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Agriculture

Jordan valley is the cornerstone

THE Jordan valley has been the cornerstone of agricultural policy since the loss of the West Bank, occupied by Israel since 1967. As a whole, Jordan's land is by no means ideal for farming — only about 6 per cent is cultivable, out of a total area of 92.6 million dunums (9.2 million hectares).

Until 1967 most agricultural produce came from the well established cultivated areas of the West Bank. Since then, lorries have continued to rumble across the King Hussain (Allenby) and Damiya bridges, carrying fruit and vegetables from the occupied territory for the East Bank, the Gulf states and Iran.

Jordan has tried to compensate for the lost production by developing the East Bank's comparatively meagre resources. The main problem is lack of water. Rainfall is low enough in most areas to make rainfed agriculture marginal and risky. Hopes have therefore been pinned on irrigated agriculture in the natural hot-house of the Jordan valley.

Vast irrigated area

The vast Jordan valley irrigation scheme now covers about 22,000 hectares, although not all the land has been irrigated in the past four years because of drought. The Maqarin dam, to be completed in the second half of the 1980s, is expected to water another 10,000 hectares and to convert 12,000 hectares more to sprinkler irrigation from the present system of surface flooding from the East Ghor canal — the spine of the valley project — which will eventually extend from the Yarmouk river in the north to the Dead Sea.

Production is mostly of vegetables (grown on 70.9 per cent of the total cultivated area in 1979), with smaller quantities of fruit (12.5 per cent) and of field crops (16.6 per cent).

Potential for growing even earlier crops exists in the area just south of the Dead Sea, around Safi. A feasibility study, by Binnie & Partners of the UK and Jouzy of Amman, recommends pilot drip irrigation schemes. Drip irrigation, combined with plastic coverings for seedlings has shown substantially increased yields and has become increasingly popular since 1977.

Development in the valley is controlled by the Jordan Valley Authority (JVA) which, rather like the US Tennessee Valley Authority, is responsible for irrigation, social infrastructure and longer-term agricultural development.

Land reform has reached as far south



Drip irrigation, plus plastic covers for seedlings, has become increasingly popular

as Karama, limiting individual holdings to 200 dunums (20 hectares). Despite this, some families hold substantially more by registering several parcels in the names of different family members. —

On the whole holdings are small — most plots are only three to four hectares — yet returns are high enough on irrigated plots even of this size to make them economically attractive.

Absentee landlords are common — the JVA estimates that roughly 30 per cent of owners farm their land, 50 per cent employ sharecroppers, and 20 per cent have tenants.

The valley's mainly Palestinian population was heavily depleted during and after the 1967 war, dropping to about 10,000. Numbers have now risen to 98,000 and the JVA hopes growth will continue.

The authority has become one of several suppliers of agricultural credit and marketers of produce. These operations it shares with the private sector and it is not clear how far it will seek to extend its role. Its general policy is to co-operate with private operators and possibly regulate their activities.

The Jordan Valley Farmers' Association (JVFA) was set up in 1974 to supervise the long-term aspects of the JVA's work. It has a council elected from its 4,000 members and a board with representatives from the JVA, the Agricultural Credit Corporation, the Jordan Co-operative Organisation, the Agricultural Marketing Organisation and the Ministry of Agriculture.

JVFA officials say they now import farm inputs — seed, fertiliser, insecticide — which cuts out local middlemen and lowers prices to farmers up by to 30 per cent. Short-term credits are given mostly in kind — JD 500,000 (\$ 1.7 million) worth of seed, fertiliser and pesticides has been distributed since August 1979. Seasonal loans are provided to cover labour costs and harvesting — US Agency for International Development (USAID) in 1978 provided \$ 1.5 million towards loans to small farmers.

Nonetheless, the main sources of credit for farmers are traders, commission agents and others in the private sector. The JVFA hopes in future to be able to provide medium and long-term loans, but "this requires more funds and experience," JVFA director Kamal Haddad says.

The JVFA's other future role will be in marketing. Eighty-eight per cent (by quantity) of the Jordan valley's production is exported and it seems likely that exports will be left largely in the hands of private enterprise, which is already well-entrenched. About 1,500 refrigerated lorries supply fruit and vegetables to the Gulf and there is a substantial non-refrigerated trade to Syria and Iraq. Exporters buy either on the Amman wholesale market or directly from the valley.

But it is in the markets of the valley itself that the JVFA hopes to intervene. This may help to ensure that farmers are paid fair prices for produce — this does not necessarily happen, particular-▷

MEPhA

Agricultural production — selected crops ('000 tons)

	1975	1976	1977	1977/78 % change	1978	1978/79 % change	1979+	1980 plan target*
Field crops	74.1	100.7	93.8	-1.1	92.8	-65	32.4	
Wheat	50.0	66.6	62.5	-14.7	53.3	-69	16.5	221
Barley	11.8	13.2	12.0	30.0	15.6	-69.2	4.8	91
Vegetables	262.3	201.8	204.4	100.6	410.0	-13.8	353.3	
Tomatoes	145.1	87.9	85.7	143.6	208.8	-17.7	171.8	202
Eggplant	39.6	41.9	24.6	160.6	64.1	-17.8	52.7	40
Cucumbers	21.3	13.5	13.6	121.3	30.1	-26.9	22.0	32
Fruit	91.7	83.4	103.6	71.2	177.2	-49.4	89.70	
Olives	4.7	22.5	8.3	351.2	37.0	-81.6	6.8	58
Citrus fruit	12.8	16.5	36.5	-9.9	32.9	-9.1	29.9	44
Bananas	6.3	4.5	3.4	520.6	21.1	-62	8.0	6

+ Preliminary

* 1976-80 five-year plan

Source: Central Bank of Jordan, Monthly Statistical Bulletin January 1980

ly as many traders are also the farmers' creditors.

JVFA also foresees a role in the systematic grading of produce, which is becoming more important for exports. Marketing, grading and packing will be centralised in three complexes which are expected to take over gradually from the present roadside selling points. The first of these, at Al-Arda, has just been completed. More than half the \$ 3.6 million cost was covered by a grant from the Dutch government. Grading and packing lines were supplied by Roda of Italy.

Two more centres are to be built, at Wadi Yabis and South Shuna. When the additional irrigated area opened up by the Maqarin dam is ready, the JVFA will have to decide whether to build more centres to cope with the extra produce, or whether to allow some to be graded on the farms.

So far the JVFA is leaving its options open on how much it will control these marketing centres. It hopes at least to become a significant competitive force.

Private farming flourishes alongside JVA projects. Several greenhouse schemes have started producing seedlings and flowers for instance, and there is even a hydroponics scheme. Capital costs are high, but returns can be excellent.

In many respects the Jordan valley, given sufficient investment in irrigation, combined with good management of water resources and use of new technology, seems bound to achieve high production levels. But what should be its precise role in Jordan's overall agricultural structure?

Agriculture makes up about 11 per cent of gross national product (GNP) and employs 17 per cent of the work force (compared with 29 per cent in 1972). Although the Jordan valley is considered to be progressing well, the same cannot be said for the rest of the agricultural sector, with the possible exception of 9,271 hectares irrigated by artesian wells (including those in the Jordan valley).

Irrigated areas outside the valley grow mostly fruit and vegetables. Field crops, cultivated in rainfed areas, have been worst hit by the last four years of drought. Last winter's heavy rains should ensure that 1980 is a bumper season — Agriculture Minister Hasan Gharaybeh says (MEED 18:4:80, page 41) that this year's wheat crop could be 200,000 tons compared with 17,000 last year and the barley crop 50,000 tons compared with 4,800 in 1979. But such wild fluctuations cause problems for farmers who cannot predict their incomes and for planners who cannot predict yields.

Technologically, rainfed areas show up poorly in contrast to irrigated ones. However, efforts are being made to provide more agricultural education and to upgrade technology. Most important is the increasing availability of medium and long-term loans at low interest. They are provided by the Agricultural Credit Corporation (ACC) and the Jordan Co-operatives Organisation (JCO).

The ACC makes medium and long-term loans (15-20 years) at 6 per cent and seasonal loans of up to one year at 8 per cent. The JCO lends to co-operatives through the Co-operative Bank. In 1978 there were 307 co-operatives with 29,562 members and a total share capital of JD 3.8 million (\$ 12.7 million).

Agriculture was allocated 18 per cent of expenditure in the current five-year plan (1976-80) — JD 97.4 million (\$ 326 million) for extending water and irrigation systems and JD 40 million (\$ 134 million) for farming. The plan aimed to even out the effects of climatic fluctuations in rainfed agriculture, but was thwarted by drought.

A glance at the plan's targets for 1980 production shows that, while irrigated crops — vegetables, bananas and citrus — have performed reasonably well, the main rainfed crops — wheat, barley and olives — present a sad picture. Wheat and barley yields are low by world standards — average wheat production varied between 49.4 kilos a dunum in 1977 to 39.6

kilos a dunum in 1978 (these two years were not as bad as 1979); barley yields increased slightly, from 26 kilos a dunum in 1977 to 29.8 kilos in 1978.

But concern about the rainfed areas is not confined to the poor production record: there are social and demographic problems too. Despite the increase in the Jordan valley's agricultural population, there has been a substantial drift of people away from rainfed areas, mainly to Amman.

Decentralisation expected

The next plan (1981-85) is expected to emphasise decentralisation and, if it is to succeed, then the agricultural sector must prosper. Three large projects are planned for rainfed areas, says National Planning Council secretary-general Basil Jardaneh: "An integrated mix of credit, extension services and rural development using new technology."

There are two other troubling factors for long-term prospects. One is how much water can be spared, out of meagre total resources, for further development of irrigated agriculture, given the competing claims of domestic and industrial needs. The other is whether Jordan can expect to reduce its food import bill (about 60 per cent of food is imported) by boosting agricultural production for domestic consumption rather than for export.

It is argued that with the considerable trade deficit increased agricultural exports can only be welcomed. On the other hand, wheat and flour imports alone cost JD 14.6 million (\$ 49 million) in 1978 and JD 19.6 million (\$ 66 million). Imports of fruit, vegetables and nuts were JD 21.4 million (\$ 72 million) in 1979, while exports of the same products amounted to JD 18.7 million (\$ 63 million). The government also subsidised staple foods such as bread, flour, rice, sugar and meat.

There are no obvious or easy solutions to these problems: they will occupy planners for the next decade — at least.