

CHAPTER X

AGRICULTURE

1. MAIN DEVELOPMENTS

THE NET AGRICULTURAL PRODUCT, calculated at constant producer prices, expanded by 3.8 percent in 1969/70¹ (see Table X-1), following a moderate rise of 2.1 percent in 1968/69 and a standstill in 1967/68. Total output, which includes agricultural intermediates, went up even more rapidly—by 5.7 percent, compared with 2.6 percent in the preceding year.

The milder gain in the real product compared with real output is explained primarily by the fact that in the year under review approximately half of the increase in the latter was due to the larger output of livestock farming—where the product component of output is lower than that for crops—while in 1968/69 livestock farming contributed only 25 percent of the output increment. The third consecutive year of drought was another factor reducing the real growth of the product relative to output, as it necessitated much larger inputs of purchased fodder and water—the percentage increase in these items exceeded that of both the output of livestock farming and the irrigated area under cultivation.

Output gains were also held down by the drought, as indicated by the fact that real agricultural output exclusive of intermediates (which are the most vulnerable to drought) expanded at a faster rate than total output in 1968/69—6.3 as against 2.3 percent.

Noncitrus agricultural exports advanced strongly in the year surveyed, continuing a long-run trend; in the last five years the average annual increase amounted to 11.6 percent (compared with a growth of some 5 percent in total agricultural output).

Such exports accounted for 26 percent of the total output increment at constant prices in 1969/70, compared with approximately 78 percent in the previous year; but it should be noted in this context that the weight of these exports within total agricultural output, which was less than 5 percent in 1967/68, reached almost 8 percent in the year reviewed.

The rising trend in noncitrus agricultural exports and their larger weight in total agricultural output are a reflection of a policy designed to overcome the constraints imposed by the limited domestic market by diverting a greater portion of the additional supply to exports and thereby permit the

¹ This chapter refers to agricultural years, beginning in October and ending in September.

Table X-1
CURRENT ACCOUNT OF AGRICULTURE, 1968/69 AND 1969/70
(IL million)

	Value at current prices		Percent annual increase or decrease (-) in 1969/70		
	1968/69 ^a	1969/70	Value	Quantity	Price
1. Total output at producer prices	1,922.4	2,029.3	5.6	5.7	-0.1
2. Less: Agricultural intermediates	159.9	164.9	3.1	-1.1	4.3
3. Agricultural output at producer prices	1,762.5	1,864.4	5.8	6.3	-0.5
4. Less: Subsidies on output ^b	103.2	104.5	1.3	4.1	-2.7
5. Agricultural output at market prices	1,659.3	1,759.9	6.1	6.4	-0.4
6. Less: Purchased input	709.1	791.6	11.6	9.4	2.0
7. Gross agricultural product at market prices	950.2	968.3	1.9	4.2	-2.3
8. Less: Depreciation	132.6	153.7	15.9	6.9	8.4
9. Net agricultural product at market prices	817.6	814.6	-0.4	3.8	-4.0
10. Plus: Subsidies on output	103.2	104.5	1.3	4.1	-2.7
11. Net agricultural product at producer prices	920.8	919.1	-0.2	3.8	-3.9
12. Plus: Drought compensation, etc.	10.3	23.6	129.1	—	—
13. Total income from agriculture	931.1	942.7	1.2	—	—
14. Less: Wages of hired labor	213.6	239.5	12.1	—	—
15. Less: Interest and rent	63.0	70.0	11.1	—	—
16. Income of farm owners from agriculture	654.5	633.2	-3.3	—	—

NOTE: Rates of change have been calculated from unrounded figures.

^a Revised figures.

^b The change in quantity reflects the real change in subsidized output; the change in price reflects the change in the average subsidy rate per unit of subsidized output.

SOURCE: Central Bureau of Statistics.

further expansion of the agricultural product and output. Indeed, the second half of the sixties witnessed a firming of the growth rates of real agricultural output and product¹—albeit at the moderate level of some 5 to 7 percent per annum—after they had drifted steadily downward from the mid-1950s (see Figure X-1).²

The stabilization of the product and output growth rates was also mirrored by a turnabout in agricultural investment (exclusive of afforestation): whereas in 1958–66 such investment had described a steadily declining curve, since 1967 there has been a reversal of direction. Evidence of this change can also be seen in the accelerated expansion of the real gross capital stock in 1970, after growth had sagged throughout most of the sixties.

In 1969/70 the crop branches showed an output gain of 5.6 percent, after

¹ A detailed discussion of the stabilization of the growth rates of the agricultural product and output will be found in section 2(b) below.

² On the reasons for the decelerated growth of agriculture during the period discussed, see Bank of Israel, *Annual Report, 1966*, pp. 259–62.

a rise of 4.4 percent the year before, while in livestock farming the gain was even faster—6.9 percent as against 1.5 percent in 1968/69.

Citriculture accounted for most of the incremental crop output in the year reviewed. Overseas sales of citrus were up 15.7 percent in real terms, but prices slipped nearly 14 percent owing to the much larger quantities supplied by all the exporting countries. The sharply lower prices received by citrus growers, coupled with only a moderate price rise in other produce marketed locally for direct consumption or sold to industry, depressed producer prices of output by 0.1 percent.

This slight decrease, combined with the dearer cost of purchased inputs and an increase in depreciation, brought down the producer prices of the net agricultural product by 3.9 percent. As a result, income originating in agriculture (i.e. the net agricultural product at producer prices) edged down 0.2 percent, even though real net product increased by 3.8 percent.

Total income from agriculture still went up 1.2 percent as a consequence of a 129 percent jump in compensation payments to farmers to cover losses from drought, the incidence of Newcastle disease in the poultry branch, and other natural damage; part of the losses were sustained in 1968/69, but compensation was paid only in the year under review.

The moderate gain in total income from agriculture, along with a comparatively big increase in wage payments to hired labor and in interest and rent outlays (12.1 and 11.1 percent respectively), reduced farm proprietors' income from agriculture by 3.3 percent, after it had gone up by 6 percent in 1968/69 and 5.3 percent in 1967/68.

Citriculture was responsible for the entire decrease in income. The 13.9 percent drop in prices obtained abroad in 1969/70 dampened growers' earnings by about 28 percent. In other branches income rose by about 2.5 percent.

Government payments were up 9 percent in the year reviewed, but almost all of the increase was due to sharply higher compensation payments for drought and other natural damage. The tendency to trim factor subsidies continued in 1969/70, but this had a marginal effect since the reductions went into force at the end of the agricultural year (August 1970); their impact will be fully felt only in 1970/71.

Direct subsidies on output edged up 1 percent, the net result of a 4.1 percent rise in the quantity of subsidized output and a 2.7 percent decline in the average subsidy per unit of output (which had dropped in 1968/69 by 4.5 percent).

After a moderate rise of 1.7 percent in 1968/69, inputs purchased from other sectors went up by a substantial 9.4 percent in the year reviewed. Most of the increase was in fodder, owing to the expansion of the livestock inventory, and in water consumption, due to the drought and the expansion of irrigated crop acreage. Consumption of packing materials and transport services also rose markedly as a consequence of the strong gain in farm exports. The input of

labor, measured in man-hours according to manpower survey data, continued downward, by 2.3 percent (roughly the same as in 1968/69). There was a 2.4 percent improvement in total productivity, following an advance of 2.3 percent in 1968/69; factor productivity grew by 4.4 percent—approximately the same rate as in the preceding year.

2. OUTPUT

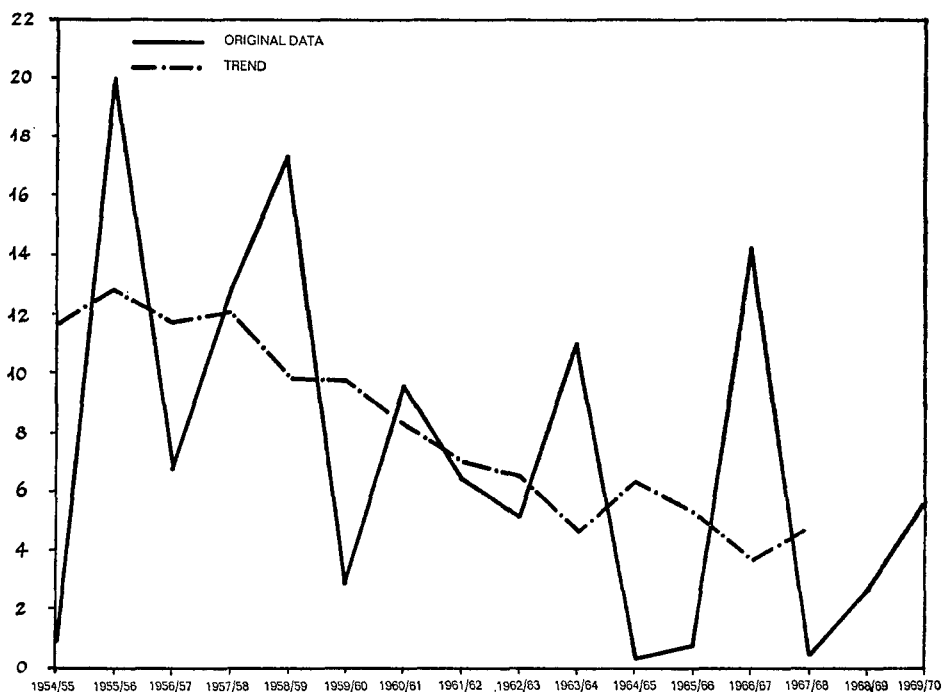
(a) *Value of output*

Total agricultural output (including the value of intermediates consumed) rose in 1969/70 by 5.7 percent in real terms, compared with only 2.6 percent the year before. Both livestock and crop farming contributed to the more vigorous growth rate: output of livestock and livestock products was up 6.9 percent, as against 1.5 percent in 1968/69, while crops advanced 5.6 percent (4.4 percent in the preceding year).

While real output expanded strongly in the year reviewed, there are signs that growth has more or less tapered off at a 5–7 percent level, after having sagged

Figure X-1

REAL CHANGES IN TOTAL AGRICULTURAL OUTPUT, 1954/55 TO 1969/70



NOTE: The trend has been calculated from moving five-year averages.

throughout most of the sixties (see Figure X-1); from an annual average increase of 12-13 percent in the late fifties, the rate dropped to 8-10 percent in the first half of the sixties and to 4-7 percent in the second half.

This stabilizing of the growth rate at a modest 5-7 percent is explained by the change in the structure of farm output during the past decade with a view to adjusting it to changes in final demands, taking into account the constraints imposed by the available factors of production. This process of adjustment has resulted in the slower expansion of supplies for direct domestic consumption and a rise in the proportion of output destined for export and industrial processing.

In recent years the demand for agricultural products for direct domestic consumption went up at an average annual rate of 4.5-5.5 percent; this reflected an aggregate income elasticity of 0.4-0.5 for this destination, an average annual increase of 5-6 percent in real disposable income per capita, and an average annual population growth of 2.7 percent. The adjustment of the farm production program to this more moderate growth of domestic demand, which was accompanied by the creation of "surpluses" in the first half of the sixties, entailed structural changes such as those described above—namely, an effort to increase the share of output allocated to export and industry and thereby give a boost to the entire sector. And indeed, agricultural exports increased by some 10 percent per annum between 1963/64 and 1969/70 and by more than 11.5 percent per annum in the past five years, outpacing gains in total output and accounting for 22-23 percent of total output in the last two years.

In effecting these adjustments resort was had to such measures as the increased use of water-economizing techniques and the placing of greater stress on crops requiring less water per unit of output—chiefly winter vegetables and crops grown under cover, which are destined primarily for overseas markets.

The total farm value of agricultural output was up 5.7 percent in 1969/70 (in line with the long-run rising trend of 5-7 percent per annum). Much of the increase stemmed from the sizable output gain of some 7 percent in livestock and livestock products following a virtual standstill in the previous year. Another part was due to the continued rapid uptrend in crops—5.6 percent as against 4.4 percent in 1968/69; the main growth factors in the year reviewed were the much bigger citrus crop (which had contracted in 1968/69) and a further expansion of vegetables, flowers, sugar beet, groundnuts, and certain noncitrus fruits.

Working in the other direction were the much smaller cotton and olive crops, the reduced supply of some noncitrus fruits, and a decrease in field crops because of the drought and unfavorable rainfall distribution.

(b) *Destinations of output*

The value of marketed output rose 6.1 percent in 1969/70 (see Table X-2), after going up 6.6 percent in the previous year. The somewhat milder growth

Table X-2
TOTAL AGRICULTURAL OUTPUT, BY DESTINATION, 1968/69 AND 1969/70
(IL million)

	Value at current prices		Percent annual increase or decrease (-)		
	1968/69 ^a	1969/70	Value	Quantity	Price
Output marketed					
Direct domestic consumption ^b	713.1	771.8	8.2	6.8	1.4
Industry	476.6	482.0	1.2	-2.3	3.6
Direct export	433.0	467.9	8.1	17.9	-8.3
Total	1,622.7	1,721.7	6.1	7.1	-0.9
Output retained on farms					
Own consumption	82.2	87.1	5.8	1.8	3.9
Capital goods	57.7	55.5	-3.8	-9.2	5.9
Agricultural raw materials (intermediates)	159.9	164.9	3.2	-1.0	4.2
Total	299.8	307.5	2.6	-1.5	4.2
Grand total	1,922.4	2,029.2	5.6	5.7	-0.1

NOTE: Rates of change have been calculated from unrounded figures.

^a Revised figures.

^b Including the value of crops destroyed.

SOURCE: Central Bureau of Statistics.

in 1969/70 was due to a fall of approximately 1 percent in prices, after they had moved up 3.1 percent in 1968/69. This decline stemmed from the lower prices fetched by citrus abroad; prices obtained by farmers for produce marketed locally for direct consumption went up, but more slowly than in the previous year, while those paid by the canneries held firm.

The weight of marketed output within the total edged up from 84.4 percent in 1968/69 to 84.8 percent. This continued a trend evident since the early sixties, which can be ascribed to a decline in the output of capital goods and virtual stability in own consumption (by farm households). In 1969/70 there was also a smaller output of agricultural intermediates.

At constant prices, marketed output expanded in 1969/70 by approximately 7 percent (see Table X-2), as against 3.3 percent in 1968/69, owing to a strong increase in the volume of produce marketed abroad.

Of the total real increase in marketed output, approximately 67 percent¹ was sold abroad, while the remainder went to industry and to the domestic market for direct consumption. This distribution reflects to some extent the efforts made by farmers to overcome the limitations of the small home market, but it should be noted that citrus exports were responsible for much of the

¹ The weight of the export increment (including citrus) within the total growth of agricultural output was even larger—71 percent as against 45 percent in 1968-69—because of a decline in the proportion of output retained on farms.

Table X-3
AGRICULTURAL EXPORTS, 1968/69 AND 1969/70
(IL million)

	1968/69 ^a	1969/70	Percent increase or decrease (-) in 1969/70		
			Value	Quantity	Price
Field crops	50.9	51.8	1.8	-4.3	6.5
Vegetables, potatoes, melons	18.9	33.7	78.4	78.5	-0.1
Citrus	313.7	312.4	-0.4	15.7	-13.9
Other fruit	13.2	16.2	22.5	13.6	7.8
Eggs	7.4	7.9	7.1	6.9	0.2
Meat	8.1	12.7	55.9	54.5	0.9
Fish	0.8	1.3	69.8	40.6	20.8
Flowers, seedlings, decorative plants and vegetable seeds	13.6	24.1	77.0	54.4	14.6
Miscellaneous, livestock	6.5	8.0	22.1	16.1	5.1
Total, excluding citrus	119.4	155.7	30.4	23.6	5.5
Total	433.1	468.1	8.1	17.9	-8.3

NOTE: Rates of change have been calculated from unrounded figures.

^a Revised figures.

SOURCE: Central Bureau of Statistics.

expansion of marketed output in 1969/70 (42.8 percent). Nevertheless, the contribution of noncitrus exports to the increment was quite high (25 percent), bringing up their weight in total marketed output from 7.3 percent in 1968/69 to 9 percent in the year reviewed.

The above developments were reflected by impressive gains in various non-citrus exports (see Table X-3). Potatoes, vegetables, and melons¹ posted a 78.5 percent real increase; flowers—71 percent; fish—40 percent; meat—54 percent; groundnuts—51 percent; and bananas—30 percent. In contrast to this, cotton slumped 22 percent (at constant prices) and avocados by 28 percent, because of adverse weather conditions. In the case of vegetables, flowers, and even citrus, the favorable weather during the winter of 1969/70 was one of the reasons for the vigorous growth of overseas sales.

Export prices slipped 8.3 percent in the year reviewed because of a 13.9 percent drop in those commanded by citrus; consequently, the value of exports rose by only 8.1 percent (compared with 6.8 percent in 1968/69), despite the much greater quantities shipped abroad. The weight of exports within total marketed output at current prices thus moved up only slightly—from 26.7 percent in 1968/69 to 27.2 percent—as did their weight in total agricultural output at current prices—from 22.5 to 23 percent.

¹ In this chapter data on melons also include watermelons and pumpkins.

Output sold to industry contracted in real terms for the second consecutive year—by 2.3 percent, after a decline of 1.6 percent in 1968/69. The drought reduced field crop yields (cereals and pulses), but supplies to industry of other crops, which are not dependent on the amount of precipitation, also fell off in 1969/70. Lower industrial sales were recorded for citrus (9 percent), other fruit (27.5), cotton (1.8), vegetables (13.5), and cereals and pulses (34).

The drop in the supply of citrus to the canneries was connected partly with the higher percentage of export-quality fruit and partly with the fact that some fruit which normally would have been sold to industry was exported because of less stringent quality control.

In noncitrus fruit there was a similar reason for the smaller quantities diverted to industry. Because of the reduced supplies of certain better-grade fruits, growers could earn more by marketing for direct sale to consumers inferior-grade fruit generally regarded as suitable only for canning.

Cotton supplies to industry dropped off because of much smaller yields in 1969/70. Since the Cotton Board had contracted to supply a given quantity to the domestic market, the low yield chiefly affected exports (these were down 22 percent).

Vegetables were sold to industry in reduced quantities mainly because there were virtually no surpluses in the home market, after they had already shrunk drastically in 1968/69. Since the canning industry was for many years dependent for supplies on the creation of "surpluses" of fruit and vegetables fit for direct consumption, it was hampered by the irregularity of supplies. In recent years, however, an effort has been made to grow vegetables specifically for industrial processing. For example, a strain of tomatoes suitable for mechanized cultivation was introduced by the kibbutz economy, and the area under this crop is expanding rapidly. Similarly, the area under apricot has been extended with the expansion of the canneries' capacity, and in the year reviewed the output of such industrial crops as sugar beet and groundnuts was stepped up, as was that of livestock products (milk and meat), which undergo industrial processing but are destined exclusively for the local market.

Growers received 3.6 percent higher prices for their output sold to industry in 1969/70; this followed a rise of approximately 3 percent the year before. The biggest increases were recorded for cotton, vegetables, citrus, and other fruit, whose supplies for this destination fell off. The value of output marketed for direct domestic consumption (at current producer prices) went up 8.2 percent in 1969/70 (see Table X-2), following a rise of 11.2 percent in the preceding year. The smaller increase in the year reviewed is explained by the mild rise in producer prices—1.4 percent as against some 4 percent in 1968/69. At constant producer prices, supplies for direct consumption expanded at about the same rate in both years—6.8 percent in 1969/70 and 6.9 percent in 1968/69.

As regards output for direct consumption, it is difficult to determine whether or not the growth of supplies has been adjusted to the growth of demand. The

difficulty stems from several factors: prices of some products are controlled (e.g. eggs and milk); in certain other items, in order to maintain the guaranteed minimum price the production and marketing boards have been withdrawing surpluses from this market and diverting them to industry or export; guaranteed minimum prices have also been set for meat products, but in the last two years there has been an import of frozen meat sold at fixed prices irrespective of the quantity; and price supports are paid on various agricultural products.

Since the income elasticity of produce sold for direct domestic consumption is about 0.4 to 0.5, and considering that real disposable income per capita rose about 2 percent in 1969/70¹ and the population by 2.7 percent, a real increase of 3.8–4 percent in supplies for this destination presumably would more or less match the growth of demand. In actual fact, supplies expanded by 6.8 percent in real terms, and if products consumed locally after industrial processing (milk, meat, and fish) are included, the increase was even higher—7 to 7.5 percent.

It may therefore be concluded that the growth of supplies for this destination outpaced that of demand. An examination of various component items confirms this conclusion. Egg supplies were up 9.7 percent, even though consumption grew by only 4 percent; however, it should be noted that part of the additional supply replaced imports which were instituted in 1967/68 when Newcastle disease decimated the poultry-runs and local production could not meet all of the demand. The supply of milk and dairy products also expanded faster than demand, as reflected by a 6 percent decrease in sales of imported milk powder. The quantities of vegetables, potatoes, and melons shipped to the market were

Table X-4
OUTPUT OF AGRICULTURAL CAPITAL GOODS, 1968/69 AND 1969/70
(IL million)

	Value at current prices		Percent annual increase or decrease (-) in 1969/70		
	1968/69 ^a	1969/70	Value	Quantity	Price
Livestock	6.8	9.2	35.3	35.3	0.0
Orchards	20.4	20.9	2.5	-6.4	9.4
Land reclamation and conservation, drainage, pasture, etc.	12.0	11.0	-8.3	14.2	6.8
Afforestation	18.5	14.4	22.2	-25.4	4.3
Total	57.7	55.5	-3.8	-9.2	5.9

^a Revised figures.

SOURCE: Central Bureau of Statistics.

¹ It should be recalled that the reference is to the agricultural year ending September 30, 1970. Since the compulsory loans imposed in April 1970 began to influence consumer behavior only two or three months later, their effect during the period in question was minimal; hence we have assumed a 2 percent rise in real disposable income per capita.

up 9 percent, depressing consumer prices by over 2 percent. The volume of fruit, including citrus, rose by 3 percent, but producer prices edged up only 1 percent, so that their relative price actually declined.

The value of output retained on the farm continued downward in real terms, in line with the trend discernible since the early sixties. At current prices, there was a slight increase in the year reviewed, a 1.5 percent quantity decrease being more than offset by a rise of nearly 6 percent in the prices of capital goods (see Table X-4).

The decline in the output of capital goods embraced all component items (see Table X-4) except livestock, where the value of the increment to the inventory continued to expand rapidly because of the steady expansion of cattle farming.

The year reviewed also saw a smaller output of agricultural raw materials (intermediates), owing chiefly to the drought and an unfavorable rainfall distribution. The real decrease, however, was only 1 percent, since a decline in field crops was partly offset by a rise in hatching eggs, whose output has been growing steadily since the stamping out of Newcastle disease.

(c) Output by type of farming

1. Livestock

(i) Cattle farming

Real output of livestock and livestock products moved up by a substantial 6.8 percent in 1969/70 (see Table X-5), after a rise of only 1.6 percent the year before. Topping the list was milk, which was up 8 percent, as against 3.7 percent in the preceding year; but meat also registered a 4.1 percent advance, after declining 1.7 percent in 1968/69.

The larger supply of meat in 1969/70, despite the continued growth of the livestock inventory and of exports of heifers from the dairy herd, is explained by the 66 percent increase in the value of the livestock inventory in the previous year, which enlarged dairy herds.

Most of the beef is obtained from dairy herds—by selection, the culling of cows going out of production, and above all, from young cattle, such as fattened steer calves. When dairy herds begin to expand rapidly, this is reflected first of all by the postponement of the culling of milch cows and their withdrawal from milk production. As for the slaughter of calves, initially there is no increase in beef output from this source, since their fattening period lasts a year or longer. Thus, meat supplies were lower in 1968/69 and larger in 1969/70, in which year, as mentioned above, livestock inventories and heifer exports continued to increase.

These developments were reflected by the doubling of the percentage rise in milk supplies (at constant prices) in the year under review. This in turn made it possible, among other things, to reduce milk powder imports by approximately 6 percent. The rest of the output increment was used mainly for dairying. Sales of

Table X-5

**CURRENT AGRICULTURAL OUTPUT,^a BY TYPE OF FARMING,
1968/69 AND 1969/70**

(IL million)

	Value at current prices		Percent annual increase or decrease (-) in 1969/70		
	1968/69 ^b	1969/70	Value	Quantity	Price
Livestock					
Poultry					
Eggs	158.0	171.0	8.3	7.8	0.4
Meat	205.3	228.0	11.1	9.7	1.3
Miscellaneous	8.8	9.0	1.1	1.1	0.0
Total	372.1	408.0	9.6	8.7	0.9
Cattle					
Milk	170.2	185.2	8.8	8.0	0.7
Meat	104.2	109.2	4.8	4.1	0.7
Miscellaneous	13.3	15.2	14.4	12.2	1.9
Total	287.7	309.6	7.6	6.8	0.8
Other livestock					
Milk	22.9	25.7	12.1	-1.9	14.2
Meat	43.2	45.6	5.5	2.0	3.5
Fish	41.8	45.7	9.4	2.6	6.6
Miscellaneous	6.5	6.8	6.0	-4.0	10.4
Total	114.4	123.8	8.3	1.1	7.1
Total livestock	774.2	841.4	8.7	6.9	1.7
Crops					
Citrus	379.8	382.8	0.8	12.3	-10.2
Other fruit	208.1	207.9	-0.1	0.1	-0.2
Vegetables	147.8	169.4	14.7	10.5	3.8
Melons	27.1	34.0	25.4	6.8	17.4
Potatoes	28.8	32.1	11.4	20.2	-7.3
Cereals and pulses	65.6	54.6	-16.7	-18.1	1.7
Industrial crops	137.9	142.0	2.9	-3.2	6.3
Fodder	62.5	65.7	5.0	-2.4	7.6
Flowers, seedlings, and decorative plants	18.2	28.1	54.7	47.1	5.1
Miscellaneous	14.7	15.7	7.0	4.3	2.6
Total	1,090.5	1,132.3	3.8	5.6	-1.7
Total current output	1,864.7	1,973.7	5.8	6.1	-0.3

NOTE: Percentage changes have been calculated from unrounded figures.

^a Marketing, on-farm consumption, and intermediate goods (agricultural raw materials).^b Revised figures.

SOURCE: Central Bureau of Statistics.

hard cheese were up 13.8 percent, liquid cultured milk products by 9.2 percent, and soft cheeses by 7 percent. As in the previous year, sales of dairy products outstripped those of milk, reflecting the appreciably higher income elasticity of demand for the former.

Producer prices of meat and milk remained virtually unchanged in 1969/70 (they edged up only 0.7 percent). In the case of milk this can be ascribed to the fact that milk and dairy product prices are controlled, while in the case of beef (which carries a guaranteed minimum price) the excess demand was met by larger imports of frozen meat, whose prices are fixed regardless of the quantity supplied. Sharply higher poultry-meat supplies in 1969/70 (up about 10 percent—see Table X-5) undoubtedly also helped to stabilize beef prices.

(ii) Poultry farming

After moving up only 3.3 percent in 1968/69, the real output of poultry farming increased by 8.7 percent in the year under review. Egg production rose 7.8 percent, as contrasted with 1.2 percent in the previous year, while poultry-meat was up 9.7 percent (5 percent in 1968/69). These advances were due almost entirely to the eradication of Newcastle disease, which had begun to subside in 1968/69.

Farmers received 0.4 percent more for their eggs in 1969/70 and 1.3 percent more for poultry-meat. They were allowed to charge higher prices on these items as compensation for the dearer cost of feed after the lifting of the subsidy in the year reviewed.

Egg output expanded more rapidly than consumer demand, but part of the increment replaced imports, instituted two years earlier when Newcastle disease drastically curtailed domestic production. In line with the rising trend in poultry farming, the output of hatching eggs also went up in the year reviewed.

2. Crops

(i) Citriculture

The value of citrus output at producer prices edged up nearly 1 percent in 1969/70, after declining by a similar rate the year before.

Whereas in 1968/69 a drop in quantity was only partly offset by a rise in prices, the year reviewed witnessed a 12.3 percent quantitative increase, which was not entirely offset by the 13.9 percent dip in citrus prices.

The rapid growth of real citrus output in 1969/70 is explained partly by the quantitative increase¹ (57 percent of the increment) and partly by an improve-

¹ Part of the real change represents a change in quality, since the reference is to a product that is sold at differential prices to various economic destinations. When the allocation of a given quantity to the various destinations undergoes a change, this stems from a change in quality. Since the export prices of citrus are higher than those obtainable locally, a rise in the proportion of exports within total output will lead to a real increase attributable to an improvement in quality.

Table X-6

CITRUS OUTPUT, BY ECONOMIC DESTINATION, 1968/69 AND 1969/70

	Quantity ('000 tons)		Value at current prices (IL million)		Percent annual increase or decrease (-) in 1969/70		
	1968/69 ^a	1969/70	1968/69 ^a	1969/70	Value	Quantity	Price
Direct export	697.5	815.7	313.7	312.4	-0.4	15.7	-13.9
Industry	359.9	324.7	33.2	33.4	0.8	-9.0	10.8
Domestic consumption ^b	93.7	94.1	27.5	31.5	14.4	0.9	13.4
On-farm consumption	27.0	27.5	5.4	5.5	1.8	1.8	—
Total	1,178.1	1,262.0	379.8	382.8	0.8	12.3	-10.2

NOTE: Rates of change have been calculated from unrounded figures.

^a Revised figures.

^b Including private sales.

SOURCE: Central Bureau of Statistics.

ment in quality (43 percent), which was reflected by the allocation of a larger proportion of the total output to export (85 percent as against 81 percent in 1968/69).¹

Approximately half the quantitative increase can be attributed to the maturing of young groves,² which brought up average yields per unit of fruit-bearing area. The improvement in quality was due to favorable weather conditions.

The improvement in the quality of the fruit permitted the allocation of a larger percentage of output to exports and further reduced the quantity sold to the canneries. With citrus supplies from all exporting countries considerably expanded, prices in the world markets slumped noticeably during 1969/70—those fetched by Israeli citrus abroad dropped by an average of 13.9 percent.

The amount of citrus supplied to industry fell off 9 percent, after having contracted by 15 percent in 1968/69, and its prices rose by 10–11 percent, for the second consecutive year. While the prices are negotiated each year by growers and processors, presumably at least part of the increase in the year reviewed reflected the reduced volume supplied to industry.

The sharp decline in the average price of the citrus output (10.2 percent), together with the larger quantity of inputs entailed by the expansion of production and exports, considerably dampened the profitability of citriculture in the year reviewed, as reflected by the approximately 28 percent contraction of growers' income from this source.

¹ In actual fact, only part of the additional quantities sold abroad represented an improvement in quality. Some of the increment resulted from lowered standards for export fruit, and this was at the expense of the quantities supplied to industry.

² It is generally assumed that the yield of a young grove during its first fruit-bearing year is about 30 percent of its full potential yield, rising in the second year to about 60 percent.

This drop in profitability depressed the weight of citriculture within total agricultural output at current prices from 21 percent in 1967/68 and 20 percent in 1968/69 to less than 19 percent in the year reviewed; however, this was after its share had risen steadily from 12 percent in 1960/61 to nearly 19 percent in 1966/67.

(ii) *Other fruit*

Real output of noncitrus fruit in 1969/70 remained at the level of the previous year, when it had expanded by over 10 percent. Despite this stability in the total supply, the different kinds of fruit did not display a uniform trend. The apple crop decreased by 7 percent, plums by 13.8 percent, table grapes by 31.1 percent, wine grapes by 20.1 percent, avocados by 21.2 percent, and olives by a steep 64.2 percent. On the other hand, the supply of pears increased by 66.9 percent, peaches by 10.7 percent, apricots by 34 percent, and bananas by 18.2 percent.

Except for wine grapes and bananas, prices rose for fruit whose supply contracted and fell for those available in greater volume. Prices of wine grapes hardly went up at all despite the smaller crop, since they are negotiated in advance by growers and the wineries; those of bananas remained virtually unchanged despite the substantially larger supply, because the Banana Growers Association, which controls the allocation of the fruit among the various economic destinations, stepped up overseas sales by 30 percent and those in the domestic market by only 14.5 percent.

The smaller supply of apples resulted from a reversal of the uptrend in their output, which accounts for approximately 30 percent of total noncitrus fruit production. The extension of the area under apples had begun to slow down in the mid-sixties, and in the last two years more orchards were uprooted than planted, as apple growing became less profitable, especially as regards marginal areas and strains. The smaller output of grapes and plums can also be attributed in part to the continuation of the tendency discernible for the past few years to curtail their cultivation.

As for avocados, the much smaller supply in the year reviewed contrasts with the rapid expansion of plantings and output in previous years, and it is explained by weather conditions, which lowered both the quality and quantity of output. The fact that avocados constitute a marginal substitute for citrus (they are grown on the same types of soil and require the same quantities of water) may also have had an effect on output, since citrus production expanded in the year reviewed.

The steep 64 percent fall in olive supplies can be ascribed to the yield cycle of this crop, a good year being followed by a poor one: in 1968/69 olive output had soared 115 percent, whereas in the previous year it was down 58 percent.

The larger supply of pears was due both to the continued expansion of the area under this crop and to the larger per dunam yield. The rapid growth of

banana supplies in the past two years was almost entirely due to the rise in the per dunam yield, as the fruit-bearing area has remained virtually unchanged since 1966/67.⁴ The better yields are the result of improved methods of cultivation; there has also been a shift to the growing of strains more suitable for export.

(iii) *Industrial crops*

After expanding nearly 16 percent in 1968/69, the real output of industrial crops dropped by 3.2 percent in the year reviewed, primarily because cotton (the main industrial crop) fell off by some 10 percent. This was due to a precipitate decline in cotton yields, partly because of unfavorable weather conditions, for cotton acreage continued to expand in line with the long-run trend. The decrease in the cotton crop resulted in an approximately 22 percent drop in exports, while the amount sold to local industry was at about the 1968/69 level, for growers had contracted in advance for the supply of specific quantities.

Despite the contraction of sugar beet acreage, a trend in evidence for the past six years, real output was up 11.6 percent in 1969/70 because of favorable weather—a warm, easy winter. The increase was reflected in both larger yields and a higher sugar content per beet.

The 51 percent increase in groundnuts must be credited chiefly to the continued rapid extension of the area under cultivation. In recent years acreage has been considerably enlarged following the discovery of a strain that ripens early, thus reducing the risk of damage by early rains. Because of this danger, the area under groundnuts had shrunk gradually throughout most of the sixties, following its rapid expansion in the previous decade. With the resumption of the upward trend in acreage, the weight of groundnuts within the total output of industrial crops presumably will rise.

(iv) *Cereals and pulses*

Real output of cereals and pulses fell off 18.1 percent, after a decline of 10 percent in 1968/69. The sharper contraction in the year surveyed was due to the drought, which was accompanied by an unfavorable distribution of the rainfall, and the cumulative effect of the scanty rainfall of the past several years on the ground water balance. As in 1968/69 (another drought year), the biggest decreases were in wheat (20.7 percent), barley (32.6), and sorghum (33.8).

(v) *Fodder*

The fodder supply declined by 2.4 percent, as contrasted with an 8 percent increase in 1968/69. The poorer results in the year reviewed were due mainly

⁴ That year the area of banana plantations was curtailed by 20 percent after supplies had outpaced the growth of domestic demand and prices in the export markets retreated owing to the appearance of new competitors.

to the smaller nonirrigated crop, reflecting the influence of the drought on fodder crops.

(vi) *Vegetables, potatoes, melons*

These products posted an 11.4 percent real output gain in 1969/70, accompanied by a rise of about 3 percent in producer prices. This continued the strong upward trend of the previous year, when output increased by about 15 percent, with producer prices nevertheless advancing nearly 4 percent. In earlier years vegetable growing had been characterized by sharp annual fluctuations in prices in response to changes in supply. The typically short period between the sowing or planting and the marketing of vegetables permitted farmers to react quickly to price changes by adjusting the area planted and supplies offered the next season. Most vegetable crops were therefore subject to a biennial cycle of contrasting fluctuations in prices and quantities, known as the "spiderweb cycle".

These fluctuations persisted as long as the bulk of the output was sold in the domestic market for direct consumption, and were at best only moderated by the intervention of the Government and the production and marketing boards. In recent years, however, these biennial fluctuations have almost disappeared as farmers, with the help of easy Government credits, have adopted new production techniques permitting a better distribution of crop yields over the year (for instance, the weight in total output of winter crops in general, and of vegetables grown under plastic cover in particular, has risen), thereby resulting in larger exports and sales to industry. These advances are reflected in the output gains of the past three years (11 percent in 1967/68, 15 percent in 1968/69, and 11 percent in 1969/70), coupled with the reduction of surpluses. The mild winter of these three years was undoubtedly a contributory factor in this impressive output growth.

In 1968/69 all of the additional output of the branch was taken by industry or shipped abroad. In 1969/70 about 65 percent of the increment was exported, while the rest was marketed locally. However, the percentage going to industry fell off, while that sold for direct consumption was up 9 percent. The decline in the proportion diverted to industry represented a deviation from the pattern that has emerged in recent years, when vegetables began to be cultivated exclusively for industry (e.g. special strains of tomatoes, cucumbers, etc.), and is explained by the almost complete disappearance in 1969/70 of surplus supplies for direct consumption. Even in the summer, when normally there is a glut of vegetables, supplies contracted, pushing up prices steeply.

In part, the rapid growth of vegetable supplies can be credited, as stated, to the expanded cultivation of winter crops under plastic cover. Such acreage was enlarged nearly 36 percent in the year reviewed, and this helps to explain the continuation of the exceptionally strong uptrend in exports—78.5 percent at constant prices.

(vii) *Flowers, seedlings, decorative plants*

Output of these items jumped 47.1 percent at constant producer prices (see Table X-5), after an almost equally notable gain of 42.5 percent in 1968/69. Most of the output is shipped abroad, and real export increases of over 70 percent were recorded in each of the last two years.

These results were intimately connected with the Government's policy—implemented by way of easy credits and other financing, as well as by the provision of technical training—of directing agricultural expansion toward export crops.

The weight of flowers, seedlings, and decorative plants within total agricultural output is still relatively low, but rising rapidly—it went up from 0.4 percent in 1964/65 to 1.4 percent in the year under review. The total area under flowers was enlarged from 2,430 dunams in 1965/66 to 4,800 in 1969/70, while the area under cover (hothouses) was increased from 225 to 1,400 dunams over the same period.

3. INPUT

Inputs purchased from other sectors rose in 1969/70 by 9.4 percent at constant prices, after edging up only 1.7 percent in the preceding year (see Table X-7).

The big percentage rise in the year surveyed was primarily due, of course, to the growth of output, but also to the third consecutive year of drought, which necessitated larger inputs of fodder and water. The increased weight of exports (particularly citrus and vegetables) within total agricultural output also involved a much greater use of packing materials and transportation.

Fodder purchases, which accounted for some 43 percent of total inputs from other sectors, went up by 11.4 percent at constant prices. This development is attributable to the expanded output of livestock and livestock products, which made it necessary to import feed concentrate in order to make up for the shortfall in the quantity supplied by local agriculture because of the drought.

Water consumption, which constituted some 8.5 percent of total purchased input, was up 7.7 percent in real terms, after decreasing by approximately 2.4 percent in 1968/69. The higher input in the year reviewed reflected the third successive year of drought (which affected the underground water balance as well) and the 2.9 percent expansion of the irrigated area. These factors were partly offset by the continued development of and investment in water-saving techniques. On balance, the increase in the input of water per dunam of irrigated area went up by 4.6 percent in 1969/70 (see Table X-8), after falling 3.3 percent in the previous year.

The 12 percent larger input of packing materials is largely attributable to the greater export of citrus, vegetables, and flowers, while the 8.9 percent rise in transportation services was due to the increase in farm marketing in general and in citrus exports in particular.

The real input of pesticides and veterinary preparations was up 12.4 percent,

Table X-7
INPUT OF MATERIALS AND SERVICES IN AGRICULTURE,* BY SOURCE,
1968/69 AND 1969/70
(IL million)

	Value at current prices		Percent annual increase or decrease (-) in 1969/70		
	1968/69 ^b	1969/70	Value	Quantity	Price
Purchases from other sectors					
Fodder	300.5	343.2	14.2	11.4	2.5
Water	59.5	65.1	9.4	7.7	1.6
Packing materials	80.4	91.0	13.2	12.1	1.0
Fertilizers	39.5	42.9	8.6	8.6	0.0
Transportation	55.0	60.1	9.3	8.9	0.3
Spare parts, repairs, and tools	45.4	49.7	9.4	2.2	7.1
Fuel, lubricants, and electricity	22.9	23.4	2.2	2.2	0.0
Pesticides and veterinary preparations	44.5	50.5	13.5	12.4	1.0
Miscellaneous	61.4	65.7	7.0	4.7	2.2
Total	709.1	791.6	11.6	9.4	2.2
Wages of hired labor	213.6	239.5	12.1	—	—
Interest and rent	63.0	70.0	11.1	—	—
Intermediate goods	159.9	164.9	3.1	-1.1	4.3
Depreciation	132.6	153.7	15.9	6.9	8.4
Grand total	1,278.2	1,419.7	11.1	—	—

* Excluding capital and labor of farm owners.

^b Revised figures.

SOURCE: Central Bureau of Statistics.

far exceeding the 5.7 percent growth of real output. The previous year showed a similar development—a 4 percent increase in this input outstripping the 2.6 percent output gain. To some extent this may reflect a greater application of scientific methods.

Prices of inputs purchased from other sectors were up 2 percent, somewhat less than the 3.5 percent recorded in 1968/69. Most of the increase stemmed from the 2.5 percent dearer cost of imported fodder. Except for a fairly steep 7.1 percent rise in spare parts and repairs, prices of other inputs remained stable or edged up only slightly. The higher price of purchased fodder was due to the final elimination of the subsidy on this item—a process that had been phased over the past three years.

The sector's labor input, which has been drifting downward at an annual average rate of 2.5 percent since the early sixties, according to manpower survey data on the number of man-hours worked, fell in the year reviewed by another 2.3 percent (including workers from the administered areas). The manpower surveys show that all of the decrease resulted from the 9.5 percent smaller input of hired farm labor; the input of nonhired labor, on the other hand, went

Table X-8
WATER INPUT IN AGRICULTURE, 1966/67 TO 1969/70

	Unit	Average for dry years ^a	Average for rainy years ^a	1966/67	1967/68	1968/69 ^b	1969/70
Irrigated area	'000 dunams	—	—	1,616	1,645	1,662	1,711
Quantity of water	million m ³	1,176	1,065	1,116	1,265	1,235	1,330
Water consumption per dunam of irrigated area							
Actual consump- tion	m ³	781	716	690	769	743	777
Index (1963/64=100)		112.0	102.0	98.6	109.9	106.1	111.0

^a Dry years—1958/59, 1959/60, 1961/62, 1962/63, 1965/66, 1967/68, 1968/69, and 1969/70; rainy years—1960/61, 1963/64, 1964/65, and 1966/67.

^b Revised figures.

SOURCE: Central Bureau of Statistics.

up 2.4 percent—the net result of a 2.7 percent increase in man-hours worked and an 0.7 percent drop in the number of employed.

Because of the considerable weight of nonhired labor in total agricultural employment and man-hours worked, the decrease in the total labor input was, as mentioned, only 2.3 percent, and that in the total number of employed only about 4.4 percent, though the number of hired workers (including those from the administered areas) apparently fell by 8.6 percent. However, the data must be treated with some reserve, since statistical information on farm employment is of somewhat doubtful reliability.¹

Depreciation again increased at a high rate in 1969/70—by approximately 7 percent, roughly the same as in the previous year; this reflected the continued trend toward mechanization.

The value of agricultural intermediate products consumed declined by 1.1

¹ National Insurance Institute data on the number of hired farm workers and their earnings reveal a completely different picture. Whereas manpower surveys and Bank of Israel data on labor from the administered areas point to an 8.6 percent drop in the number of hired workers in 1969/70, National Insurance Institute data (which include labor from the administered areas) show a rise of some 7 percent. No plausible explanation for the difference has been found, though it may possibly be due to a relatively large standard deviation in the manpower surveys, coupled with the fact that National Insurance Institute data relate to the number of jobs filled and not to the actual number of workers employed. The manpower survey figures indicating a 2.3 percent decline in the labor input are at least consistent with the existing trend in the agricultural sector—a long-run decrease of approximately 2.5 percent per annum. For the purpose of calculating productivity, we have therefore preferred to use the labor input data from the manpower surveys, while for calculating wages per employee, the basis for computing the weight of labor in the agricultural product, we have preferred to use National Insurance Institute data on wages per employee.

percent in real terms, chiefly because the output of unirrigated crops fell off due to the drought. The total value of commodity and service inputs increased by some 11 percent in 1969/70, following a rise of only 5.7 percent the year before.

4. PRODUCTIVITY

Total agricultural productivity¹ rose by 2.3 percent, compared with 2.4 percent in 1968/69 and a standstill in 1967/68.

The improvement in 1969/70 was the combined result of a 7.4 percent rise in current input (purchases from other sectors and agricultural intermediates), a slow 2.1 percent growth of the gross stock of fixed assets, and a 2.3 percent decline in the labor input,² set off against a 5.7 percent real output gain.

Because of the strong influence of natural factors on agricultural productivity, greater importance should be attached to trends than to annual changes. However, it should be noted that the continued uptrend in the year reviewed was due to the following factors: the higher yields and better quality of the citrus crop; a rise in the yields and sugar content of sugar beet; the larger vegetable, banana, and pear crops; and a rebound in poultry production after the Newcastle disease outbreak which hit the poultry-runs in 1967/68 and 1968/69 was brought under control.³

Partly offsetting these gains were the smaller cotton crop (which accounted for about 5 percent of total agricultural output) and the impact of the three-year long drought.

Factor productivity⁴ was up 4.4 percent, after rising to a similar extent in 1968/69 and holding steady in 1967/68. The further improvement in the year reviewed reflected the continued drop in the sector's labor input, a sluggish 2.1 percent expansion of the capital stock, and an increase of 3.8 percent in the real agricultural product.

These productivity gains can be credited to improved techniques and management, but the uptrend has slowed down in recent years, averaging some 2.5 percent per annum from 1964/65 to 1968/69, while the average annual increase in factor productivity over the same period was about 5 percent. In the first

¹ Obtained by dividing the index of real change in output (including intermediates) by the weighted index of changes in input.

² The decline in the labor input, which provided part of the data for the productivity calculations, was 2.3 percent (including nonhired workers) and reflects a decrease of 9.5 percent in the input of hired workers (including those from the administered areas). For a discussion of the reliability of the data, see the note on the preceding page.

³ In poultry farming there was a rise in measured but not actual productivity, since the former reflects changes in the rate of capital utilization, which went up as the Newcastle disease was stamped out.

⁴ Obtained by dividing the index of change in the real product by the weighted index of changes in the labor and capital inputs.

half of the past decade and throughout most of the fifties, the average annual rise in agricultural productivity was 6–7 percent.

5. INCOME

Income originating in agriculture (i.e. the net agricultural product at producer prices) drifted down 0.2 percent in 1969/70, after increasing by nearly 5 percent in the previous year. The small decrease was the resultant of a 3.9 percent drop in product prices (primarily due to lower export prices for citrus), the dearer cost of purchased fodder, and larger depreciation allowances, offset by a 3.8 percent expansion of the net product at constant prices. With compensation payments for drought and other natural damage up from IL 10.3 million in 1968/69 to IL 23.6 million in the year under review, total income from agriculture actually rose by 1.2 percent. Drought compensation jumped 129 percent, partly because 1969/70 was the third consecutive year of drought, and partly because some of these payments were on account of losses sustained in the previous year.

Farm proprietors' income from agriculture¹ decreased by some IL 21 million, or 3.3 percent, after gains of about 5.3 percent in each of the two preceding years—IL 33 million in 1968/69 and IL 32 million in 1967/68. The poorer results in the year reviewed were due to a 12.1 percent larger wage bill and an 11.1 percent rise in interest and rent outlays.

All of the 1969/70 decrease can be ascribed to the lower prices fetched by citrus abroad. Excluding citriculture, where the income growth rate plummeted 28 percent in the year reviewed, the sector's current account showed an increase of approximately 2.5 percent. But owing to the large weight of citriculture in the net agricultural product (about 22 percent), farm owners' income from farming as a whole fell by 3.3 percent.

After dropping by 10.7 percent in 1968/69, the volume of Government support payments to agriculture increased by 9 percent (see Table X-9), because of the IL 13.3 million (12.9 percent) additional compensation payments for drought and other natural damage.

Other subsidy payments declined slightly during the year reviewed—IL 143.4 million as against IL 143.7 million in 1968/69; this was due to a further decrease in factor subsidies, which was only partly offset by a IL 1.3 million heavier subsidization of output. Even though the total volume of subsidies rose by some 9 percent in 1969/70, this did not represent a departure from the general tendency to pare subsidies—the rate per unit of subsidized input or output was cut by approximately 2.7 percent in 1969/70, following a decline of 4.5 percent the year before.

¹ Calculated as a residual—total income from agriculture, less wage, interest, and rent payments.

Table X-9
AGRICULTURAL SUBSIDIES, 1968/69 AND 1969/70
(IL million)

Item or type of subsidy	Value at current prices		Percent annual increase or decrease (-) in 1969/70		
	1968/69 ^a	1969/70	Total subsidy	Quantity	Price
Citriculture	2.5	2.3	-9.0	-9.0	0.0
Eggs	21.5	21.9	1.9	7.8	-5.5
Poultry	7.7	10.6	37.7	9.7	25.5
Cow's milk	42.5	44.4	4.5	8.0	-3.3
Beef	1.7	2.2	29.4	4.1	24.3
Mutton	0.3	0.3	0.0	-1.6	1.6
Fish	1.8	1.8	0.0	2.6	-2.5
Vegetables and potatoes	5.5	6.1	10.9	11.4	-0.5
Wine grapes	2.0	1.5	-25.0	-20.0	-6.2
Other fruit	3.4	3.7	8.8	0.0	8.8
Groundnuts	0.6	0.2	-66.7	50.8	-77.9
Sugar beet	3.0	3.0	0.0	11.6	-10.4
Tobacco	0.7	0.7	0.0	-25.4	34.0
Wheat	9.7	5.7	-41.2	-20.7	-25.9
Miscellaneous	0.2	—	—	—	—
Subsidies by the Jewish Agency Settlement Dept.					
Agency Settlement Dept.	0.1	0.1	0.0	0.0	0.0
Total subsidies on output	103.2	104.5	1.3	4.1	-2.7
Fodder	6.7	2.9	-56.7	11.4	-61.1
Water	19.0	21.0	10.5	7.7	2.6
Fertilizer	4.6	4.7	2.2	8.6	-5.9
Total factor subsidies	30.3	28.6	-5.3	9.0	-13.1
Drought compensation, etc.	10.3	23.6	129.1	—	—
Total subsidies	143.8	156.7	9.0	—	—

Note: A change in quantity reflects the real change in subsidized output. A change in price represents the change in the average subsidy rate per unit of subsidized output or input.

^a Revised figures.

SOURCE: Ministry of Agriculture.

The moderate 1.3 percent heavier subsidization of output in 1969/70 is explained primarily by a real increase of some 4 percent in the output of supported products.

In the middle of August 1970 the Government introduced a new policy on taxes and subsidies, which trimmed support payments for agricultural produce. For milk and eggs, which accounted in 1969/70 for 62 percent of total direct subsidy payments on output, the Government cut subsidy rates per unit of output by 45 and 55 percent respectively, and in place of this permitted the charg-

ing of higher retail prices on these items. However, the rise in prices did not exactly match the cut in subsidies, for in order to compensate farmers for the dearer cost of imported fodder after the trimming of the subsidy thereon, they were allowed to charge more for their livestock and livestock products. In the case of milk and eggs, the higher retail prices only partly offset the reduction of subsidy payments, while in the case of poultry-meat and beef the guaranteed minimum prices were raised, this being tantamount to a steep rise in the subsidy rates per unit of subsidized output (see Table X-9).

The actual decreases in the egg and milk price subsidy per unit of output were only 6.4 and 3.3 percent respectively, since the arrangement providing for the replacing of subsidies by higher market prices came into force only at the beginning of September 1970, and thus applied for only one month of the agricultural year under review. The effects of this policy will be fully felt only in 1970/71.

The downtrend in factor subsidies persisted in 1969/70, as reflected by the higher cost of purchased fodder for livestock (though, as already mentioned, farmers were compensated by the switch from a factor subsidy to the subsidization of the products, or by being allowed to charge more for items previously benefiting from the fodder subsidy). In addition, at the end of 1969/70 the water tariff for agriculture went up 12.5 percent. Presumably the subsidization of water will also be reduced in 1970/71, along with the reduction of other factor subsidies in this sector.

6. INVESTMENT

(a) *Investment and capital stock*

Real gross investment in agriculture contracted by 2.3 percent in 1969/70, after rising 4.4 percent the year before and declining by approximately 2 percent in 1967/68. The moderate decrease in the year under review was the net outcome of contrasting developments in the different component items. In line with a trend stretching back to the early sixties, investment in orchards fell off, though more slowly than in the two preceding years—by some 6.5 percent (see Table X-10), as contrasted with 22 percent in 1967/68 and 18 percent in 1968/69. This persistent and sharp decline is a reflection of the marketing limitations affecting most fruit crops.

For the second successive year investment in livestock rose at a strong rate—a 35 percent rise in the livestock inventory coming on top of a 66 percent gain in 1968/69. These impressive advances are explained by the expansion of livestock farming, particularly cattle and poultry. This was accompanied by a substantial rise of 26.1 percent in outlays on farm structures during 1969/70, after a decline of 2.5 percent in the previous year.

Gross outlay on farm machinery and equipment was down some 9 percent

Table X-10
ESTIMATED GROSS INVESTMENT IN AGRICULTURE, 1969-70
(IL million)

	Value at current prices		Percent increase or decrease (-) in 1970		
	1969 ^a	1970	Value	Quantity	Price
Orchards	20.4	20.9	2.5	-6.4	9.4
Livestock	6.8	9.2	35.3	35.3	0.0
Farm installations ^b	35.2	49.6	40.9	26.1	11.7
Machinery and equipment	89.9	91.5	1.8	-9.0	11.9
Land reclamation and conservation, drainage, natural pasture, etc.	12.0	11.0	-8.3	-14.2	6.8
Afforestation	18.5	14.4	-22.2	-25.4	4.3
Total investment in agriculture	182.8	196.6	7.5	-2.3	10.1
Water projects	42.2	49.6	17.5	5.2	11.7
Total investment in agriculture and water projects	225.0	246.2	9.4	-0.9	10.4

NOTE: Data on investment from agricultural output relate to the end of agricultural years; other data relate to the end of calendar years.

^a Revised figures.

^b Farm buildings, fish ponds, and local irrigation networks.

SOURCE: Central Bureau of Statistics.

at constant prices. This followed a rapid increase of 25 percent in 1967/68 and 27 percent in 1968/69. However, the contraction in the year reviewed should not be regarded as a reversal of the tendency to substitute capital for labor in agriculture (reflected by a rising level of such investment), but rather as a compensatory drop from the particularly high figure recorded in the two preceding years, due largely to the advancing of orders in anticipation of devaluation.

Expenditure on afforestation continued to drop steeply—by some 25 percent, roughly the same rate as in each of the two preceding years. The declining trend of the past three years, which came in the wake of a precipitate 76 percent rise in the recession period of 1966/67, is explained by the cutback in relief work with the disappearance of unemployment.

After expanding vigorously during the fifties, gross investment in agriculture began to flag in the early sixties. From 1959/60 to 1964/65 the volume contracted at a steep average annual rate of 6.2 percent, but from 1965/66 to 1968/69 the downtrend slowed to an average of 2.7 percent. Since then the curve has again turned upward. To some extent this can be ascribed to the higher percentage of equipment being replaced, but it also reflects a stabilization of the growth rate for agricultural product and output. If capital spending on afforestation (which is determined by factors exogenous to the agricultural

Table X-11
GROSS STOCK OF FIXED ASSETS IN AGRICULTURE,* 1969-70
 (IL million)

	Value at current prices		Percent increase or decrease (-) in 1970		
	1969 ^b	1970	Value	Quantity	Price
Orchards	1,128	1,149	1.9	1.7	0.2
Farm installations ^c	1,935	2,053	6.1	5.5	0.5
Machinery and equipment	445	458	2.9	2.6	0.4
Livestock ^d	313	322	2.9	2.9	0.0
Total	3,821	3,982	4.2	3.8	0.4

Note: Rates of change have been calculated from unrounded figures.

^a Excluding land and financial assets. Data on investment from agricultural output (orchards and livestock) are for the end of agricultural years; other data are for the end of calendar years.

^b Revised figures.

^c Farm buildings, irrigation networks and local water projects, afforestation, land reclamation and conservation, drainage, natural pasture, etc.

^d Excluding broilers and fish.

SOURCE: Based on estimates of A.L. Gaathon (Bank of Israel), and Central Bureau of Statistics data.

sector) is disregarded, it turns out that the trend of agricultural investment had actually begun to change in 1967. Excluding afforestation, the figure shrank steadily from 1958 until 1966, but since 1967 it has moved up at an annual average rate of 4.4 percent (at constant prices). To be sure, in 1969/70 it edged up only 0.3 percent, but this was due to the aforementioned random factors which affected capital outlays on machinery and equipment this year. If these factors are ignored, it is clear that the upward trend was maintained in 1969/70 as well. This is confirmed by the fact that after the expansion of the gross capital stock slowed from 6.3 percent in 1962 to 2.1 percent in 1968/69, it accelerated to 3.8 percent in 1969/70 (see Table X-11). This stronger rise attests that gross agricultural investment in the last two years was proportionately greater than the value of assets scrapped, and is explained primarily by the relatively big increase in the stock of farm installations (5.5 percent)—investment in machinery and equipment, orchards, and livestock went up by only 2.6, 1.7, and 2.9 percent respectively.

(b) *Financing*

Total institutional farm credit was up approximately IL 257 million in 1970, compared with a rise of IL 209 million in the previous year (see Table X-12). Most of the increment was in bank credit (both directed and nondirected), which was IL 100 million greater than in 1969, when the increase came to only IL 27 million.

Table X-12
OUTSTANDING INSTITUTIONAL CREDIT TO AGRICULTURE, 1969-70
(IL million)

	1969 ^a	1970	Increase	
			IL m.	%
Banking system				
Directed credit ^b	250.7	286.6	35.9	14.3
Nondirected credit ^c	183.1	246.7	63.6	34.7
Total	433.8	533.3	99.5	22.9
Financial institutions				
Agricultural credit funds ^d	561.6	635.8	74.2	13.2
Other financial institutions	17.0	17.7	0.7	4.1
Total	578.6	653.5	74.9	12.9
Total institutional credit, excl. the Jewish Agency	1,012.4	1,186.8	174.4	17.2
Jewish Agency	—	—	82.5	—
Total institutional credit	—	—	256.9	—

^a Revised figures.

^b Including credit granted against Government deposits, which amounted to IL 23.8 million in 1969 and presumably was the same in 1970.

^c Including bill brokerage credit.

^d The overwhelming share of the credit under this head was granted by the Israel Bank of Agriculture, and a smaller part by the Ya'ad Agricultural Development Bank, Nir Ltd., and various funds and other financial institutions.

In contrast to this, credit extended by the financial institutions and the Jewish Agency expanded somewhat more slowly—by IL 75 million as against IL 91 million in 1969 in the case of the former, and by IL 82.5 million as against IL 90 million for the latter.

About half of the additional bank credit went to citriculture, which was in especially difficult straits in the year surveyed, while the remainder was supplied to agricultural settlements in the form of short-term supervised credit (approximately 15 million) or went to finance various branches and crops eligible for credits from the export finance funds, as well as other priority crops.

The incremental credit from financial institutions was provided out of earmarked Government deposits and from the resources of the Israel Bank of Agriculture, which is Government-owned.

Jewish Agency credit was stepped up mainly to permit the consolidation of border settlements, to aid economically weak settlements, and for the founding of new agricultural villages.