

## CHAPTER X

# AGRICULTURE

### 1. MAIN DEVELOPMENTS

ECONOMIC ACTIVITY in the agricultural sector continued to expand in 1961/62,<sup>1</sup> although at a slower pace. The net agricultural product at fixed producer prices increased by 8 per cent (see Table X-1), as against 13 per cent in 1960/61, which was also the average annual increase during the years 1953/54-1960/61. The growth in product was slower also in comparison with other economic sectors, whereas in the past it had expanded at a faster rate than the national product.<sup>2</sup> However, the increase in the average product per gainfully employed person continued to be more rapid in agriculture than elsewhere in the economy.

The deceleration in the growth of the agricultural product was due to the slower rate of increase in total agricultural output, caused in the main by weather conditions. Economic factors connected with the state of demand likewise contributed to the lower rate of output expansion. The real increase in total agricultural output was 7 per cent, as compared with 9 per cent in 1960/61. Since producer prices rose by 5 per cent, the nominal value of output increased by 12 per cent.

Inputs of materials and services in the agricultural sector increased by 16 per cent in 1961/62, but of this only 5 per cent was due to a quantitative expansion, while the remaining 11 per cent was the result of a rise in input prices—caused primarily by the devaluation.

Devaluation apparently did not affect the relative profitability of the various branches of agriculture in 1961/62, except for the much greater profitability of citrus exports. For the effective exchange rate for other agricultural exports had already reached or exceeded IL 3 per dollar before the devaluation. A further factor was the arrangements made to prevent an increase in input prices during the first three months after devaluation and the raising of subsidies to the poultry and cattle-farming branches to compensate them for the subsequent rise in input prices. The continued protection of local produce against competing imports likewise had an effect in this direction.

<sup>1</sup> October 1, 1961 to September 30, 1962.

<sup>2</sup> In 1960/61 the increase in the gross agricultural product, at fixed prices, reached 12.3 per cent, while the gross national product increased by 9.9 per cent. In the years 1957/58 to 1960/61, the average annual increase in the agricultural product was 13.1 per cent, as against an average increase of 9.1 per cent in the national product during the calendar years 1958 to 1961.

Table X-1

## CURRENT ACCOUNT OF THE AGRICULTURAL SECTOR, 1960/61 AND 1961/62

	Value at current prices (IL million)		Per cent increase or decrease (-) from 1960/61 to 1961/62		
	1960/61 <sup>a</sup>	1961/62	Value	Quantity	Price
Total agricultural output <sup>b</sup> at producer prices	919.7	1,028.0	11.8	6.7	4.7
Less: Agricultural raw materials (intermediate products)	121.6	131.3	8.0	-0.4	8.4
Agricultural output at producer prices	798.1	896.7	12.4	7.8	4.2
Less: Subsidies on agri- cultural output	47.2	63.7	35.0	—	—
Agricultural output at market prices	750.9	833.0	10.9	—	—
Less: Purchased input (net of change in stocks)	296.0	348.2	17.6	7.3	9.6
Gross agricultural product at market prices	454.9	484.8	6.6	—	—
Less: Depreciation	51.0	62.8	23.1	7.5	14.6
Net agricultural product at market prices	403.9	422.0	4.5	—	—
Subsidies on agricultural output	47.2	63.7	35.0	—	—
Net agricultural product at producer prices (i.e. national income orig- inating in agriculture)	451.1	485.7	7.7	8.1	-0.4
Drought compensation payments	4.5	8.0	77.8	—	—
Total income from agriculture	455.6	493.7	8.4	—	—
Less: Wages paid to hired labor	102.9	110.8	7.7	—	—
Interest and rent	31.3	33.1	5.8	—	—
Income of farm owners from agriculture	321.4	349.8	8.8	—	—

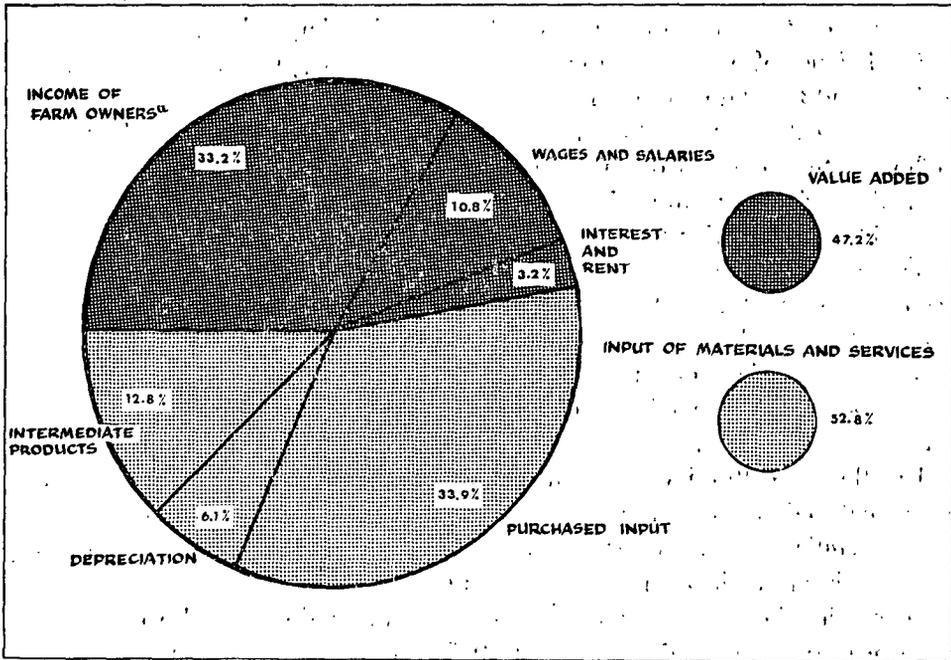
<sup>a</sup> Revised figures.

<sup>b</sup> This term is identical with "gross agricultural output" appearing in previous Annual Reports of the Bank of Israel.

SOURCE: Central Bureau of Statistics, Ministry of Agriculture, and Bank of Israel estimates. (A detailed list of sources for the data cited in this and the following tables will be found in the Appendix to this report—in Hebrew only.)

Diagram X-1

COMPOSITION OF TOTAL AGRICULTURAL OUTPUT,  
AT CURRENT PRICES, 1961/62\*



\* Excluding drought compensation payments.

The total income of the agricultural sector grew by IL 38 million, to IL 494 million. Price developments<sup>1</sup> did not change nominal income, since—as in 1959/60—the rise of approximately 10 per cent in input prices was balanced by the rise in output prices. In 1960/61, price developments caused an increase of 6 per cent in nominal income, besides the 13 per cent rise due to the growth of the real product.

After deducting wages paid to hired labor, as well as interest payments and rent, the net income of farm owners from agriculture reached IL 350 million during the year reviewed—an increment of IL 28 million, or some 9 per cent, as compared with 1960/61. In view of the rise in consumer prices, this represents a slight gain in real income. In 1960/61 the real income of farmers went up 13 per cent, but in 1959/60 it had remained unchanged, and in 1958/59 there had even been a decline of 2 or 3 per cent.

The decline in real investment in farms continued for the fourth year running; at current prices, there was an expansion of 11 per cent. The decrease in real

<sup>1</sup> The development of prices in the sector was partly influenced by the magnitude of the supply of agricultural products.

investment occurred in orchards, irrigation networks, and buildings, while that in livestock, machinery, and equipment was higher than in the previous year.

Investment in public development projects, on the other hand, was substantially larger, reaching IL 125 million. The real investment in water projects grew by 29 per cent, most of the increment being in the National Water Carrier.

The balance of bank credit to agriculture rose by 11 per cent between the end of 1961 and the end of 1962. The average annual volume of credit to the sector was 9 per cent larger in 1962 than in 1961, reaching IL 14 million; about IL 8 million of this consisted of channelled credit.

While agriculture suffered from financial difficulties at the beginning of 1961/62—chiefly owing to expectations of devaluation which reduced the supply of credit and raised interest rates—a change for the better occurred at the beginning of 1962, and the improvement continued through most of 1961/62: the supply of credit increased and interest rates declined following the general improvement in the economy's liquidity after devaluation. Moreover, bank credit to agriculture was expanded, the conversion of debts was completed, and agricultural incomes rose. The growing demand for working capital toward the end of the agricultural year, following the rapid rise in input prices when the agreement designed to prevent price increases lapsed, apparently did not create any difficulties for the sector as regards the obtaining of credit, because the total supply of credit in the economy was greatly expanded.

Besides its effects on the credit supply, the devaluation was also reflected in the growth of the farm debt. As from 1955 loans from the development budget were linked—mainly to the exchange rate of the U.S. dollar—and following devaluation the outstanding balance of such loans should have risen by an estimated IL 75 million, or 50 per cent. However, the Government acceded to the farmers' demands and granted them concessions which reduced the increment due to linkage and postponed the redemption dates as regards this increment. Moreover, the application of the linkage clauses of most agricultural loans was postponed for a further three years.<sup>1</sup>

#### (a) *Production trends*

In 1961/62 the trend toward a slower expansion of agricultural output continued. As compared with the years 1954/55 to 1958/59, when agricultural output—excluding intermediate products which are particularly susceptible to weather conditions—increased by an average of 13 per cent per annum, the average annual increase during the period 1959/60 to 1961/62 was 7 per cent. The slower rate of expansion was largely due to limitations on the demand side and their effect upon profitability, expectations that the trend would continue, and the regulation of output and marketing with the aim of preventing decreases in market prices. Both final products—particularly of the poultry and vegetable

<sup>1</sup> A detailed discussion of this subject will be found in Section 6, "Financing".

branches—and the output of capital goods were affected, the latter development being reflected in the smaller volume of investment. In orchards and poultry farming. Another factor influencing production was the reduction of the volume of unemployment relief work in afforestation, land reclamation and conservation, and natural pasture.

But even this moderate increase in output was accompanied by a relative fall in the producer prices of agricultural goods, the latter rising by less than 5 per cent in 1961/62, as compared with the 12 per cent advance in domestic output prices during 1962. If citrus (whose prices went up considerably) is disregarded, the rise in the producer prices of agricultural output was only 2 per cent. And if the increase in average subsidies is also discounted, we find that there was no rise at all, and in fact there might even have been a decline.

The increase in the consumer prices of agricultural products likewise lagged behind that in the general price level. This relative decline was due to the fact that supply expanded faster than real demand following the growth of the population and the rise in real incomes.

One of the consequences of the present price structure and the artificial limiting of output is revealed in the fact that 87 per cent of the marketed output increment was channelled to the home market, and only 13 per cent to exports. The increasing of the profitability of exports as against local marketing, which was one of the objectives of devaluation, was achieved only in the citrus branch. This was due to the fact that other agricultural exports benefited already prior to the devaluation from an effective exchange rate of IL 3 or more per \$1, so that the devaluation was merely a substitute for existing subsidies. On the other hand, output channelled to the home market was subsidized to an even greater extent, chiefly in compensation for higher input prices; these subsidies, as well as the continued existence of restrictions on output and protection against competing imports, prevented a change in the relative profitability of exports and local marketing from the producers' viewpoint—a change that would prove beneficial to the economy as a whole.

The composition of agricultural production underwent no major changes in 1961/62. The proportion of livestock products increased somewhat, reaching 44 per cent of total agricultural output. Some 85 per cent of the livestock products were supplied by the poultry and cattle branches.

New agricultural settlements established after statehood expanded their output by 15 per cent in 1961/62, and their share of total agricultural production rose to 43 per cent. In fact, most of the increase in agricultural output was due to the expansion of production in new settlements. This reflects the maturing of investments made in the past in orchards and the irrigating of additional areas, as well as the larger production quotas of new settlements within the framework of the planning of the livestock branches.

### (b) *Agricultural planning*

In 1961/62 agriculture faced the same basic problems in the spheres of production, prices, and income that have been its major concern for the last several years. In consequence of large-scale past investments—both in the consolidation of new settlements and in the older farms—and owing to greater productivity, the productive capacity of Israel agriculture exceeds local demand plus potential export at the existing price level. Under these conditions, it will be impossible to attain full exploitation of the factors of production in this sector unless prices decline steeply and farm proceeds grow little or not at all. At the present rate of increase in productivity, a decrease in farmers' incomes may well occur.<sup>1</sup>

Even without the additional investments required to permit the full exploitation of the factors of production in this sector, agricultural output is likely to grow as a result of increased productivity deriving from the accumulation of know-how and experience, the maturing of investments, and the fuller exploitation of existing factors of production which are presently restricted. This increase in output will apparently be no smaller than the expected increase in total demand—for both domestic consumption and export. The existing productive capacity can therefore meet the expected growth of demand without any rise in the relative price level. This conclusion is reinforced by the tendency of economic policy to slow down the rate of increase in consumption. Under such circumstances, agriculture might perhaps be able to maintain its relative income level vis-a-vis other economic sectors, but it is very doubtful whether agricultural incomes can be raised to the level in other occupations without resort to even larger subsidies. Additional factors of production, intended to expand output and complete the consolidation of various settlements, may perhaps improve the situation of those benefiting from them, but not the situation of the agricultural sector as a whole.

Despite the downward trend characteristic of prices of certain agricultural products in recent years, the average effective exchange rate for the value added is still considerably higher than the official exchange rate. Moreover, while as regards some products the effective exchange rate roughly equals the official rate, in the case of others the effective rate may be as high as IL 7 to IL 10 per dollar, or even more. The rate is much higher for livestock products than for crops. This excessive encouragement discriminates in favor of the livestock branches and stimulates their expansion, largely at the expense of crop cultivation.

<sup>1</sup> The income elasticity and price elasticity of demand for agricultural products are relatively low (see "Forecast of Supply and Demand for Agricultural Produce during the Years 1965 to 1975", the Falk Project for Economic Research in Israel and the Department of Agricultural Economics of the Faculty of Agriculture, Hebrew University—Interim Report No. 2, October 1962; also, Falk Project for Economic Research, Fifth Report, 1959–60, pp. 189–196.).

The quantity of milk marketed in 1961/62 reached 256 million liters. Nearly 50 million liters were used for the production of butter and hard cheeses, and for these producers received a return exceeding IL 10 for every dollar saved. On the other hand, in respect of groundnuts, the return did not exceed IL 3 per dollar. Only a detailed analysis, taking into account land, water, and labor limitations, etc., will make it possible to estimate the contraction that would occur in milk production if the return on value added were equal on the production of marginal milk<sup>1</sup> and on crop cultivation. The return on value added is also higher in the case of eggs and meat than for groundnuts, cotton, citrus, etc. The devaluation did nothing to alter this situation.

The measures taken to restrict output and investment in certain branches of agriculture did not fully regulate production. The output of eggs continued to expand throughout 1959/60 and 1960/61, though in 1961/62 there was a decrease as compared with the previous year. Nevertheless, exports of eggs were still larger in 1961/62 than in 1958/59. Milk production has been restricted since 1960/61, but this did not prevent an accumulation of surpluses in 1961/62 and an increase in stocks of dairy products.

Restrictions or quotas imposed not on output as such but on one of the factors of production, such as the area under cultivation (in the case of fruit and vegetables) or the number of chickens or milch cows (in the livestock branches), create an artificial incentive to expand crops and yields excessively.

The level of incomes in agriculture did not reach the levels in alternative occupations: in 1960/61 income per gainfully employed rose faster in agriculture than in other economic sectors, but in 1961/62 more slowly. This development was partly connected with the fact that supplies in the home market increased faster than demand and that there was a relative decline in the prices of agricultural products. But in the main it reflects the economic circumstances prevailing in the agricultural sector, where productivity and the state of demand do not permit a rise in the income per gainfully employed without a simultaneous decline in the number of gainfully employed. Though subsidies were increasingly resorted to in order to raise incomes, and though the increase in subsidies constituted about half the incremental net income of the agricultural sector in 1961/62, incomes nevertheless rose more slowly here than in other sectors.

The use of price increases to raise incomes, even under the system of production quotas, does not guarantee that the assistance will reach those whose income

<sup>1</sup> The reference here is to the 50 million liters utilized for the production of commodities traded in the international market, and not to the remainder of the milk which is earmarked for drinking and for the production of liquid produce and soft cheeses—commodities which in order to ensure their production at the existing volume, entail the guarantee of a higher return on a limited quantity. But the possibility of increasing imports of cheap milk powder for the production of some of these products must not, of course, be discounted, should lower returns to the producer bring about a contraction of output.

is smaller than the average income in other parts of the economy. On the contrary, the bigger the output of a farmer—and thus his income—the greater the benefit he reaps from the subsidies.<sup>1</sup>

Devaluation did not change the composition of agricultural output, though items with a high import component—mainly livestock products—should have been affected. This was because additional subsidies introduced as compensation for the higher prices of imported input again created a gap between the return on the value added and the (new) rate of exchange, thus in effect nullifying the primary influence of the devaluation. Consequently, the discrimination between various agricultural products continued, and was reflected in differing levels of return on the value added. The only distortion to be corrected was that affecting imported inputs, since in this sphere devaluation largely unified the effective exchange rates.

The combination of output quotas and relatively high prices—in terms of the return on added value—encouraged the excessive expansion of dairy and poultry farming on the one hand, and caused an unnecessary contraction in the cultivation of groundnuts and cotton on the other.<sup>2</sup>

## 2. OUTPUT

The real increase in agricultural output was 7 per cent in 1961/62, as compared with 8.5 per cent in 1960/61 and an annual average of 10 per cent from 1956/57 to 1960/61. Since producer prices rose by 5 per cent in 1961/62, the value of total output at producer prices went up by 12 per cent, reaching IL 1,028 million.

The slower rate of growth in total output reflects the smaller output of intermediate goods in 1961/62, following a big expansion the year before. The real increase in total output, exclusive of intermediate goods, was approximately 8 per cent in both years.

The value of agricultural output at producer prices rose more rapidly than at market prices; this was due to the increase of more than one-third in the direct subsidies on output.

### (a) *Composition of output by economic destination*

The quantity of marketed output was 9 per cent larger<sup>3</sup> in 1961/62 than in 1960/61. This increment stemmed from a 10 per cent expansion in marketing

<sup>1</sup> A more detailed discussion of this problem will be found in the Bank of Israel Annual Report for 1961, pp. 182–183.

<sup>2</sup> During the year 1961/62, cotton production was still expanded slightly, but the forecast for 1962/63 indicates a contraction of output.

<sup>3</sup> The reference is to the output of 1961/62, and not to the output marketed in 1961/62. See note to Table X-2.

Table X-2

**TOTAL AGRICULTURAL OUTPUT, BY ECONOMIC DESTINATION,  
1960/61 AND 1961/62**

	Value at current prices (IL million)		Per cent increase or decrease (-) from 1960/61 to 1961/62		
	1960/61 <sup>a</sup>	1961/62	Value	Quantity	Price <sup>b</sup>
<b>Output marketed</b>					
For local consumption					
Direct marketing <sup>c</sup>	299.9	341.0	13.7	15.5	-1.5
Through industry <sup>d</sup>	221.3	236.3	6.8	3.1	3.5
Total	521.2	577.3	10.8	10.2	0.5
For export					
Direct marketing <sup>c</sup>	137.3	168.9	23.0	5.9	16.2
Through industry <sup>d</sup>	19.0	18.8	-0.9	-5.0	4.4
Total	156.3	187.7	20.1	4.6	14.9
Total marketed output	677.5	765.0	12.9	8.9	3.7
Of which: Through industry	240.3	255.1	6.2	2.5	3.6
<b>Output retained on the farm</b>					
Own consumption	59.1	61.8	4.5	2.8	1.7
Capital goods <sup>e</sup>	61.5	67.4	9.6	-0.2	9.8
Agricultural raw materials (intermediate products)	121.6	131.3	8.0	-0.4	8.4
Total	242.2	260.5	7.6	0.5	1.1
Total output	919.7	1,025.5	11.5	6.7	4.5

NOTE: The marketing data cited here differ from those in Table IV-6 owing to conceptual differences and non-correspondence of time periods (agricultural years instead of calendar years). Moreover, the data here refer to the marketing of output produced during a certain agricultural year, and not to the output actually marketed during that year (thus stocks from 1961/62 sold in 1962/63 are here imputed to 1961/62). There are minor discrepancies between Tables X-2 and X-3 and other tables in this chapter, since the former are based on later data.

<sup>a</sup> Revised figures.

<sup>b</sup> The price changes indicated for the economic destinations taken individually are unreliable, since the average change in the prices of all marketed output has been imputed to many commodities for which separate data were not available.

<sup>c</sup> Direct marketing only, i.e. products which were not processed in any way.

<sup>d</sup> All industrially processed commodities, including milk processed in dairies, meat processed in slaughterhouses, wine grapes, and industrial crops (including wheat, vegetables, and fruit). The estimate does not cover all agricultural output exported through industry, such as cotton spun into yarn or textile products, owing to difficulties of measurement.

<sup>e</sup> The rise in the value of orchards and home-grown livestock retained on the farm; also includes investment in afforestation, land conservation and reclamation, drainage, and irrigation networks laid by the farmers themselves.

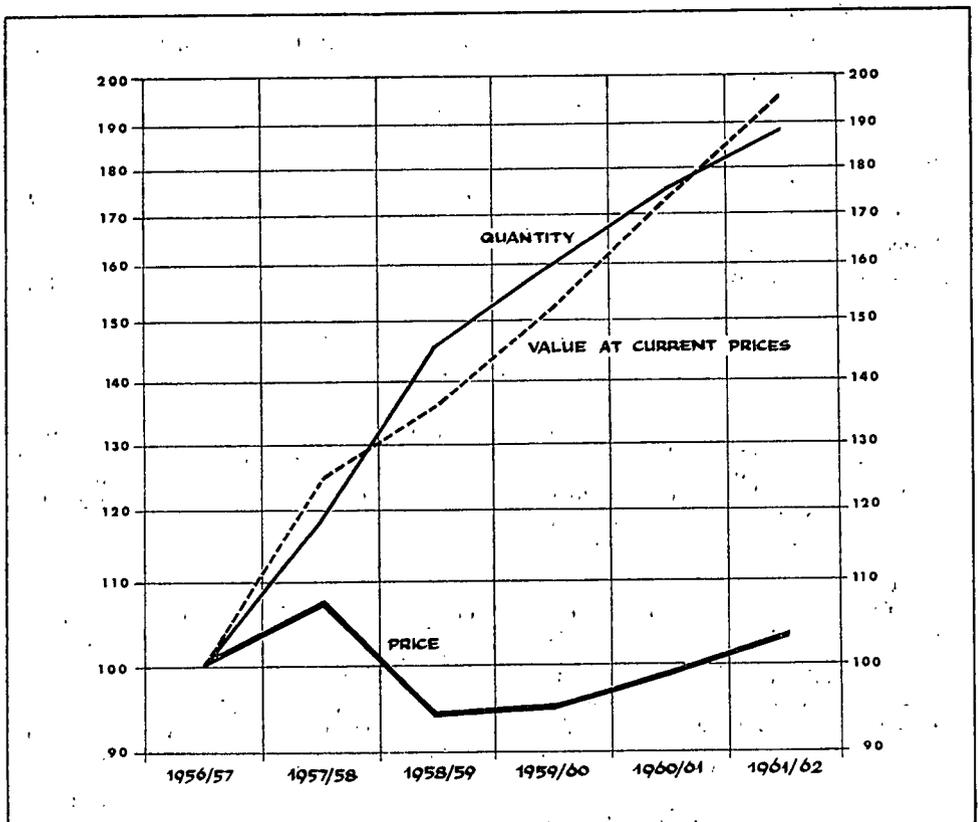
SOURCE: Central Bureau of Statistics and the Bank of Israel.

for local consumption (chiefly by households) and a 5 per cent rise in agricultural exports. The increase in the amount marketed in Israel apparently exceeded the growth of demand, and the relative prices of marketed commodities declined.

The quantity of agricultural output retained on the farm was unchanged in 1961/62, as compared with an 8 per cent increase in 1960/61. This reflects the stability in the output of intermediate and capital goods which followed the 20 per cent increase in the output of intermediate products in 1960/61 and three successive years during which the output of capital goods declined. The fluctuations in the output of intermediate products are mainly due to the changes in the output of unirrigated grains caused by weather conditions. As regards

Diagram X-2

VALUE, QUANTITY, AND PRICE INDICES OF MARKETED AGRICULTURAL OUTPUT, 1956/57 TO 1961/62<sup>a</sup>



<sup>a</sup> Semi-logarithmic scale.

capital goods, real investment in plantations and afforestation declined, while that in drainage, land reclamation, and incremental livestock inventory rose.<sup>1</sup>

*Marketed output:* The quantity of output channelled to the market rose by 9 per cent in 1961/62, following a similar increase in 1960/61 and a slightly larger one in 1959/60. The rate of expansion during the last three years was slower than during the preceding period: in 1958/59 the increase totalled 23 per cent, and from 1953/54 to 1957/58 it averaged 17 per cent. This development partly reflects the influence of weather conditions (for instance, the sharp decline in the 1960/61 citrus crop, or the effect of the drought on unirrigated crops), but apparently it was chiefly due to the restrictions on output introduced in certain branches since 1958/59, and to the farmers' expectations that profitability would decline in other branches.

Even before 1958/59, the marketing of local agricultural output appears to have expanded faster than the demand for such products. However, this expansion was not accompanied by a drop in prices—probably for two reasons: it occurred simultaneously with the transition from a market characterized by shortages and rationing to a free market; and some of it was at the expense of imports. Both these factors became much less important after 1957/58, and it seems that the growth of demand caused by rising incomes likewise slowed down. Under these circumstances, the big increase in marketed output in 1958/59 caused prices to decline by 12 per cent.<sup>2</sup> This steep drop altered the expectations of farmers as regards profitability and the future growth of demand for agricultural products, and it was against this background that production quotas were introduced in certain branches and expansion slowed down in others.

Some 88 per cent of the incremental marketed output in 1961/62 was diverted to local consumption, as against 77 per cent of the total output marketed in 1960/61. Exports of citrus, including citrus products, expanded by 8 per cent, after having fallen steeply in 1960/61. Exports of groundnuts and poultry declined, while those of potatoes and cotton fiber were larger.

Direct agricultural exports other than citrus constituted, as in the past, a small percentage of total marketed output—6 per cent as compared with 7 per cent in 1960/61. Including exports through industry, they accounted for 8 per cent of marketed output. For the most part, these exports were made in an attempt to solve the problem of surplus supplies in some branches—especially in poultry farming—and they were based on exceptionally high subsidies.

The rate of increase in the amount sold to industry was smaller than that in the amount marketed for direct consumption—3 per cent as against 12 per cent. Industry's share of the incremental marketed output reached 10 per cent

<sup>1</sup> A more detailed survey of this subject will be found below in the section dealing with agricultural investment.

<sup>2</sup> However, certain random factors, such as the fall in citrus prices fetched abroad, also had an effect in 1958/59.

**Table X-3**  
**EFFECT OF QUANTITY AND PRICE CHANGES ON THE VALUE OF**  
**AGRICULTURAL OUTPUT, BY ECONOMIC DESTINATION, 1961/62**

	Quantities		Prices	
	Change in value to producer due to quantitative changes (IL million)	Weight in total change in quantity	Change in value to producer due to price changes (IL million)	Weight in total change in value
<b>Output marketed</b>				
For local consumption				
Direct marketing	46.4	75.4	-5.3	-12.0
Through industry	6.9	11.2	8.1	18.3
Total	53.3	86.6	2.8	6.3
For export				
Direct marketing	8.1	13.2	23.5	53.1
Through industry	-1.0	-1.6	0.8	1.8
Total	7.1	11.6	24.3	54.9
Total marketed output	60.4	98.2	27.1	61.2
Of which: Through industry	5.9	9.6	8.9	20.1
<b>Output retained on the farm</b>				
Own consumption	1.6	2.6	1.1	2.5
Capital goods	-0.1	-0.2	6.0	13.5
Agricultural raw materials (intermediate products)	-0.4	-0.6	10.1	22.3
Total	1.1	1.8	17.2	38.8
Total output	61.5	100.0	44.3	100.0

SOURCE: Table X-2.

in 1961/62, as compared with 36 per cent of the total marketed output of 1960/61. This decline was due to the slower expansion of cotton output, the smaller output of sugar beet, olives, and wheat, the decrease in the quantity of cattle slaughtered, and smaller exports of frozen eggs. On the other hand, there was a big increase in the quantity of milk supplied to dairies.

The larger volume of marketing was due chiefly to several commodities: cow's milk, poultry meat, vegetables, citrus, and deciduous fruit. These products constituted some 42 per cent of total marketed output in 1960/61, but contributed as much as 84 per cent of the real increase in 1961/62.

The average rise in producer prices of marketed output was 4 per cent. This reflects mainly the rise in citrus prices after devaluation. The prices of marketed

**Table X-4**  
**AGRICULTURAL OUTPUT, BY BRANCH, 1960/61 AND 1961/62**

	Value at current prices (IL million)		Per cent increase or decrease (-) from 1960/61 to 1961/62		
	1960/61 <sup>a</sup>	1961/62	Value	Quantity <sup>b</sup>	Price <sup>c</sup>
<b>Livestock</b>					
Poultry farming					
Current output <sup>d</sup>	200.6	215.7	7.5	9.0	-1.3
Output of capital goods <sup>e</sup>	—	—	—	—	—
Total	200.6	215.7	7.5	9.0	-1.3
Cattle farming					
Current output	145.8	160.6	10.2	7.3	2.7
Output of capital goods	8.0	12.0	50.0	50.0	—
Total	153.8	172.6	12.2	9.5	2.2
Other livestock					
Current output	61.8	67.9	9.9	5.0	4.6
Output of capital goods	0.5	0.5	10.9	10.9	—
Total	62.3	68.4	9.9	5.1	4.6
All livestock					
Current output	408.2	444.2	8.9	7.8	1.1
Output of capital goods	8.5	12.5	48.0	48.0	—
Total	416.7	456.7	9.6	8.6	0.9
<b>Crops</b>					
Orchards					
Current output	212.1	253.1	19.3	11.2	6.3
Output of capital goods	30.7	29.3	-4.5	-14.0	11.2
Total	242.8	282.4	16.3	8.9	6.8
Vegetables					
Field crops and misc.	69.6	82.4	18.4	8.4	9.6
Other capital goods	168.3	180.6	7.3	-0.8	8.1
Total	22.3	25.9	15.9	0.8	15.0
All crops					
Current output	450.0	516.1	14.7	6.7	7.4
Output of capital goods	53.0	55.2	4.1	-7.9	13.0
Total	503.0	571.3	13.6	5.2	8.0
<b>All types of output</b>					
Current output	858.2	960.3	11.9	7.2	4.3
Output of capital goods	61.5	67.7	10.1	-0.2	10.3
Total	919.7	1,028.0	11.8	6.7	4.7

<sup>a</sup> Revised figures.

<sup>b</sup> In the tables in this chapter the percentage of change in quantity is a weighted average computed as a change in the value to the producer at 1960/61 prices and not as a change in total tonnage.

<sup>c</sup> In the tables in this chapter the percentage change in price generally refers to the change in "average value", which also reflects a change in quality, and is not identical with the "average price".

<sup>d</sup> Consumer goods and raw materials for agriculture (intermediate goods) and industry.

<sup>e</sup> See definition in Table X-2, note <sup>e</sup>.

SOURCE: Central Bureau of Statistics.

agricultural products other than citrus remained unchanged. Market proceeds per farmer<sup>1</sup> rose by 2 per cent per unit of output, but average farm receipts, exclusive of citrus, decreased by 2 per cent.

The price level of marketed agricultural output lagged far behind the rise in the general price level. While the consumer prices of agricultural output marketed for direct consumption by households<sup>2</sup> were only 1 per cent higher than in 1960/61, the prices of other components of private consumption rose by 10 per cent.

Producer prices of marketed agricultural products are only partly determined by market forces. To a considerable extent they depend on the Government's policy in respect of prices, imports, and the control of output. The main object of this policy is to guarantee the farmer a higher level of income than that likely to result from the unhampered operation of market forces—at any rate in the short run.

Apart from isolated cases, when the Government prevented a rise in market prices because it wished to keep consumer prices low (for instance, in the case of beef), the Government's actions in 1961/62 were intended to increase the earnings of the producer, and were reflected by restrictions on output, the raising of subsidies on most products already previously subsidized, and the guaranteeing of minimum prices and higher fixed prices. The growth of subsidies explains the difference between the rate of expansion in average market proceeds per unit of output and that in producer prices. But the Government's intervention could not prevent a relative fall in the prices of the agricultural product as compared with other sectors of the economy.

#### (b) *Composition of output by branch*

The slower increase in agricultural output during 1961/62 was due to the lower rate of expansion in crop production. In the livestock branches, the rate of expansion remained the same as in 1960/61 (see Table X-3).

In the crop branches, the output of field crops declined, after having risen considerably in 1960/61. On the other hand, the output of orchards increased a little faster than in the previous year. The output of vegetables also increased, after having remained stable in 1960/61. The total investment in afforestation and land reclamation was unchanged.

In the livestock branches, there was a big increase in the output of cattle farming, which had remained constant in 1960/61. In poultry farming and the other livestock branches, however, the rate of expansion was much slower.

<sup>1</sup> Calculated as the price to the producer (average for all economic destinations), less subsidies. In cases of price discrimination between the various destinations, it is affected by changes in the relative share of the various destination in total amount marketed.

<sup>2</sup> Beef, poultry, fish, eggs, milk, dairy produce, fruit, and vegetables. In 1961/62 these commodities accounted for 90 per cent of the output channelled to the home market.

Orchards and poultry farming each contributed approximately one-third of the real increase in output (see Table X-4). Next in order of importance were the cattle-farming and vegetable branches.

**Table X-5**  
**EFFECT OF QUANTITY AND PRICE CHANGES ON THE VALUE OF**  
**AGRICULTURAL OUTPUT, BY BRANCH, 1961/62**

Branch	Quantities		Prices	
	Change in value to producer due to quantitative changes (IL million)	Per cent of total change in value of output (net)	Change in value to producer due to price changes (IL million)	Per cent of total change in value of output (net)
Poultry farming	18.1	29.2	-3.0	-6.5
Cattle farming	14.6	23.6	4.2	9.1
Other livestock branches	3.2	5.2	3.0	6.5
Orchards	21.6	34.8	18.0	38.9
Vegetables	5.6	9.0	7.2	15.5
Field crops and misc.	-1.3	-2.1	13.5	29.2
Other branches (afforestation, land reclamation, etc.)	0.2	0.3	3.4	7.3
<b>Total</b>	<b>62.0</b>	<b>100.0</b>	<b>46.3</b>	<b>100.0</b>

SOURCE: Table X-3.

*Cattle farming:* The output of the cattle-farming branch increased by 10 per cent in 1961/62, after having remained unchanged in 1960/61. It thus contributed approximately one-quarter of the net increase in total agricultural output during the year reviewed. Most of the expansion took place in the output of milk, where the increase was much faster than in the previous year, and in the size of the milch herds. Herds of beef cattle expanded more slowly, while the output of meat did not increase at all. Producer prices of output rose by 2 per cent, as against an 11 per cent rise in 1960/61.

The accelerated expansion of milch herds in 1960/61 and 1961/62 was apparently due to two factors:<sup>1</sup>

1. The greater profitability of dairy farming after the rise in the producer prices of milk and meat in 1960/61 (and to a lesser extent also in 1961/62), as compared with only a slight rise in input prices during both years. The Government tried to assure the profitability of milk production, first by main-

<sup>1</sup> Further information on this subject will be found in the Bank of Israel Annual Report for 1961, p. 167.

taining guaranteed prices, and later by paying compensation for the higher prices of inputs.<sup>1</sup> The activities of the Government did not permit the changes in input prices and farm receipts to be fully reflected in the profitability of production, creating expectations that the same level of profitability could also be maintained in the future.

2. The fears of restrictions on the output of the cattle-farming branch, similar to those introduced in other branches, encouraged many producers to fulfil their ceiling quotas—fixed for them on the basis of consumption estimates for 1963/64.

The marketing of milk expanded to the considerable extent of 15 per cent. As a consequence, average market proceeds<sup>2</sup> declined by 9 per cent. The 2 per cent rise in the producer price of milk was due to the doubling of milk subsidies—to a quarter of the value, at producer prices, of the milk marketed.

The decline in the average market proceeds was due to three factors:

1. A change in the destination of unprocessed milk. Average proceeds from the marketing of drinking milk was almost equal in 1961/62 to the average producer price of milk for all destinations (inclusive of subsidies), while in the case of hard cheese and butter it reached approximately half the producer price.<sup>3</sup> The rate of increase in the demand for milk products, and especially for hard cheeses and butter, was greater than in the case of drinking milk.<sup>4</sup> The change in the destination of milk caused by these circumstances helped to reduce the average market proceeds.

2. The output of milk increased faster than the quantity demanded at the existing price level (there was no change in the average consumer prices of milk and milk products during 1961/62).

3. Distribution and processing costs rose.

The decrease in average returns would have been even greater were it not for some additional factors. The quantity of milk exceeding the demand was diverted to the production of hard cheeses,<sup>5</sup> and since the demand elasticity of these cheeses is greater, the effect of a quantitative increase on the market proceeds is smaller in their case. On the other hand, the prices of other milk products

<sup>1</sup> This applies especially to the rise in the prices of fodder, which is the most important input of the cattle-farming branch.

<sup>2</sup> After deducting distribution expenses and the cost of processing in dairies.

<sup>3</sup> Proceeds from the marketing of one liter of raw milk differ in accordance with its use for the production of various milk products. The reason for price discrimination is that the elasticity of demand for these products is very much higher than the elasticity of demand for drinking milk. The objective of price discrimination is to increase market proceeds. This is a phenomenon characteristic of a monopolistic market structure, and it is made possible—despite the existence of several marketing organizations—by the subsidies, because the rate of subsidy paid is in inverse ratio to the average market proceeds, the purpose of the subsidies being to equalize the producer price in the various economic destinations.

<sup>4</sup> According to the various income elasticities.

<sup>5</sup> By a reduction in the prices of hard cheeses.

**Table X-6**  
**OUTPUT OF MILK AND BEEF, 1961/62**

Product	Unit	Quantity	Value at current prices (IL million)	Per cent increase or decrease (-) from 1960/61 to 1961/62		
				Value	Quantity	Price
Milk	Millions of liters	316	93.5	14.8	12.2	2.3
Beef	Thousands of tons <sup>a</sup>	22.5	56.6	2.9	-0.1	2.9

<sup>a</sup> Live weight.

SOURCE: Central Bureau of Statistics.

(excluding drinking milk), the demand elasticity of which is lower, were raised during the year; these price increases influence the quantities consumed to a much smaller extent. Most of the increment—about 92 per cent of the additional milk utilized<sup>1</sup>—was used for making dairy produce. The proportion of dairy produce within the total quantity of milk utilized rose from 57 per cent in 1960/61 to 62 per cent in 1961/62.

Were it not for restrictions on output, an expansion of dairy farming might have been expected in 1962/63. Owing to the low marginal revenue, the incremental milk output would then have led to a steep decline in the producers' average market proceeds and in the profitability of production. To prevent a decline in profitability without having to resort to a further increase in direct subsidies on output, it was decided to limit the volume of marketing in 1962/63 to 265 million liters, as compared with 255 million liters in 1961/62.

The output of beef remained stable in 1961/62, after a decline of 12 per cent the year before. The considerable rise in prices during 1960/61 and the further rise in producer prices in 1961/62<sup>2</sup> increased the profitability of meat production, and this was reflected by the tendency—first noticeable in 1960/61 and strengthened in 1961/62—to fatten calves from the dairy branch for slaughter. The output of beef from this source increased in 1961/62, constituting almost two-thirds of total beef production. The number of calves held for fattening increased, and the period of fattening was lengthened, this being reflected by the higher average weight of slaughtered calves.

Nevertheless, there was no increase in the overall output of meat, owing to several factors that reduced supplies:

1. The tendency to expand dairy farming, following an increase in its profitability and because farmers wanted to assure themselves higher production quotas. This tendency led to the reduced slaughter of cows, heifers, and calves.

<sup>1</sup> In 1961/62 some 2 million liters of milk were not utilized by dairies.

<sup>2</sup> The reference is to the average price. Considerable price fluctuations occurred during the year.

2. The smaller supplies from Arab herds, apparently due to the decline of these herds (which are mainly fed on natural pasture) following several consecutive years of drought.

3. In certain cases, particularly at the beginning of the year, organized steps were apparently taken to reduce supplies so as to maintain the level of producer prices.

The big increase in the demand for beef might have caused prices to rise steeply. To prevent such a development, the Government expanded imports of this commodity, which had been very small ever since the middle of 1958/59. The larger imports made possible an increase of 37 per cent in per capita consumption during the year reviewed. Toward the end of 1960/61, live cattle began to be imported for slaughter, and as a result, meat prices dropped. Following the decline in prices, locally produced meat was assured subsidies covering the difference between the market price and a minimum price fixed in advance. This was done despite the protection already extended to local meat by high customs duties on imports. The termination of live cattle imports at the end of 1961/62, and the substitution of frozen meat imports sold at a high effective exchange rate ranging from IL 5 to IL 6 per dollar, led to a rise in prices, which in turn reduced the amount of subsidy required to maintain the guaranteed minimum price.

At the present level of profitability, the stabilization of milk production is likely to result in the utilization of the milch herd increment for the production of meat. The continued existence of this profitability level—which tends to encourage production unprofitable from the general economic aspect<sup>1</sup>—depends on the Government's readiness to maintain the high degree of protection and the present level of subsidies.

*Poultry farming:* The increase in the output of the poultry-farming branch was slower in 1961/62. As compared with 16 per cent in 1960/61, it came to only 9 per cent in 1961/62. Nevertheless, it accounted for 29 per cent of the net increase in total agricultural output. The producer prices of marketed output declined by 2 per cent in 1961/62, after having remained constant in 1960/61. There was no change in egg prices, while prices of poultry fell by 3 per cent. The downward trend, which began in 1956/57, thus continued. Prices during the year reviewed were on the average 20 per cent lower than in 1956/57.

The expansion was wholly concentrated in poultry meat, there being no change either in egg output or in the number of laying hens. The stability of egg output is noteworthy, particularly in view of the rapid growth of previous years (egg output more than doubled between 1956/57 and 1960/61).

The year 1961/62 was the second in which administrative measures were

<sup>1</sup> The cost of each dollar saved in cattle farming reached IL 8, and was even higher as regards certain dairy products.

Table X-7

## OUTPUT OF EGGS AND POULTRY MEAT, 1961-62

Product	Unit	Quantity	Value at current prices (IL million)	Per cent increase or decrease (-) from 1960/61 to 1961/62		
				Value	Quantity	Price
Eggs	Millions	1,273.0	108.5	-0.7	-0.4	-0.2
Poultry meat <sup>a</sup>	Thousands of tons <sup>b</sup>	66.4	101.8	18.1	21.5	-2.8

<sup>a</sup> Hen meat, fattened poultry, turkeys, etc.

<sup>b</sup> Live weight.

SOURCE: Central Bureau of Statistics.

applied to the poultry branch,<sup>1</sup> with the objective of reducing egg exports (which are unprofitable from the general economic aspect) and fixing their volume at 200-250 million units per annum. Whereas in 1960/61 organized marketing<sup>2</sup> exceeded the planned limits by 33 per cent, the excess in 1961/62 amounted to only 9 per cent.<sup>3</sup> The deviation from the quota was not uniform throughout the year: during the first nine months organized marketing exceeded the target by 15 per cent, while during the last quarter it fell below it by 15 per cent. These fluctuations are also reflected in the volume of organized marketing: the number of eggs marketed decreased by 5 per cent as compared with 1960/61, owing to a decline of 3 per cent during the first nine months of the year under review and a drop of 15 per cent in the last quarter. The declining trend continued into 1962/63, partly reflecting the lag in the replacement of laying hens and partly, it seems, the abandoning of the branch by certain producers owing to the fall in profits and fear of a further drop in the future.

As against the decline in organized marketing, unorganized marketing apparently expanded by approximately one-third. This fact emerges from the decrease of 7 million units in the quantity of eggs marketed through organized channels, while the demand for eggs increased by an estimated 40 million units following the fall in their relative prices, the growth of the population, and the rise in incomes. The same conclusion is drawn from estimates of the number of laying hens in 1961/62 and the average rate of laying per hen. The growth of unorganized marketing is attributable to the policy of the Poultry Council, which set a price equal to that of export (i.e. 2 to 3 agorot lower than the local wholesale price) for eggs sold in excess of the planned quota. This increased the relative profitability of unorganized marketing. The raising of chicken-fodder

<sup>1</sup> See also Annual Report of the Bank of Israel for 1960, p. 121, and the Annual Report for 1961, p. 164.

<sup>2</sup> Marketing through the Poultry Council.

<sup>3</sup> The egg marketing quota for 1961/62 was set at 12 million more units than the previous year's target.

prices at the end of 1961/62, following devaluation, apparently pushed up the prices of fodder in the free market, thus reducing the profitability of output in excess of planned quotas, since the increase in subsidy rates as compensation for the higher fodder prices was paid only on eggs within the framework of the quota, while wholesale prices remained unchanged. This development apparently decreased the amount marketed in excess of the quota at the beginning of 1962/63—both through the Poultry Council and through unorganized channels.

The smaller volume of organized marketing was reflected by the reduction of edible egg exports. This was wholly concentrated in exports of frozen eggs, which contracted to about a quarter of their 1960/61 volume. Altogether, exports totalled 403 million eggs—40 million less than in 1960/61. Since f.o.b. export prices fell by 25 per cent, the value of egg exports in 1961/62 was only \$ 8 million, as against \$ 12 million in the preceding year. The steep drop in export prices was caused both by production increases in the countries of destination and by their much larger volume of imports from other countries. Exports of eggs for hatching rose by about one-third, and prices by 20 per cent; the f.o.b. value reached \$ 1.8 million.

The interruption of the expansion of egg production was due to several reasons. First, the Poultry Council took various steps to limit poultry farming outside the planned framework. These included:

1. The allocation of chicks and fodder according to the size of the quota.
2. The introduction of price differentials by the granting of a subsidy over and above the wholesale price on eggs sold under the quota only, while eggs in excess of the quota had to be sold at the low export prices.
3. The guarantee of a minimum price for hen meat, in order to encourage the slaughtering of laying hens.

The Poultry Council also decided to replace the quotas on egg production by quotas on fattened poultry. Very likely the difficulties involved in the implementation of the plans (e.g. in the fixing of hatching periods and inelastic monthly marketing quotas) likewise played a part in this development. But the decisive factor was apparently the decline in profitability caused by the continuous fall in the prices of eggs and hen meat while input prices were rising—even though the effect of the changes in output and input prices was partly neutralized by higher productivity.

Lower profitability need not have an immediate effect on the volume of output. Production continues as long as the price is sufficient to cover variable costs, and is discontinued only when the time comes to replace flocks and installations. Thus a fall in the profitability of production is, as a rule, first reflected by the volume of new investments in the branch, and only later by the volume of output.

Despite the contraction of egg output, there was a 46 per cent increase in the output of eggs in new agricultural settlements from 1959/60 to 1961/62. The share of new settlements within total output rose over the same period from

35 to 42 per cent—entirely at the expense of the older settlements. From the economic viewpoint, this was an undesirable development, since it entailed additional investment in new settlements on the one hand, while resulting in the non-exploitation of the existing productive capacity of the older farms on the other. The change likewise involved a division of productive quotas on a basis other than the economic efficiency of the producers.

Wholesale prices in the home market remained stable, and despite the devaluation—which increased the return on exports in terms of Israel pounds—no change in the producer prices of eggs occurred in 1961/62. This was due to the reduction of subsidy rates which offset the increment caused by the new exchange rate, as well as to the lower egg prices in export markets. On the other hand, the smaller percentage of frozen eggs in total egg exports had the opposite effect, since the return on such exports is considerably lower than the wholesale price. The producer prices presumably would have fallen had not the subsidies on organized local marketing been increased during the last quarter as compensation for the higher fodder prices.

The big rise of 22 per cent in the marketing of poultry meat (mainly fowl especially fattened for slaughter) exceeded the increase in demand, with the result that the farmers' average market receipts shrank by 6 per cent. The decline presumably would have been greater if steps had not been taken to maintain minimum prices by withdrawing surpluses from the market during seasons when the pressure of supply pushed prices below the minimum level. Some of these surpluses were kept in storage for later marketing, while others were diverted to export. The withdrawal of surpluses, which involved the granting of subsidies to cover the losses involved; as well as of direct subsidies to cover the difference between the market and the guaranteed price, limited the decrease in producer prices to only 3 per cent.

*Orchards:* The real output of fruit increased by 11 per cent in 1961/62, as compared with 5 per cent in 1960/61 and 12 per cent in 1959/60. The accelerated rate of expansion was due to the larger output of citrus, after a contraction in 1960/61. The output of other fruit expanded more slowly than in previous years. Investment in orchards declined by 14 per cent, and consequently the total output of the branch grew by only 9 per cent. Producer prices of fruit went up 6 per cent, owing to the steep rise in citrus prices; on the other hand, the prices of other fruit fell. The prices of investment in orchards rose by 10 per cent, and the average rise in the output prices of this branch thus reached 7 per cent.

*Citrus:* The citrus crop was 6 per cent larger in 1961/62, but this followed a decline of 16 per cent in 1960/61, so that it was still 11 per cent smaller than in 1959/60. Yields of older groves<sup>1</sup> declined, but those of younger groves increased considerably.

<sup>1</sup> Groves planted before 1948.

The average decrease in the yield per dunam of the older groves during 1961/62 ranged from 10 to 15 per cent, and this followed another steep decline in 1960/61. The downward trend is apparently due to the postponement in the replanting of old groves because of the high prices prevailing in recent years, as well as of the successive years of drought which hastened the deterioration of these groves.

Table X-8

CITRUS OUTPUT, BY DESTINATION, 1961/62

Product	Quantity (thousands of tons)	Value at current prices (IL million)	Per cent increase or decrease (-) from 1960/61 to 1961/62		
			Value	Quantity	Price
For direct export	349.2	119.4	34.3	8.1	24.2
For industry	84.2	6.7	17.1	2.5	14.2
For direct local consumption	99.1	18.6	9.7	-2.0	11.9
<b>Total</b>	<b>532.5</b>	<b>144.7</b>	<b>29.7</b>	<b>6.3</b>	<b>22.0</b>

SOURCE: Central Bureau of Statistics.

The large increase in the yield of young groves was caused by two factors: the greater fertility of young groves which had already borne fruit in 1960/61, and the first yield from 30,000 dunams of new groves. The fruit-bearing area reached 245,000 dunams in 1961/62, of which 115,000 dunams were old groves and 130,000 dunams young groves. The area under citrus in 1961/62 is estimated at 365,000 dunams, and new plantings during the year came to 25,000 dunams.<sup>1</sup>

The entire incremental output was exported, while the amount of citrus marketed to industry or for direct consumption in the home market remained unchanged. This was apparently due to the higher returns from export following the alteration of the exchange rate. Overseas sales expanded by 8 per cent during 1961/62, accounting for 66 per cent of the total citrus crop and for 83 per cent of its value. If the value of citrus products is added, the share of exports reaches 87 per cent.

Despite the 13 per cent increase in total exports of the main supplying countries—Spain, Israel, and North Africa—there was no change in the prices

<sup>1</sup> The estimate of the area under citrus is based on a survey conducted at the end of 1955/56 and on incomplete information about subsequent planting and uprooting. According to a partial survey carried out in 1961/62, the area of old groves is 15,000 dunams smaller.

fetched by citrus in the world markets. Foreign currency receipts expanded to the same extent as the quantity, reaching \$ 45.4 million.

The 22 per cent rise in the producer prices of citrus,<sup>1</sup> which followed a similar increase in 1960/61, was mainly due to the larger IL counterpart received for the foreign currency receipts after devaluation.<sup>2</sup> This rise pushed up the prices of citrus fruit for local consumption and industry. The effective exchange rate for the value added of citrus went up 17 per cent, reaching IL 2.92 per dollar in 1961/62, as against IL 2.50 in 1960/61 and IL 2.30 in 1959/60. The growth in proceeds following the raising of the exchange rate totalled IL 25 million, or 22 per cent of the value of output at 1960/61 producer prices.

The steep rise in producer prices in the last two years (46 per cent as compared with 1959/60) exceeded the rise in input prices (chiefly that of packing materials, which became more expensive following devaluation, and wages), thus considerably increasing the profitability of the branch. The rise in prices apparently even offset the decline in the yields per dunam of the older groves.

*Other fruit:* The real output of fruit other than citrus grew by 18 per cent in 1961/62, as compared with 37 per cent in 1960/61 and 23 per cent in 1959/60. The slower rate of expansion was mainly due to the much smaller output of olives as compared with the large increase of 1960/61, and also to the smaller increase of banana production. The level of producer prices declined by an average of 9 per cent in 1961/62, after having fallen by 6 per cent in 1960/61 and risen by 10 per cent in 1959/60. The drop in prices affected all types of fruit, except olives and wine grapes, the prices of which rose. Sales to industry contracted by 31 per cent during the year reviewed, owing to the smaller olive crop.

The big increase in the output of deciduous fruit, which reached 43 per cent, resulted in a 14 per cent drop in their producer prices. In the previous year output had risen by 35 per cent, while prices fell by 8 per cent. The relatively small decrease in prices during 1961/62 as against the big increase in supplies may partly be explained by the growth of demand following the increase in the population and the rise in nominal incomes (the income elasticity of these products is relatively high). Another reason was the expansion of marketing during the winter months owing to the larger quantities of fruit kept in storage, particularly apples. Apparently the demand for this fruit is elastic, so that a considerable increase in supplies may involve a relatively small decrease in prices.

The output of bananas was 12 per cent higher than in 1960/61, when there was an increase of 29 per cent. The area of banana plantations has hardly been enlarged since 1959/60, when it was decided to "freeze" it;<sup>3</sup> hence the growth of

<sup>1</sup> Ex-packing house.

<sup>2</sup> Not all of the rise in the effective rate was due to the devaluation, since even before it had been decided to raise the premium in 1961/62 to 85 agorot per dollar of value added, as compared with 70 agorot in 1960/61.

<sup>3</sup> See Bank of Israel Annual Report for 1960, p. 126.

Table X-9

## OUTPUT OF FRUIT OTHER THAN CITRUS, BY BRANCH, 1961/62

Branch	Quantity (thousands of tons)	Value at current prices (IL million)	Per cent increase or decrease (-) from 1960/61 to 1961/62		
			Value	Quantity	Price
Grapes	72.5	23.5	8.3	9.7	-1.2
Deciduous and sub- tropical fruit	86.9	62.7	19.8	38.9	-13.8
Bananas	49.2	18.8	3.5	11.6	-7.3
Olives	4.8	3.1	-62.5	-72.2	35.0

SOURCE: Central Bureau of Statistics.

output has been chiefly due to bigger yields per dunam. Banana exports expanded by 19 per cent in 1961/62, accounting for 27 per cent of the total output. Price discrimination is practised in the marketing of bananas, export prices being lower than domestic prices. Consequently, a greater proportion of exports in total output involves a decline in the average price obtained by the producers.

Olive cultivation is subject to sharp fluctuations. Output in 1961/62 was 72 per cent smaller than in the previous year, which in turn had shown a gain of 194 per cent as compared with 1959/60. The output of grapes increased, this being accompanied by a decline in the prices of table grapes. Prices of wine grapes rose.

The downward trend in fruit prices which has characterized recent years, and the expectation of further price decreases as a result of the much larger supplies anticipated, have led to a slackening in the rate of planting. This is due both to the operations of the Fruit Board, which has limited the area of planting, and to the farmers themselves. In the case of some items, such as plums and table grapes, there was even some uprooting of existing groves and vineyards.

*Vegetables:* The output of vegetables and potatoes rose by 8 per cent in 1961/62, after having declined by 5 per cent the year before. Most of the increase took place in potatoes, the output of which was up 28 per cent. The output of other vegetables increased by 3 per cent, after a decline of 6 per cent in 1960/61.

The rise of 17 per cent in vegetable prices in 1961/62 did not stimulate increases in output, probably owing to the relatively low prices prevailing toward the end of 1960/61. The producer prices of vegetables rose by 13 per cent during the year reviewed. There was virtually no change in the quantity of surpluses. The rise in producer prices was due to the failure of supplies to keep

pace with the growth of demand, as well as to the raising of the guaranteed minimum prices for the main vegetables.

Table X-10

OUTPUT OF VEGETABLES AND POTATOES, 1961/62

	Quantity (thousands of tons)	Value at current prices (IL million)	Per cent increase or decrease (-) from 1960/61 to 1961/62		
			Value	Quantity	Price
Vegetables	280.5	65.1	16.6	3.1	13.1
Potatoes	111.0	17.3	25.7	28.3	-2.0

SOURCE: Central Bureau of Statistics.

The rise in the consumer prices of vegetables amounted to 11 per cent, and was accompanied by even greater fluctuations than in the previous year.<sup>1</sup> Thus in respect of tomatoes, for instance, the quantity consumed per capita declined by 2 per cent, the average retail price was 14 per cent higher than in 1960/61, while the price fluctuations during 1961/62 were 15 per cent greater, after having already increased considerably during the preceding year (see Table X-11 for the coefficient of variation).

Guaranteed minimum prices are fixed without sufficient attention being paid to their influence upon the quantities offered for sale and upon consumption. Even during months when the prevailing market prices considerably exceeded the guaranteed minimum, the system of assuring high prices to the producer by withholding surpluses from the market whenever the wholesale price falls to the guaranteed minimum restricted the quantities marketed for consumption. During the months November 1961-January 1962, tomato surpluses withheld from the market were equal to 8 per cent of the quantities consumed, while the average wholesale price during these months was 150 per cent higher than the guaranteed minimum.

On the other hand, the minimum prices were raised also during months when surpluses in previous years had been particularly large. In 1959/60 tomato surpluses during the period June-September reached 25 per cent of the quantity marketed for consumption, and in 1960/61-36 per cent. Nevertheless, the minimum prices of tomatoes during these months in 1961/62 were raised by 14 per cent as compared with the previous year. This rise had two effects, both tending to further increase the disequilibrium: on the one hand, the quantity offered for sale was expanded, and on the other, consumption contracted. The quantities offered for sale during this period grew by 17 per cent, and the

<sup>1</sup> See also Chapter VI—"Prices".

Table X-11  
**MARKETING, CONSUMPTION, AND PRICES OF TOMATOES,**  
 1957/58 to 1961/62

Year	Kg. per capita			
	Total amount marketed	Surpluses	Amount marketed for consumption <sup>a</sup>	Coefficient of variation in consumer prices <sup>b</sup>
1957/58	38.0	7.6	30.4	0.53
1958/59	40.3	11.6	28.7	0.46
1959/60	40.7	13.5	27.2	0.33
1960/61	32.6	6.7	25.9	0.45
1961/62	29.4	4.0	25.4	0.51

<sup>a</sup> Quantity marketed less surpluses.

<sup>b</sup> This coefficient measures the relative changes in prices during the year and is in direct ratio to the change.

SOURCE: Ministry of Agriculture and the Bank of Israel.

surpluses by 29 per cent, reaching 42 per cent of the total amount marketed for consumption.

Apparently the planning was not based on demand and price forecasts. Thus, for example, the supply of tomatoes, including surpluses, during the months June to September 1962 was almost equal to the quota set by the Vegetable Board; but it transpired that the amount actually included a surplus of 40 per cent. There were also deviations in the implementation of the planning. In the output of tomatoes, for instance, the total of the monthly deviations from the planned quota came to 36 per cent of the target for the entire year.

In 1961/62 steps were taken to limit the distributors' margin. An agreement was reached with several marketing organizations whereby agricultural produce was to be supplied at fixed wholesale prices for a certain period in return for these organizations' undertaking to sell at fixed retail prices. This arrangement did not exert much influence on marketing margins, since it covered only part of the marketing organizations. In the case of products which cannot be stored, e.g. vegetables, maintaining fixed prices may increase the surpluses during seasons of plenty, while making it impossible to supply the quantity demanded during seasons of shortages.

Attempts to export vegetables have so far not met with success. Less than 1 per cent of total output was exported in 1961/62; if industrially processed vegetables are included, the figure would still come to only 4 per cent. The value of direct exports, exclusive of potatoes, amounted to less than \$ 250,000. Sales to industry were expanded by 17 per cent during the year under review, accounting for 10 per cent of the value of output.

The increase in the output of potatoes was apparently due to the raising of

the guaranteed minimum prices in 1961/62. Most of the incremental output was sold abroad. Following a serious shortage of potatoes in Europe, which caused the export price to shoot up by more than 50 per cent, Israel's potato exports soared by 240 per cent in physical terms and by 420 per cent in nominal terms, reaching \$1.7 million.

*Field crops:* Whereas the output of field crops expanded in 1960/61 by as much as 28 per cent, in 1961/62 there was a decline of 1 per cent. This change reflects the smaller output of grains and industrial crops. Producer prices went up 8 per cent, after having risen by 1 per cent in 1960/61.

The output of grains was 11 per cent smaller in 1961/62 than in 1960/61, and 75 per cent larger in 1960/61 than in 1959/60. There was a fair amount of rainfall in 1960/61, following a year of severe drought. Consequently, the rate of increase was particularly high. On the other hand, the weather in 1961/62 was less favorable: there was an aggravation of the drought in the South, while in the North the rains ceased earlier than usual. The smaller output of 1961/62 was also due to the abandoning of marginal unirrigated areas, especially in the South after four successive years of drought in this region. The output of roughage increased by 4 per cent both in 1960/61 and in 1961/62. Grain prices rose by 13 per cent and the prices of roughage by 9 per cent, owing to the rise in the prices of imported fodder and the higher prices of fodder in the "grey" market (for unrationed fodder). Another reason was the rise in input prices.<sup>1</sup>

The rise in prices had only a limited effect on the output of winter grains

**Table X-12**  
**OUTPUT OF MAIN FIELD CROPS, 1961/62**

Branch	Quantity (thousands of tons)	Value at current prices (IL million)	Per cent increase or decrease (-) from 1960/61 to 1961/62		
			Value	Quantity	Price
Raw cotton	41.7	36.9	7.8	10.7	-2.8
Groundnuts	12.4	8.6	1.7	-14.5	19.0
Sugar beet	221.0	12.6	-1.8	-9.7	8.8
Tobacco	2.2	4.7	14.3	-3.8	18.8
Grains and pulses		43.8	0.7	-10.8	12.8
Roughage and green manure		49.2	13.1	3.4	9.0
Melons and watermelons	88.3	11.3	37.3	25.6	9.3

SOURCE: Central Bureau of Statistics.

<sup>1</sup> For commodities not traded in the market, such as green fodder and silage, the estimate of output value was based on production costs.

in 1961/62, since it took place after the winter sowing. But its influence on summer crops was considerable, the area under sorghum (excluding the South where the severe drought caused a decline of 85 per cent) being enlarged by 41 per cent. The shortage of water and greater efficiency of production methods apparently exerted an influence in the same direction.

The output of industrial crops declined by 2 per cent in 1961/62, after having expanded by 27 per cent in 1960/61 and by 29 per cent in 1959/60. The reduction during the year reviewed was due to the slower rate of expansion in the output of cotton and a contraction of 15 per cent in the output of other industrial crops—as compared with an increase of 19 per cent in 1960/61 and of 14 per cent in 1959/60. This development reflects the shortage of water, and to a certain extent also the decline in profitability in previous years. The level of producer prices went up 5 per cent in 1961/62, owing to a 15 per cent rise in the prices of industrial crops other than cotton. Cotton prices declined by 3 per cent.

Cotton output expanded by 11 per cent in 1961/62, as compared with 36 per cent in 1960/61 and 45 per cent in 1959/60. The irrigated area was extended by 9 per cent, while the unirrigated area was reduced by 40 per cent. The average yield per dunam rose by 2 per cent, both because the unirrigated area was proportionately smaller and owing to the higher average yield per dunam. The slower rate of output expansion must apparently be attributed to the shortage of water and the decline in relative profitability. Between 1958/59 and 1961/62 producer prices of cotton fell by 3 per cent, while the considerable rise in input prices was only partly offset by higher productivity.

The 3 per cent decline in the producer prices of cotton was due to a 5 per cent contraction in average market proceeds, which in turn was caused by a decline in the quality of the cotton and a rise in ginning costs, while the average subsidy paid to producers rose by 4 per cent. Some of these subsidies were actually granted to local spinning mills, which buy the cotton at prices below those prevailing in the world market. Direct exports of cotton increased by 5 per cent, reaching \$2.3 million; they accounted for 10 per cent of the total output.

The output of sugar beet declined by 10 per cent in 1961/62 as a result of the smaller area sown, whereas in the previous year it had expanded by 41 per cent and in 1959/60 by 39 per cent. The decline was chiefly due to the lower profitability in 1960/61, when the average proceeds per dunam fell by 5 per cent while input prices rose. The lower return per dunam was in turn caused by a decrease in the average yield, which was partly offset by a 3 per cent rise in prices. In 1961/62 producer prices of sugar beet climbed by 9 per cent, following an increase in the prices received from industry,<sup>1</sup> which was only

<sup>1</sup> The higher prices paid by sugar refineries for beet did not affect the planted area, since the rise occurred after the planting.

partly offset by the slight fall in the sugar content of the beet. Since the average yield per dunam likewise rose, proceeds per dunam increased by 17 per cent. The output of sugar beet reached 72 per cent of processing capacity, as against 75 per cent in 1960/61.

The output of groundnuts contracted by 14 per cent, owing to the smaller area planted—which in turn was caused by the water shortage and the decline in relative profitability. The area under groundnuts had already been reduced to a similar extent in 1960/61. Exports fell by 27 per cent, amounting to \$ 1.7 million, or 43 per cent of total output. F.o.b. export prices rose. Supplies to the home market remained unchanged while prices rose. The average increase in the price obtained by the farmer reached 19 per cent.

A very steep rise of over 100 per cent took place in the prices of sunflower seeds, the yield of which was only a quarter of that in 1960/61. The producer prices of tobacco also rose, owing to both higher market prices and subsidies on output. The output of melons and watermelons expanded and prices rose.

### 3. INPUT

The real increase in the total input of materials and services (other than labor, interest, and land) amounted to 5 per cent in 1961/62, the same as in 1960/61 and 1959/60. There was no change in the input of labor,<sup>1</sup> while payments of interest and rent expanded by 6 per cent.

The input prices of materials and services rose by 10 per cent in 1961/62, as against a rise of 3 per cent in 1960/61 and no change in 1959/60.

The decisive factor affecting input prices was the devaluation, but its influence was not wholly felt immediately, owing to the countermeasures taken by the Government as part of its efforts to delay price increases. The delaying of the rise in the prices of the main agricultural input items was intended, *inter alia*, to prevent immediate demands for increases in the price of agricultural products.

The steps taken by the Government to defer price increases were as follows:

1. It refrained from raising the effective exchange rate for fodder imports until July 1962, when the average increase in the price of fodder had come to 14 per cent.<sup>2</sup> Had this increase occurred simultaneously with devaluation, it would have raised the average price of concentrated fodder in 1961/62 by 12 per cent, as compared with the actual rise of 5 per cent.

<sup>1</sup> As measured on the basis of the estimated number of standard 8-hour working days, in the agricultural sector (for details of the calculation, see the Appendix to the Bank of Israel Annual Report for 1960—in Hebrew only). This calculation does not take into consideration the rise in the average level of skills, which is regarded as an increase in the quantitative input of labor.

<sup>2</sup> Concentrated fodder constitutes 43 per cent of the purchased input.

Table X-13

**INPUT OF MATERIALS AND SERVICES IN AGRICULTURE,<sup>a</sup> BY SOURCE,  
1960/61 and 1961/62**

Source	Value at current prices (IL million)		Per cent increase or decrease (-) from 1960/61 to 1961/62		
	1960/61 <sup>b</sup>	1961/62	Value	Quantity	Price
<b>Purchases from other sectors</b>					
Fodder	134.7	148.2	10.1	4.7	5.2
Fertilizers	16.3	20.0	22.2	18.1	3.5
Seeds	3.9	4.7	20.8	2.6	17.8
Pesticides and pharmaceuticals	13.2	17.1	29.2	18.1	9.4
Water	33.6	42.5	26.7	14.4	10.8
Packing materials	23.8	33.2	39.6	1.8	37.1
Transportation	18.8	20.9	10.9	4.4	6.2
Spare parts, repairs, and small tools	18.6	24.7	32.7	17.1	13.3
Fuel and electricity	10.6	11.5	9.1	1.4	7.5
Services	6.5	7.5	15.5	6.0	9.0
Taxes	12.9	14.6	12.5	2.2	10.1
Pipes and irrigation equipment	1.2	0.9	-24.8	-29.9	7.4
Miscellaneous	1.9	2.4	25.5	2.0	23.1
<b>Total</b>	<b>296.0</b>	<b>348.2</b>	<b>17.6</b>	<b>7.3</b>	<b>9.6</b>
Intermediate products	121.6	131.3	8.0	-0.4	8.4
Depreciation <sup>c</sup>	51.0	62.8	23.1	7.5	14.6
<b>Total input</b>	<b>468.6</b>	<b>542.3</b>	<b>15.7</b>	<b>5.3</b>	<b>9.9</b>

<sup>a</sup> The total input of the agricultural sector, excluding labor, interest, and rent.

<sup>b</sup> Revised figures.

<sup>c</sup> Calculated on the basis of replacement value.

SOURCE: Central Bureau of Statistics.

2. Subsidies were granted to postpone the increase in the price of fertilizers until October 1962, and the rise in water prices was delayed.

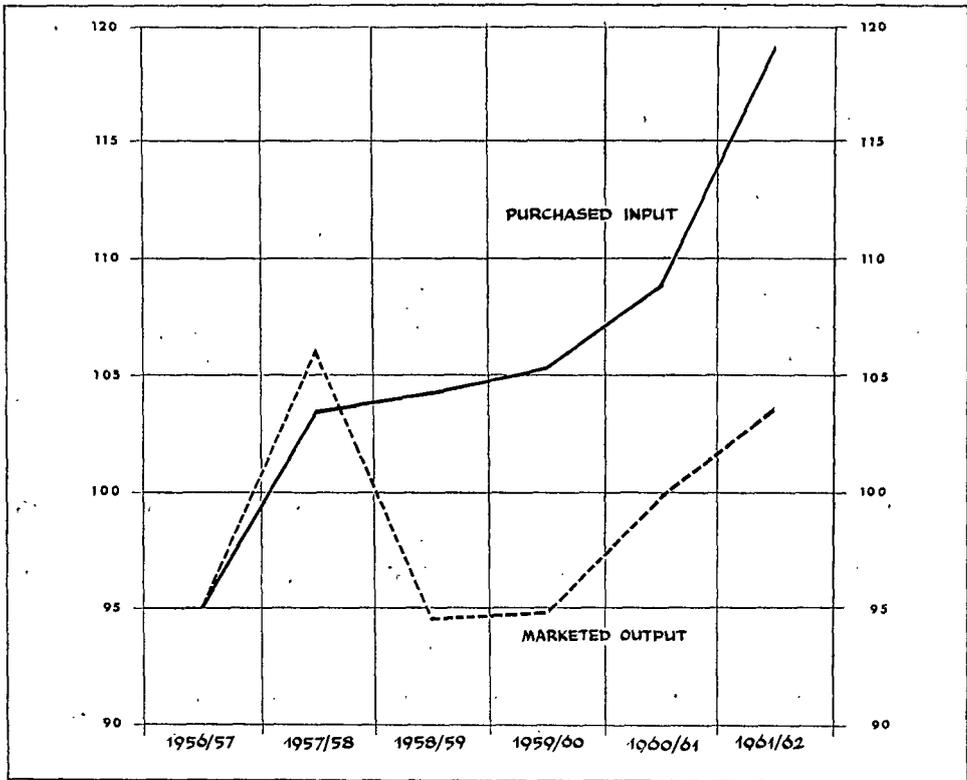
3. The Government refrained from imposing a surcharge on stocks held by importers and producers, on condition that price increases be delayed for an agreed period. This applied to items such as pesticides and pharmaceuticals, vitamins, seeds, and spare parts.

4. Pressure was exerted on producers in all sectors to absorb the rise in costs caused by devaluation.

These measures, which were tantamount to postponing the implementation of devaluation as regards the prices of agricultural inputs, were reflected by the

Diagram X-3

PRICE INDICES OF MARKETED AGRICULTURAL OUTPUT AND  
PURCHASED INPUT, 1956/57 TO 1961/62<sup>a</sup>



<sup>a</sup> Semi-logarithmic scale.

change in the prices of the purchased input during 1961/62. Between the end of 1960/61 and the end of 1961/62, the prices of the purchased input rose by 15 per cent. Some 45 per cent of this occurred during the first five months after devaluation (February–June 1962), whereas there had been virtually no rise at all during the months preceding the devaluation.

The rise in prices during this period was reflected chiefly by the higher prices of packing materials (especially for citrus), transportation services, pesticides and pharmaceuticals, spare parts, tools, repairs, and some other input items. But not all the price increases during this period were connected with the devaluation, either directly or indirectly. Some were due to the beginning of the new fiscal year—such as the rise in water rates and municipal taxes, decided upon already prior to devaluation. The steepest rise in prices occurred during the months July–October 1962, which accounted for approximately 53 per cent of the total increase for the year. This was mainly reflected in the higher prices

of purchased fodder and fertilizers,<sup>1</sup> as well as further increases in the prices of spare parts, pesticides, seeds, etc.

All components of the purchased input became more expensive in 1961/62.<sup>2</sup> The steepest rise in prices, which also had the greatest weight in the general rise of the input price level, occurred in packing materials, where the average increase reached 37 per cent. Next in importance as regards its effect upon the general level of input prices was the rise in the cost of purchased fodder. This came to 5 per cent, and its influence was due to the big weight of purchased fodder in total agricultural input.

Prices of intermediate products went up by 8 per cent, chiefly owing to the higher cost of grains and roughage. The rise in depreciation costs reflects the rise in investment prices.

The expansion of total input<sup>3</sup> (of materials, services, capital, and labor) reached 4 per cent in 1961/62, as compared with the 7 per cent increase in total output. Productivity (i.e. average real output per unit of input) rose by 2 to 3 per cent, after having advanced by 5 per cent in 1960/61 and remaining unchanged in 1959/60. The increase in the productivity of capital and labor (average real output per unit of capital and labor input) reached 5 per cent in 1961/62, as against 12 per cent in 1960/61 and no change in 1959/60. Both productivity indices show that higher productivity was responsible for approximately 60 per cent of the increase in the agricultural product during 1961/62.

**Table X-14**  
**IRRIGATED AREA AND WATER INPUT IN AGRICULTURE,**  
**1956/57 TO 1961/62**

	Unit	1956/57	1957/58	1958/59	1959/60	1960/61	1961/62
Irrigated area	Thousands of dunams	1,100	1,185	1,230	1,300	1,360	1,384
Quantity of water	Millions of m <sup>3</sup>	830	1,000	990	1,060	1,025	1,173 <sup>a</sup>
Quantity of water per dunam	M <sup>3</sup>	755	844	805	815	754	848
	Index	100	112	107	108	100	112
Rainy (+) or dry (-) year		+	-	-	-	+	-

<sup>a</sup> Provisional estimate.

SOURCE: Central Bureau of Statistics.

<sup>1</sup> Fertilizer prices were raised in October 1962, which actually belongs to the agricultural year 1962/63.

<sup>2</sup> The reference here is to the rise in average prices in 1961/62 as compared with 1960/61.

<sup>3</sup> For the method of calculating changes in total input and productivity, see the Appendix to the Bank of Israel Annual Report for 1961 (in Hebrew only).

The big rise in productivity during 1960/61 reflects the termination of the drought. Consequently, even had weather conditions in 1961/62 been similar to those of 1960/61, the rise in productivity would have been slower.

Purchases of fodder increased by only 5 per cent in 1961/62, while the quantity of fodder supplied by the agricultural sector itself declined by 8 per cent. The increase in the number of food units from these two sources is estimated at 2 per cent. According to accepted norms, however, the increase in livestock output during 1961/62 should have resulted in a 7 per cent increase in the consumption of livestock feed. The difference between the latter figure and the actual increase was apparently due in part to the more efficient utiliza-

Table X-15  
CULTIVATED AREA, 1957/58 TO 1961/62<sup>a</sup>

(thousands of dunams)

	1957/58	1958/59	1959/60	1960/61	1961/62 <sup>b</sup>
<b>Unirrigated</b>					
Field crops <sup>c</sup>	2,381	2,494	2,416	2,432	2,326
Vegetables and potatoes	17	17	22	18	21
Orchards	235	237	229	231	233
Miscellaneous	122	122	103	109	100
<b>Total</b>	<b>2,755</b>	<b>2,870</b>	<b>2,770</b>	<b>2,790</b>	<b>2,680</b>
<b>Irrigated</b>					
Citrus <sup>d</sup>	260	280	313	340	365
Other orchards	135	148	165	182	187
Field crops <sup>c</sup>	470	486	504	510	498
Vegetables and potatoes	184	177	178	184	194
Fish ponds	43	46	49	53	55
Miscellaneous	78	83	81	83	85
<b>Total</b>	<b>1,170</b>	<b>1,220</b>	<b>1,290</b>	<b>1,360</b>	<b>1,384</b>
<b>Total cultivated area</b>	<b>3,925</b>	<b>4,090</b>	<b>4,060</b>	<b>4,150</b>	<b>4,064</b>
<b>Index of cultivated area</b>	<b>100</b>	<b>104</b>	<b>103</b>	<b>106</b>	<b>104</b>
<b>Index of irrigated area</b>	<b>100</b>	<b>104</b>	<b>110</b>	<b>116</b>	<b>118</b>

<sup>a</sup> Revised figures.

<sup>b</sup> Provisional estimate.

<sup>c</sup> Grains, fodder, industrial crops, melons, cultivated fallow, and miscellaneous.

<sup>d</sup> According to a partial survey carried out in 1961/62, the area of older citrus groves decreased by 15,000 dunams. In the estimates of the Central Bureau of Statistics only the data for 1960/61 have been revised, whereas in this table the correction has been made retroactively to 1957/58.

SOURCE: Central Bureau of Statistics.

tion of fodder, but in the main to changes in farmers' stocks (for which no data are available), and possibly also to a downward bias in the estimates of fodder crops.

The postponement of price increases in several input components encouraged intensified purchases for stockpiling, in the expectation of a price rise. This was apparently the reason for the much larger purchases of fertilizers, pesticides and pharmaceuticals, and spare parts.

The increase in water consumption reflects the larger average input per dunam, since the irrigated area was only slightly increased in 1961/62.

The cultivated area contracted by 2 per cent: the irrigated area was enlarged by 2 per cent, while the unirrigated area was reduced by 4 per cent. The decrease in the latter was entirely at the expense of field crops; the 4 per cent decline here was due to the smaller area under grains and hay on the one hand, and the increased area of cultivated follow on the other. The expansion of the irrigated area was due to the larger area under orchards and vegetables, whereas the area under field crops declined following a reduction in the areas under sugar beet and groundnuts.

#### 4. INCOMES

Income originating in agriculture (i.e. the net agricultural product at factor prices) increased by IL 35 million in 1961/62, reaching IL 486 million (see Table X-1). This rise of 8 per cent compares with one of 20 per cent in 1960/61 and the stability of 1959/60 and 1958/59. The entire expansion of 1961/62 was due to a real increase in the agricultural product, since the 5 per cent rise in output prices was offset by the 10 per cent rise in input prices, and hence the price of the agricultural product remained unchanged. As the volume of drought compensation was enlarged in 1961/62, total income from agriculture grew faster than income originating in agriculture.

Farmers' incomes rose by 9 per cent, as against 20 per cent in the preceding year, reaching IL 351 million. The farmers' share of total income remained unchanged at the 1960/61 level of 71 per cent. The number of self-employed earners (farmers and their families) apparently declined slightly. Since the average prices of private consumption rose by 8 per cent in 1961/62, real income per self-employed in agriculture apparently rose by 2 to 3 per cent. The input of labor per gainfully employed (measured in terms of work-days) increased, so the real income of the self-employed per work-day probably remained unchanged. The higher labor input per self-employed was made possible by a decrease in the number of self-employed earners, which in turn was due to the improvement in the general employment situation and the existence of better alternative sources of income. The improvement in the employment situation was also reflected in the employment of agricultural workers and their wages. The rate of increase in the income per self-employed in agriculture was not

uniform, apparently varying appreciably in accordance with the composition of output (owing to the changes in the relative profitability of the various branches), as well as with changes in the scale of production.

Wages per work-day in agriculture went up 9 per cent, owing to an increase in the cost-of-living allowance increment, the wage drift, and the rise in wages in alternative occupations such as building. In line with the tendency characteristic of recent years, the increase in the employment of non-Jews, whose wages are lower than those of Jews, exerted a moderating influence on the rise in pay. However, the gap between the wages of Jewish and non-Jewish labor appears to have narrowed.

The input of hired labor (measured in terms of work-days) declined by 1 per cent, and total wages paid to agricultural workers consequently increased by only 8 per cent. This development was due to the combined effect of an increase in the number of work-days in the citrus branch (owing to the larger yields and larger area of citrus groves) and a decline in the number of work-days in the industrial crop branch as a result of the increased mechanization of cotton picking, and a decline in respect of unemployment relief work, especially afforestation.

*Subsidies:* Direct subsidies on output increased in 1961/62 by IL 16.5 million, or approximately 35 per cent, reaching IL 69 million. About 85 per cent of the increment was due to the raising of the average subsidy per unit of output<sup>1</sup> on various products, as part of the Government's policy of preventing a decline in the profitability of production. This was done both by paying compensation for higher input prices and by increasing the subsidies on products showing a drop in average market proceeds. The remaining 15 per cent was due to the expanded output of items benefiting from price supports. The subsidies on cow's milk and eggs were enlarged to compensate farmers for the higher fodder prices, but this was done only in the last quarter of 1961/62 and will be mainly reflected in the volume of subsidies in 1962/63.

Most of the additional subsidies (about 58 per cent of the net increment) were paid on cow's milk, where the amount almost doubled in 1961/62. The average subsidy per liter of raw milk was increased by 67 per cent, to compensate for higher input prices and to offset the decline in average market proceeds.<sup>2</sup> Subsidies on meat, milk, and poultry were also considerably enlarged as part of the effort to guarantee minimum prices for these products. The total subsidy paid out on eggs was smaller, owing to the reduction on exported eggs after the alteration of the exchange rate.

Drought compensation payments were expanded by IL 3.5 million. The subsidies on fertilizers and water were likewise increased, in order to restrain the

<sup>1</sup> As regards products the subsidies on which vary according to their economic destination (e.g. milk, eggs, or cotton), the changes in the average subsidy also reflect the changes in the relative share of each destination and not only changes in the rate of the subsidies.

<sup>2</sup> See the sections dealing with the various agricultural branches.

**Table X-16**  
**AGRICULTURAL SUBSIDIES, 1958/59 TO 1961/62**  
(IL million)

	1958/59	1959/60	1960/61	1961/62
Eggs <sup>a</sup>	11.9	19.4	19.2	17.9
Cow's and ewe's milk	16.2	12.5	10.5	20.1
Beef and poultry meat	0.8	3.3	1.1	6.2
Vegetables and potatoes	7.7	5.1	3.2	4.8
Cotton	4.8	6.8	8.7	10.0
Other products	0.2	1.1	1.7	2.1
Subsidies to new settlements <sup>b</sup>	2.6	2.9	2.8	2.6
Total subsidies				
on output	44.2	51.1	47.2	63.7
Drought compensation	6.2	23.2	4.5	8.0
Fertilizers and water	3.7	3.4	5.4	6.8
Grand total	54.1	77.7	57.1	78.5

<sup>a</sup> Including tax rebate on exported eggs.

<sup>b</sup> Granted by the Jewish Agency.

SOURCE: Ministry of Agriculture and Jewish Agency.

raising of the prices of these inputs. To these subsidies on inputs should rightfully be added the amount by which production costs were prevented from rising as a result of the postponement of price increases in imported inputs<sup>1</sup>—an amount estimated at IL 14million.

It should be stressed that the volume of input and output subsidies does not fully reflect the extent of Government aid to the agricultural sector. Other Government measures have also helped to raise farmers' incomes, including restrictions on output, the barring of competing imports or their heavy taxation, the low rate of interest charged on agricultural loans, etc.

## 5. INVESTMENT

Real gross investment in agriculture expanded by 7 per cent in 1961/62, after having remained stable in 1960/61 and contracting by 5 per cent in 1959/60 (see Table X-17).

The structure of investment showed a continuation of the trends that have prevailed since 1958/59: investment in farms declined by 6 per cent in real terms, but that in public development projects expanded by 22 per cent.

Investment prices rose by an average of 16 per cent, and the value of gross investment went up 24 per cent, to IL 235 million.

<sup>1</sup> See section 3, "Input".

(a) *Investment in farms*

The decline in gross investment in farms affected, as in 1960/61, orchards, irrigation networks, and buildings. Livestock and other investments (mainly in agricultural machinery) were expanded. Some 70 per cent of the contraction was due to the smaller area of new orchards planted, particularly citrus. Real investment in citrus orchards fell off 19 per cent, after having expanded by 7 per cent in 1960/61. The decline in other orchards was more moderate than in 1960/61, amounting to 7 per cent. The smaller volume of investment in citrus was due to a decrease of 8 per cent in the area of new plantations, and one of 23 per cent in the costs of developing young groves not yet yielding fruit.<sup>1</sup> As regards orchards other than citrus, new planting was 45 per cent smaller than in 1960/61, but development costs rose by 27 per cent.

Investment in irrigation networks declined by 26 per cent, accounting for 57 per cent of the total contraction in real investment in farms. The downward trend, which began to appear in 1958/59, is becoming stronger from year to year. This is probably due to the completion of the networks in the older settlements and to the more stringent rationing of water. The latter has led farmers whose water quotas were cut to reduce their investment in irrigation networks, while others, whose water quotas were raised, expanded their investment. The decline in the overall investment in irrigation networks apparently would have been larger were it not for the extensification of water utilization through a changeover from water-intensive crops to crops requiring less water, as well as the smaller quantity of water used per dunam due to acquisition of new know-how in the efficient use of water and to economic considerations connected with the growing relative scarcity of water.

The real decrease of investment in buildings accounted for some 39 per cent of the total decline of farm investment. On the other hand, there was a real increase in investment in livestock, especially cattle. This cut down the decrease of real investment in farms by 25 per cent, and was apparently connected with the greater profitability of cattle farming in 1960/61, as well as to the desire of farmers to assure themselves quotas under the agricultural planning scheme.

The reduced investment in farm buildings, which continued for the third year running together with a bigger investment in livestock, may be explained by the better exploitation of existing buildings.

As regards other farm investment—mainly in tractors, machinery, and other

<sup>1</sup> The estimate of investment in orchards is based on the estimated expenditure on planting and the development of young plantations not yet in the fruit-bearing stage. The changes from year to year are influenced mainly by the area of new plantings, on the one hand, and by the elimination of areas that have begun to yield fruit, on the other. The maintenance costs of fruit-bearing groves do not constitute development expenditure (i.e. investment), but are a part of current expenses.

**Table X-17**  
**ESTIMATED GROSS INVESTMENT IN AGRICULTURE,<sup>a</sup>**  
**1960/61 AND 1961/62**

	Value at current prices (IL million)		Per cent increase or decrease (-) from 1960/61 to 1961/62		
	1960/61 <sup>b</sup>	1961/62	Value	Quantity	Price
<b>Investment in farms</b>					
Orchards	30.7	29.3	-4.6	-14.2	11.2
Of which: Citrus	(19.0)	(17.2)	(-9.5)	(-18.5)	(11.2)
Installation of irrigation networks	13.7	11.0	-19.7	-25.5	7.8
Livestock and farm buildings	27.0	29.0	7.4	0.4	7.0
Of which: Livestock	(10.6)	(13.1)	(23.6)	(23.6)	(0.0)
Farm buildings	(16.4)	(15.9)	(-3.0)	(-14.5)	(13.5)
Equipment and other investment <sup>c</sup>	27.3	40.3	47.6	5.9	39.4
<b>Total</b>	<b>98.7</b>	<b>109.6</b>	<b>11.0</b>	<b>-6.2</b>	<b>18.4</b>
<b>Investment in public development projects</b>					
Irrigation and drainage	70.6	102.9	45.8	29.4	12.7
Afforestation, land reclamation, soil conservation, and natural pasture	20.0	22.0	11.0	-4.0	15.6
<b>Total</b>	<b>90.6</b>	<b>125.1</b>	<b>38.1</b>	<b>22.0</b>	<b>13.2</b>
<b>Grand total</b>	<b>189.3</b>	<b>234.7</b>	<b>24.0</b>	<b>7.2</b>	<b>15.7</b>

<sup>a</sup> Owing to measuring difficulties, investment in the replacement of obsolete equipment (included by definition in gross investment) was excluded from the estimate of investment in the irrigation network, farm buildings, orchards, and water projects.

<sup>b</sup> Revised figures.

<sup>c</sup> The definition of equipment used here is narrower than that used in Chapter V—"Domestic Investment".

SOURCE: Central Bureau of Statistics.

agricultural equipment<sup>1</sup>—there was a real increase of 6 per cent, as compared with 12 per cent in 1960/61, and this reduced the extent of the drop in farm investment by 16 per cent. The slower expansion of investment in agricultural equipment was due to the smaller investment in fish ponds and cotton pickers. Investment in tractors and other types of agricultural equipment was increased.

<sup>1</sup> This agricultural equipment is not identical with the term "equipment" as used in Chapter V, "Domestic Investment", which is wider.

The increase of 39 per cent in the prices of "Equipment and other investment" was mainly due to the devaluation. This rise did not prevent importers from utilizing the import licenses granted them before the devaluation, nor did it prevent farmers from buying all the tractors imported.<sup>1</sup> Moreover, during the months March to December 1962, the number of applications for purchase permits was 44 per cent larger than during the corresponding period of 1961.

Mechanization was intensified in 1961/62. The number of tractors of all types per 1,000 dunams of cultivated area went up 16 per cent, following a rise of 4 per cent in 1960/61 and of 13 per cent between 1958/59 and 1960/61. The growth in 1962 was due to the combined effect of a much larger increase in the number of tractors (14 per cent as compared with 6 per cent in 1960/61) and a 2 per cent decrease in the cultivated area. As in previous years, the em-

Table X-18  
AGRICULTURAL MACHINERY, 1961-62

(End of year)				
	1961 <sup>a</sup>	1962 <sup>b</sup>	Increase	
			Number	Per cent
Absolute figures				
Tractors				
Tracked	1,850	1,877	27	1.4
Wheeled	6,005	7,041	1,036	17.3
Total	7,855	8,918	1,063	13.5
Grain combines	985	1,025	40	4.1
Bailers	935	985	50	5.3
Cotton pickers				
Single-row	62	69	7	11.3
Double-row	58	66	8	13.8
Total	120	135	15	12.5
Per 1,000 dunams				
Tractors	1.89	2.19		15.9
Tracked	0.45	0.46		2.2
Wheeled	1.45	1.73		19.3
Cotton pickers <sup>c</sup>	0.92	0.93		1.1

<sup>a</sup> Revised figures.

<sup>b</sup> Provisional estimate.

<sup>c</sup> In terms of single-row pickers per 1,000 dunams of cotton only.

SOURCE: Central Bureau of Statistics.

<sup>1</sup> A small number of tractors of a type not popular among farmers remained in the importers' warehouses.

phasis was on the import of wheeled tractors, since their cost per hour of work is lower. Despite the smaller increase in the number of cotton pickers as compared with 1960/61, picking capacity<sup>1</sup> was enlarged *pari passu* with the extension of the cotton area.

(b) *Investment in public development projects*

Investment in public development projects expanded by 22 per cent in real terms, as already stated. This was wholly due to the accelerated implementation of water projects, particularly the National Water Carrier. While the real investment in water projects increased by 29 per cent, real investment in land reclamation and conservation rose by only 2 per cent, and that in afforestation, drainage, etc. declined by 10 per cent.

The preliminary estimate of the total investment in the National Water Carrier, including the Yarkon-Negev pipeline, comes to IL 230 million at current prices and IL 280 million at 1962 prices. The amount required for the completion of the original project is estimated at IL 350 million.<sup>2</sup>

## 6. FINANCING

Credit for agriculture is in the main available from public sources<sup>3</sup> and from banking institutions. In addition, the sector has resorted to non-institutional private sources, has traded in promissory notes through banks, and has received credit from suppliers and through various settlement funds and purchasing organizations. The big insurance companies have likewise begun to be active in this sphere. Banking statistics do not include all the credit granted to purchasing organizations under credit to agriculture, since such organizations (which in this instance serve as a channel for the transfer of bank credit to agriculture) are not classified in the agricultural sector.

The sources of public financing have hitherto placed at the disposal of the agricultural sector credit normally granted for long periods ranging from 10 to 20 years and at relatively low interest rates of 6 to 8 per cent. In recent years, an increasingly large proportion of this credit has been linked. The credit granted by the banks has usually been for shorter periods, and carries interest at higher rates—about 9 to 10 per cent per annum. The interest on credit from other sources is higher still.

In contrast to credit from public sources and banking institutions, no reliable data are available on the volume and terms of credit from other sources; more-

<sup>1</sup> In terms of single-row pickers per 1,000 dunams under cotton.

<sup>2</sup> These estimates are based on various sources. The estimate of the amount required to complete the project was made at post-devaluation prices and takes into consideration the price increases likely to occur in the future.

<sup>3</sup> The Government, Jewish Agency, Jewish National Fund, local authorities, Israel Bank of Agriculture, Yaad Agricultural Development Bank, etc.

Table X-19

SOURCES OF FINANCING AGRICULTURAL INVESTMENT,<sup>a</sup> 1961-62

	1961 <sup>b</sup>		1962	
	IL million	%	IL million	%
Total investment in agriculture				
Financed from public funds <sup>c</sup>	160.9	85	203.8	87
Financed from other sources <sup>d</sup>	28.4	15	30.9	13
Total investment in agriculture	189.3	100	234.7	100
Investment in farms				
Financed from public funds	70.3	71	78.7	72
Financed from other sources	28.4	29	30.9	28
Total investment in farms	98.7	100	109.6	100

<sup>a</sup> For definitions of agricultural investment, see note <sup>a</sup> to Table X-16.

<sup>b</sup> Revised figures.

<sup>c</sup> The Government, Jewish Agency, Jewish National Fund, regional authorities, Israel Bank of Agriculture, and Mekorot. This definition differs from that of public financing in Chapter V—"Domestic Investment".

<sup>d</sup> Including savings, farmers' depreciation funds, and bank, commercial, and private credit.

SOURCE: Settlement Department of the Jewish Agency, Jewish National Fund, Accountant General (Ministry of Finance), Ministry of Labor, Israel Bank of Agriculture, Mekorot, and the Bank of Israel.

over, the latter type of credit and its terms are strongly affected by changes in the general market for non-bank credit. The most noteworthy trend in this sphere during 1962 was the sharp switch from non-institutional private sources of credit to trading in promissory notes through banks. The importance of purchasing organizations as suppliers of credit and collectors of market receipts likewise increased.

The growing liquidity of the economy, the development of new credit sources, and the greater degree of organization among farmers, which enabled them to exert more pressure on banking institutions, all these increased the supply of credit available to the agricultural sector. At the same time, the rise in farmers' incomes, the speedier collection of market receipts, and the beginning of fruit-bearing in many groves reduced the need for credit. These factors on the demand and supply side, as well as the debt consolidation activities (the last stage of which was completed during the year under review), improved the financial situation of the agricultural sector and reduced the average rate of interest paid by farmers.

In respect of the demand for credit, the influence of devaluation should have been felt in two ways: (a) through an increase in the outstanding balance of liabilities linked to the dollar; and (b) through higher input prices. If the linkage clause had been implemented as agreed upon, the balance of dollar-

Table X-20  
**OUTSTANDING BALANCE OF SHORT-TERM BANK CREDIT TO AGRICULTURE, 1961-62**  
 (IL million)

	1961 <sup>a</sup>		1962		Per cent increase or decrease (-) from 1961 to 1962			
	End of year	Annual average <sup>b</sup>	End of year	Annual average	End of year		Annual average	
					IL million	%	IL million	%
Channelled credit <sup>c</sup>								
From the resources of banking institutions and Bank of Israel rediscounts	85.7	76.2	100.9	83.7	15.2	18	7.5	10
From Government deposits earmarked for loans for working capital, and from other financial institutions	15.5	15.5	15.3	15.6	-0.2	-1	0.1	1
Total channelled credit	101.2	91.7	116.2	99.3	15.0	15	7.6	8
Unchannelled credit <sup>d</sup>								
From the resources of banking institutions	76.8	72.4	81.0 <sup>e</sup>	78.9	4.2	5	6.5	9
Total outstanding balance of short-term bank credit to agriculture	178.0	164.1	197.2	178.2	19.2	11	14.1	9

<sup>a</sup> Revised figures.

<sup>b</sup> Calculated on the basis of quarterly balances for unchannelled credit and on the basis of monthly balances for channelled credit.

<sup>c</sup> Credit within the framework of exemptions from the liquidity regulations and Bank of Israel rediscounts, from Government deposits earmarked for loans for working capital, from the Jewish Agency, and from the Israel Bank of Agriculture. This definition differs from that of channelled or controlled credit used elsewhere in this report.

<sup>d</sup> Including short-term credit from the Israel Bank of Agriculture, but excluding credit against Government deposits to persons owing income tax. See also note <sup>e</sup>.

<sup>e</sup> The linkage differentials on short-term dollar-linked liabilities reached IL 3.8 million at the end of 1962, and since there was no real increase in the supply of such credit, this increment has not been included in the estimates of outstanding balances.

SOURCE: Bank of Israel.

linked liabilities to the Government and the Israel Bank of Agriculture would have risen by IL 75 million.<sup>1</sup>

In accordance with the farmers' demands,<sup>2</sup> the Government appointed a committee headed by Mr. Gvati, which was charged with: (a) examining the problem of redemption as regards dollar-linked loans granted to agricultural settlements for development and housing purposes;<sup>3</sup> and (b) deciding the method and terms of linkage with respect to new loans.

At the end of 1962, the Government approved the recommendations of the above committee, the most important of which provide as follows:

1. For the next three years, the linkage of redemption payments will not apply to most loans granted for mixed farming.

2. The outstanding balance of the liabilities on devaluation day will be linked to the consumer price index instead of to the dollar. The conversion of the link will apply only to the outstanding balance (i.e. it will not be retroactive to the date on which the loan was received).

3. As regards loans for mixed farming, financing investment in housing, or the planting of citrus orchards, the dollar link will likewise be converted to an index link, which will apply to the outstanding balance only. Concerning the balance after revaluation, farmers will be entitled to choose between continuing with the link agreed upon or accepting the conditions governing new loans.

4. Other loans, such as those for the planting of citrus on other than mixed farms, for fishing, for regional projects, farm buildings, regional councils, etc., will receive less convenient terms—roughly equal to those granted to other borrowers in the economy.

5. As regards new loans, farmers will be able to choose between the link to the consumer price index and no link at all, but in the latter case the rate of interest will be 3 per cent higher.

The exact significance of these decisions upon the extent of farmers' liabilities is still unclear, both because the Israel Bank of Agriculture has not yet prepared a summary of its accounts and because not all farmers have as yet decided upon their future terms of linkage. At any rate, the linking clauses were in practice not implemented during 1962, and thus did not affect the demand for credit. Moreover, since it was decided to postpone the application of these clauses for at least an additional three years in respect of most agricultural loans, the growth of the linked debt will exert only a moderate influence upon the demand for credit in the years to come. During the first weeks after devaluation, there was,

<sup>1</sup> Dollar-linked liabilities of the agricultural sector totalled IL 145 million on devaluation day (there were various degrees of linkage). Index-linked liabilities totalled IL 12 million on the same date.

<sup>2</sup> Farmers originally preferred the dollar link to the index link, in the belief that incomes from farming would not keep pace with the rise in the index, while in the event of devaluation a re-examination of the entire question could be demanded.

<sup>3</sup> From the letter of appointment of the committee, dated February 29, 1962.

to be sure, an increase in the demand for credit in order to redeem various loans at the old exchange rate, but provisional data from the Israel Bank of Agriculture show that the total amount redeemed was very small.

Another direct effect of the devaluation on the demand for credit stemmed from the higher prices of agricultural inputs. Deliberate Government measures postponed price increases in most of the sector's inputs until July 1962. During that month the effect of price increases presumably remained small, owing to the stocks farmers succeeded in accumulating between the date of devaluation and the time when devaluation was actually enforced as regards agricultural inputs (no surcharge was imposed on the stocks held by farmers).

As a result of the measures postponing increases in input prices and the failure to apply the linkage clauses of loans, devaluation exerted only a mild effect upon the growth of the demand for credit throughout most of 1962. Since the supply of domestic credit grew substantially, the bigger demand did not lead to a worsening in the terms of credit.

*Credit from public sources:* Credit granted to agriculture from public sources totalled IL 204 million in 1962—an increase of IL 43 million as compared with the preceding year. The Government supplied 59 per cent of the increment, granting altogether IL 104 million. A further 27 per cent—or IL 66 million—was supplied by the Jewish Agency, while the remaining IL 34 million was provided by the Jewish National Fund, local authorities, the Israel Bank of Agriculture, and Mekorot.

Most of the credit from public sources is long-term credit granted on relatively convenient terms, and in the main is earmarked for the financing of investments. The proportion of gross agricultural investment financed by such credit remained the same in 1962 as in 1961.

Since the investments in public development projects in agriculture presumably were financed entirely by loans from public sources, the credit available from these sources for investment in farms totalled an estimated IL 79 million—or 72 per cent of the total gross investment in farms. In 1961 credit from public sources financed a similar proportion of gross investments in farms. It is noteworthy in this connection that the financing of investments from other than public sources has for several years past been appreciably smaller than the allocations for depreciation. In 1961/62 such allocations totalled IL 63 million—approximately double the value of credit supplied from non-public sources.

Following the rise in investment prices, the real volume of credit from public sources for investment in farms actually declined by 6 per cent. In view of the planned restriction of production and investment, a bigger decline might have been expected, particularly since farmers staged a "borrowers' strike" against the sources of public credit. During the period immediately preceding the devaluation, farmers refused to accept linked loans for fear of devaluation, whereas afterward they refrained from assuming such liabilities until the Gvati committee had completed its deliberations.

Table X-21

**AVERAGE ANNUAL BALANCE OF CHANNELLED AGRICULTURAL CREDIT,  
BY DESTINATION, 1961-62**

Destination	1961 <sup>a</sup>		1962		Increase or decrease (-) from 1961 to 1962		
	IL million	%	IL million	%	IL million	Per cent	
						1961 to 1962	Weight in 1962 credit increment
Industrial and field crops	34.9	38	36.2	36	1.3	4	17
Citrus growing	18.3	20	18.3	18	0.0	0	0
Livestock, livestock products, and fodder	8.4	9	11.0	11	2.6	31	34
Other stocks and miscellaneous	5.6	6	8.3	8	2.7	47	35
Undefined	24.5	27	25.5	27	1.1	4	14
<b>Total</b>	<b>91.7</b>	<b>100</b>	<b>99.3</b>	<b>100</b>	<b>7.6</b>	<b>8</b>	<b>100</b>

<sup>a</sup> Revised figures.

SOURCE: Bank of Israel.

The small contraction in the real volume of investment in farms financed from public sources may be explained chiefly by the decisive proportion of such investment financed by the Settlement Department of the Jewish Agency. Approximately 90 per cent of Government financing is earmarked for water development and drainage projects, while the Jewish Agency has been financing most of the investment in farms. Its share in the financing of such investment has reached 60 per cent—i.e. three-quarters or more of the total volume of public funds available for this purpose. The real volume of credit granted by the Jewish Agency to agriculture increased by 8 per cent in 1962.

*Credit from banking institutions:* Short-term bank credit to agriculture, as reflected by quarterly and monthly balances, increased in 1962 by an average of IL 14 million, or 9 per cent. The outstanding balance of such credit at the end of the year reviewed was IL 19 million—or 11 per cent—larger than at the end of 1961 (see Table X-20). In 1961 the situation was different, the average annual balance being higher than the end-year balance.

The increase in the average annual balance of short-term bank credit was divided equally between controlled and uncontrolled credit. The plans for the channelling of credit to agriculture are fixed annually by the Ministry of Agriculture and the Bank of Israel, the intention being to stimulate the production of essential commodities and products profitable from the general economic

aspect with the aid of credit granted for the most part at exceptionally low rates of interest. The sources for such credit are exemptions from the liquidity regulations, Government deposits earmarked for the granting of loans for working capital, and joint funds.

Some 35 per cent of the channelled credit granted in 1962 was for financing stocks, such as the storage of potatoes, canned goods, alcohol distilled from wine grapes, fishing boats, etc. Another 34 per cent was allocated to the livestock branches, and 17 per cent was for industrial and field crops.

A further 14 per cent was utilized for unspecified purposes through purchasing organizations, funds belonging to settlement movements, companies, private farms, and individuals. These bodies received farm credit the exact purpose of which was not fixed in advance.

Of the total increment of controlled credit in 1962, 39 per cent was channelled to the following uses: financing the rapidly growing stocks of hard cheeses, butter, and wine grapes, and financing sugar beet cultivation. The weight of such credit in the total average annual balance reached 14 per cent in 1962. It should be recalled that in some of these spheres agricultural planning is aimed at freezing or even limiting the volume of production.