.0
Soyabeans	116	275	+137.0
Peanuts	43	65	+ 51.0
Vegetables	1230	1316	+ 7.0
Onions	46	82	+ 78.0
Sugar Cane	267	274	+ 2.6
Sugar beats	-	125	* -
Fruits	397	420	+ 5.8
Cotton	1200	950	- 20.0

The Agricultural Investment Program*

A total volume of 4.8 billion pounds is set by the five year plan 1982/83-1986/87 for investment in agriculture. This volume is divided into 3.7 billion pounds public investments and 1.1 billion pounds private investments.

It should be noted that agriculture is interrelated with most other sectors of the economy. This appears in the plan in the following form.

Sector	Public value	Public %	Private value	Private %
Agriculture, Irrigation and drainage (1)	2883.5	78.9	876	77
Industry	144.2	3.9		
Transportation and communication	92.0	2.6	32.6	3.2
Energy	286.8	7.9	59.1	5.1
Utilities	26.1	.7		
Housing & construction	37.2	1.0	169.7	14.7
Services	58.2	1.5		
Commerce	10.0	.3		
Contracting	115.0	3.2		
Total	3653	100	1137.4	100

* Tentative and at market prices

(1) Comparable with 1.66 billion pounds in 1977-1981/82.

Value of Planned Production and Generated Income *

The five year plan 1982/83-1986/87 is setting agricultural production value in 1986/87 to reach 6.44 billion pounds compared with 5.47 billion pounds in 1981/82 and valued at its prices . The plan also sets agricultural income to reach 4.66 billion pounds in 1986/87 compared with the actual income generated in 1981/82 amounting to 3.89 billion pounds .

These targets when realized would give an average annual rate of growth of 3.5% for production and 3.9 % for income .

Table (7) below presents the actual values of agricultural production and income generated in 1981/82 and the target values of agricultural production and income in 1982/83 - 1986/87.

* All data relevant to 1981/82 are tentative.

Table (7)

Actual values of Agricultural production and Income
in 1981/82 and their anticipated values in
1982/83 , 1986/87

(Million L.E., 1981/82 Prices)

	1981/82 *		1982/83 **		1986/87 **		Avg. annual growth rates
	Value	%	Value	%	Value	%	
Total Ag. Production	5468.1	100	5610.1	100	6439.3	100	3.5
Plant production	3819.0	69.8	3889.1	69.3	4383.2	68.1	3.0
Animal production	1547.6	28.3	1615.8	28.8	1939.5	30.1	5.1
Fish production	101.2	1.9	105.3	1.9	116.6	1.8	3.0
Agricultural Income	3895		4000		4660		3.9

* Tentative .

** Target .

Agricultural Employment and Wages

The five year plan is calculating to create 235 thousand new employment opportunities in agriculture in 1986/87 over and above the 4.2 million agricultural workers in 1981/82. This gives an average annual rate of growth of about 1.1% during the plan period. Total wages of agricultural workers are also expected to increase at an average rate of 4.7% per annum during the plan period. This will be presented in table (8)

Table (8)
Agricultural Employment and Wages in 1981/82
Compared with planned levels of 1982/83 and 1986/87

	1981/82	1982/83	1986/87	Avg. annual growth rate
Number of Workers (000 Worker)	4225	4255	4460	1.1
Total Wages (million L.E.)	951	979	1185	4.7
Average Wage (L.E.)	225.1	230.1	265.7	3.6

V Conclusion

Egyptian agriculture plays an important role in the national economy . In the fiscal year 1981/82, agriculture generated about 17.3 % of the gross domestic product, contributed 8.52 % the total value of commodity exports and employed 36% of the total national labor force.

It is expected that agriculture will still play an important role in future for the major following reasons :

- 1- Provision of food and clothing requirements for the rapidly growing population at the rate of 2.6 % per annum.
- 2- Meeting the relatively high income elasticity of demand for food stuffs reflected in the substantial increase in effective demand for agricultural products. This issue is of major significance in Egypt as food imports coupled with food subsidization are encroaching on a large portion of national income that could otherwise be plowed back into the development effort.
- 3- Many factories established within the manufacturing sector depend upon inputs from agriculture and any shortage in meeting their requirements can cause serious problems for the industrial sector, which is facing an increasing demand for its products.

4- Food security is considered an integral part of national security, hence supplying the society with its needs, whether directly or in a manufactured form, is necessary to prevent many socio-political problems.

It is thus evident that while industrialization offers substantial benefits of a dynamic character that are important for changing the traditional structure of the economy, its success, particularly in providing employment for the rapidly growing population, depends upon the attainment of an agricultural surplus. The relevant issue may then be taken not as industrial development versus agriculture but rather as their interrelationships and the contribution that each can make to the other.

A N N E X

Volume and distribution of Actually
Executed Fixed Investments
1977 - 1981/82

(Million L.E., Market prices)

Sector	Public Sector	Private Sector	Total	Relative Share To Total			Relative Share To Sector	
				Public	Private	total	Public	Private
Agriculture	1171.0	487.5	1658.5	6.3	2.6	8.9	7.8	13.9
Industry & Mining	4003.8	1166.7	5170.5	21.6	6.3	27.9	26.7	31.2
Crude oil & products	660.5	—	660.5	3.6	—	3.6	4.4	—
Electricity	1992.5	—	1292.5	7.0	—	7.0	8.6	—
Construction	448.6	142.8	591.4	2.4	.8	3.2	3.0	4.1
Sub Total	7576.4	1797.0	9373.4	40.9	9.7	50.6	50.5	51.2
Transportation, Communication & Suez								
Canal	4258.2	150.3	4408.5	23.0	.8	23.8	28.4	4.3
Commerce & Trade	459.6	75.8	535.4	2.5	.4	2.9	3.0	2.1
Sub Total →	4717.8	226.1	4943.9	25.5	1.2	26.7	31.4	6.4
Housing	472.5	1376.8	1849.3	2.6	7.4	10.0	3.1	39.2
Public utilities	1134.5	—	1134.5	6.1	—	6.1	7.6	—
Other Services	1226.0	259.6	1485.6	6.6	1.4	8.0	8.2	7.4
Sub - Total →	2833.0	1636.4	4469.4	15.3	8.8	24.1	18.9	46.6
Minus: Land value	114.6	151.4	266.0	.6	.8	1.4	-.8	-4.2
Grand Total	15012.6	3508.1	18520.7	81.1	18.9	100	100	100

Gross Domestic Product;

1977- 1981 / 82

(Million L.E. , 1975 Fixed Prices)

Sector	1977	1981/82	Annual Rate of Growth	% change in structure	
				1977	1981/82
Agriculture	1485.1	1645.0	2-3	22.7	17.3
Industry and Mining	1012.4	1315.0	6.0	15.4	13.9
Crude oil&oil Products	378.2	649.8	12.8	5.8	6.9
Electricity	88.0	108.8	4.8	1.3	1.1
Construction	319.0	516.0	11.3	4.9	5.4
Sub Total(excluding oil)	2904.5	3584.8	4.8	44.3	37.7
Sub Total (including oil)	3282.7	4234.6	5.8	50.1	44.6
Transportation, commun- ications and storage	446.0	639.0	8.3	6.8	6.7
Suez Canal	166.2	393.0	21.1	2.5	4.1
Trade, commerce & Insurance	1765.0	2151.0	12.5	19.3	22.7
Hotels & Restaurants	107.0	137.7	5.8	1.7	1.5
Sub Total	1984.2	3320.7	12.1	30.3	35.0
Real Estate	242.9	338.7	7.7	3.7	3.6
Public utilities	23.4	32.0	7.2	0.3	0.3
Social & Personal Services	276.0	398.0	8.5	4.2	4.2
Government Services	743.0	1172.0	10.7	11.4	12.3
Sub - Total	1285.3	1940.7	9.6	19.6	20.4
Gross Domestic Product	6 552.2	9 496.0	8.5	100.0	100.0

**Employment and Its Structural
Change. 1977 - 1981/82**

(000 Workers)

Sector	1977	1981/82	change	Annual rate of Growth	% share of change	structural change	
						1977	1981/82
Agriculture	4103.5	4247.5	144.0	0.8	7.8	41.5	36.2
Mining	29.0	39.5	10.5	7.0	0.5	0.3	0.3
Industry	1199.4	1423.2	223.8	3.9	12.2	12.1	12.1
Oil & Products	18.7	24.5	5.8	6.1	0.3	0.2	0.2
Electricity	48.0	64.2	16.2	6.6	0.9	0.5	0.6
Construction	457.0	664.1	207.1	8.5	11.5	4.6	5.7
Sub Total	5855.6	6463.0	607.4	2.2	33.0	59.2	55.1
Transportation & Communication	431.6	433.3	1.7	0.1	0.1	4.4	3.7
Suez Canal	12.6	18.8	6.2	9.2	0.3	0.1	0.2
Trade & Commerce	967.1	1103.8	136.7	3.1	7.5	9.8	9.4
Finance	55.7	71.9	16.2	5.7	0.9	0.6	0.6
Insurance	9.6	13.6	4.0	7.9	0.2	0.1	0.1
Restaurants, Hotels	96.2	1400.5	44.3	8.6	2.4	1.0	1.2
Sub Total	1572.8	1781.9	209.1	2.8	11.4	16.0	15.2
Real Estate	144.8	171.3	26.5	3.8	1.4	1.5	1.5
Public Utilities	54.6	66.2	11.6	4.3	0.6	0.5	0.6
Social, Personal Services	765.4	895.6	130.2	3.5	7.2	7.8	7.6
Social Insurance	18.1	29.5	11.4	11.2	0.6	0.2	0.2
Government Services	1474.0	2317.4	843.4	10.4	95.8	15.0	19.8
Sub Total	2456.9	3480.0	1023.1	7.9	55.6	24.8	29.7
Total	9885.3	11724.9	1839.6	3.8	100.0	100.0	100.0

