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CROP INSURANCE IN ISRAEL

by D. Gilboa

Background

1. Agriculture in Israel is predominately based on co-operative patterns. Co-operative agriculture in Israel developed organically out of the concrete conditions of a developing country which had been neglected for centuries and sought the way to establish an agriculture which could assure the farmers a decent livelihood. It was shaped by the need to meet the challenge of the trials and the difficulties which the settlers during the 20's had to face and their desire to create a technological revolution in a comparatively short time.
2. At the end of the 19th century the total population of the country amounted to half a million, living in poverty and stagnation. Peasants were exploited by colonial government officials and landlords and this resulted in neglect, creation of swamps, soil erosion and sands covering ancient irrigation systems.
3. To establish modern agriculture under such circumstances there was a need for a large size farm with a strong financial and economic structure which could use efficiently modern techniques. It was also necessary to live through a transition period until a domestic urban market and communication network developed. Individual farmers could not carry such burden, whereas

co-operative and collective settlements proved to succeed in introducing modern agriculture to this developing country. Only co-operative agriculture could cope with the food needs of a population which increased sixfold during the first decade of Israel's existence.

4. Another factor influencing the creation of the co-operatives was the settlement on a national basis, as the settlers arrived without any means and had to be assisted financially and technically by public funds and settled on publicly owned land.

5. Out of about 700 settlements in Israel, 50 percent are co-operative, villages, called "Moshavim", 33 percent are collective farms, called "Kibutzim", and only 17 percent are private farmers' villages, ranches and schools. The organizational structure of agriculture is horizontal as well as vertical: there are national associations integrated at various levels, regional centres and organizations and branchial marketing boards operating on a national level.

6. One should remember that Israel is basically an arid country, as 50 percent of its land consists of desert. Therefore, its agriculture depends heavily on water, which sources are in the north and have to be delivered to the arid south. Israel uses almost all its water resources and has succeeded in increasing its agricultural output in the last decade without any increase of water supply, through the implementation of efficient water use techniques.

Introduction

7. It is obvious that the major natural risk in Israel agriculture is the drought, which causes losses to unirrigated grain crops, mainly wheat and barley. As the government has been interested in keeping in cultivation the vast areas in the arid south and in growing part of the country's grain consumption, it introduced in 1961 a bill under which grain producers are guaranteed their production costs in case of loss due to drought in those

regions where drought risk is probable but not certain. Farmers are not paying any specific premium for this coverage, but they have to prove their payments of property tax in order to have the right to compensation.

Drought is declared, for at least an entire region, by the Finance Minister after consultation with the Minister of Agriculture. After the declaration several official committees assess the losses in the regions where drought is declared and compensations are paid directly by the department in the Treasury handling property tax.

8. During the 18 years the law has been in force, the compensations were calculated on the basis of actual yields on individual fields, when those yields were short of the equivalent to the costs of production. Recently the Finance Ministry decided to calculate the compensations on the basis of the average yield obtained on all the fields grown by a particular farmer or collective farm. Obviously farmers object to such change and the problem is unsolved as yet.

IFNRA Creation

9. A series of natural disasters which caused severe losses to the farmers during the beginning of the 60's, due to frost, floods and hailstorms, created a situation which forced the Ministry of Agriculture to assess the losses and present the findings to the Finance Ministry. Through their national associations farmers put pressure on the government to compensate them for the losses. This resulted in the grant of special long term and low interest loans for plantations and compensations for crops destroyed. Aware of this state of affairs, both ministers established a committee whose terms of reference were to recommend on the creation of a crop insurance programme to be operated with the assistance of the government. It took the committee one year to draft its proposals which were later adopted by the government, which first decided to introduce a bill for compulsory participation. Another year passed and it became apparent that farmers objected to the legislation, so the government decided with the national farmers associations to establish a company in which it held 50 percent of the shares,

whereas the remaining shares were to be split between the farmers' organizations willing to participate in the insurance programme. The company created was the Insurance Fund for Natural Risks in Agriculture (IFNRA), which started its operations in the autumn of 1967.

Principles

10. The basic principle of IFNRA operations is that coverage for a certain crop is offered only when all the producers, through the marketing board in question, decide to join the programme. This means that the marketing board, a statutory body which represents all the producers, takes upon itself to include all the fields, plantations or animals which it handles in the programme. Thus, although IFNRA operates a voluntary scheme, it accepts liabilities only for those agricultural branches whose producers decide to insure all their crops. This fact enables IFNRA to save considerably in operating costs. There is no need to sell the insurance and the existing services of the marketing board care for the collection of premiums and the supply of the data in respect to the individual farms. There is also no need for individual insurance policies, as the terms of an annual collective contract between IFNRA and the marketing board are distributed by the latter to all the producers concerned. This way, IFNRA is able to concentrate its activities in underwriting, loss assessment and finance, with a staff of 30 employees, half of them fieldmen, serving 50,000 farming units.

Institution

11. IFNRA has a board of directors consisting of 28 members, 14 representing the government and the public and 14 representing the insured farmers.

12. The Ministry of Agriculture is represented in the board of directors by a senior official who acts also as the board's chairman and by officials representing the functions of extension and plant protection. The Ministry of Finance is represented by officials from the budget division, the general accountant office and the supervisor of the insurance.

13. The following marketing boards are represented in the board of directors: fruits, citrus, vegetables, cotton, flowers, grains, groundnuts, vineyards, poultry, pond fishery and cattle.

14. The board of directors convenes quarterly and discusses management reports and approves the annual budget and the annual financial reports. The current operations of IFNRA are observed by a ten-member management headed by the chairman of the board. The management convenes twice a month and it is fully updated concerning the current problems of the company. The board of directors nominates two additional committees. One is dealing with financial and administrative matters and the second is in charge of premium and coverage determination. The first committee drafts the annual budget, follows the financial activities, decides on investments and on personnel problems. The premium committee is presented by IFNRA underwriting department with the recommendations on premium rates, coverages and indemnities. After discussing the proposals with the officials of the marketing board, the committee decides on the terms of the new annual insurance contract.

Finance

15. When deciding to create IFNRA, the government agreed to subsidise 60 percent of the premium, so the farmers were charged with 40 percent of gross premium. In addition the government guaranteed IFNRA that any deficit to the programme should be covered by the government, half as a grant and half as a long term and low interest loan. This guarantee had been used only once during the 12 years IFNRA has been operating. It occurred after a disastrous frost caused heavy losses to citrus, vegetables, flowers, avocados, bananas and fishery in December-January, 1972-1973. Since that event, IFNRA has been able to establish sound procedures for premium determination and for its investment policy, taking into consideration the possibility of the reoccurrence of such a catastrophe in the future. The results are shown by the 65 percent loss ratio for the 1967-1978 period.

16. Beginning in 1976, the government reduced its subsidy to 50 percent and asked IFNRA to arrange for reinsurance coverage in place of its former

guarantee. With the assistance of an international commercial reinsurance company, IFNRA contracted a stop-loss reinsurance treaty with that reinsurer and with the government. This is carried out with commercial rates and terms.

17. At the end of 1978, the reserve fund of IFNRA amounted to $2\frac{1}{2}$ times the annual premium, whereas the reinsurance treaties were equivalent to 400 per cent of the annual premium. Almost all the reserve fund is invested in government securities which are linked to the cost of living index, an important fact due to the high rate of inflation during the last five years. It seems that the financial position of IFNRA is sound, although the nature of its activities implies that it may be even stronger.

18. In spite of the fact that the existing law regards insurance reserves as profits, IFNRA reached an agreement with the income tax authorities which enables the build up of the reserve fund for unforeseen disasters.

Coverage

19. Although technically IFNRA offers a specific risk coverage, it may be regarded as a comprehensive programme. There is a continuous effort to establish for each crop the necessary coverage, after screening the existing control and preventive measures.

The variety of the insured crops is impressive:

Crops: cotton, groundnuts, sugar-beets, wheat, barley and safflower.

Horticulture: vegetables (25 kinds), flowers (gladioli), oranges, grapefruits, lemons, table and wine grapes, apples, apricots, plums, pears, peaches, bananas, loquats and avocados.

Animals: poultry, pond fishery and slaughter cattle.

20. The government authorised IFNRA to limit its coverage to the cost of production. In Israel this term means the inclusion of a return for labour in the cost, so in cases where the government guarantees minimum prices, costs of production are similar to the value of the crop. There is a difference between the various crops in respect to the sum insured.

For grains, vegetables, flowers, fishery and poultry the sum insured is the normative cost of production figure, uniform for all the producers. The sum insured for cotton, sugarbeets, groundnuts, citrus and cattle is based on the actual difference between the value of the damaged yield and that which is obtained in the market for undamaged crops. As for fruits, the sum insured consists of the average yield record of the individual farmer multiplied by the normative costs of production of a unit.

21. Farmers seldom complain about the low coverages IFNRA is offering. As premiums are a function of coverage levels and premium rates are uniform all over the country for a given crop, the majority of farmers press their representatives to lower premiums and thus consequently reduce coverages. Such an attitude has an advantage in the free choice of the insured reflecting the resource allocation function of the crop insurance programme. Its drawback is the position in which a farmer finds himself when he suffers a loss and the indemnities are insufficient to cover his costs in the crop. When a disaster strikes a vast area farmers tend to exert pressures on the government to fill such gaps necessary to assure their income. The problem in this situation is in the company's capability to convince the producers representatives during the negotiations of the importance of adequate adjustment of the sum insured to the actual value of the crop in question.

Credit

22. As a rule the crop insurance is not linked to the credit system. The reason for this lies in the fact that in the co-operative villages all the loans the individual farmers or the co-operative receive are guaranteed by each member of the co-operative. This mutuality ranks agriculture high in the banking institution. Furthermore, most of the villages are operating under a programme named "concentrated credit" where the village undertakes to carry all its public and individual financial transactions through a single bank. The bank becomes a partner in the process of budgeting and execution of the planning in the village and therefore is able to guarantee the money supply needed. In such a situation the role of the crop insurer in respect to credit guarantee is a minor one.

Loss Adjustment

23. IFNRA employs on a full time basis a nucleus of regional adjustors who carry loss assessments on all insured crops and follow the growth cycles. During winter, when losses are frequent IFNRA employs additional seasonal adjustors. In cases of losses occurring in vast areas, IFNRA employs an extra adjustment force recruited on a part time basis from the extension services, faculty of Agriculture, retired farmers and others with good knowledge of cultivation practices and after receiving annual training by IFNRA.

24. The adjustment is carried out on each field for which a notice of loss is received. The adjustor should report to headquarters only on his physical findings and the claim department calculates indemnities on the basis of the adjustment reports and the yield data provided by the marketing board.

Arbitration

25. Any farmer who is not satisfied with the decision of IFNRA in respect to his claim may appeal before an arbitrary committee. It consists of three arbitrators and the chairman is a retired senior official of the Ministry of Agriculture, who is familiar with cultivation practices and is experienced with farmers' arguments. The other two arbitrators represent IFNRA management and the relevant farmers' association. The verdict of the arbitration committee is final.

IFNRA attaches importance to the functioning of the arbitration as it is regarded as part of the education process farmers should pass when a crop insurance programme is introduced.

Research

26. IFNRA plays a major role in shaping and implementing a research programme for the development of preventive measures, together with the extension services, the agricultural research authority, the plant protection division, the veterinary services and the meteorological services. This

co-operation is carried out by common committees, field experiments, allocations of funds for research and the valuable exchange of information among those agencies.

A Final Note

27. The attached tables enable the reader to follow IFNRA experience. It should be noticed that the initial period had been characterized by a combined effort of IFNRA, the government and the farmers' organizations to "sell" the idea to the potential insured and the relatively high loss ratios during that period may be attributed to the "introduction fees" any programme is bound to pay. Once the programme proved its value during the 1972-1973 catastrophe, IFNRA took the necessary steps to establish its operation on a business-like basis, a fact which has been acceptable to the farmers.

INSURANCE RESULTS - THOUSANDS IL

1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977		1967-1978
1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978		
86.5	162.7	354.2	622.9	727.4	788.1	1056.7	2135.2	3015.7	4433.9	6249.1	Sum Insured - Million IL	16.683
1.032	2.072	4.058	6.726	9.197	10.099	14.771	27.581	35.849	53.655	66.364	Premiums	229.402
1.330	2.722	5.366	8.856	11.977	37.126	21.000	41.407	50.525	53.655	66.363	Government Subsidy	300.327
2.362	4.794	9.424	15.582	21.174	47.225	35.771	68.988	86.374	107.310	132.727	Total receipts	529.729
-	-	-	-	-	-	-	-	-	-	21.148	Reinsurance Premium	21.148
2.362	4.794	9.424	15.582	21.174	47.225	35.771	68.988	86.374	107.310	111.579	Net receipts	508.581
1.275	3.054	6.222	11.714	13.483	73.915	31.058	12.238	21.827	62.782	54.228	Claims	285.966
1.087	1.740	3.202	3.868	7.691	26.690	4.713	56.750	64.547	44.528	57.351	Annual Surplus (Deficit)	
54	64	66	75	64	*315	87	17	25	59	49	Loss Ratio - %	* 59
76	194	373	564	831	1.227	1.487	2.246	3.249	4.905	7.794	Administrative Costs	22.946
52	146	162	166	180	316	-	-	-	22.887	92.519	Investment Income	116.428
1.063	2.724	5.450	8.544	14.657	12.623	(9.415)	45.038	105.566	167.159	303.667	Reserve Fund (Deficit)	303.667

* based on current subsidy

LOSS RATIO EXPERIENCE BY CROPS

1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	CROP	1967-1978
1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978		
61	22	0	46	135	455	101	6	17	97	37	Avocados	66
	20	3	154	181	160	134	12	12	51	32	Bananas	69
			12	9	8	0	5	0	213	379	Wine Grapes	86
				165	109	75	44	20	52	86	Loquat	73
	65	189	40	39	1	0	1	0	31	227	Table Grapes	41
	191	74	327	12	54	34	0	77	981	206	Pears	159
	389	42	171	91	23	10	5	27	187	329	Peaches	137
	88	24	236	94	25	10	11	6	71	576	Apriquets	130
	12	14	12	86	15	2	6	0	185	541	Apples	109
	389	69	64	388	9	31	2	8	716	190	Plums	159
		51	50	84	1446	180	2	8	71	0	Citrus	64
10	25	270	134	47	6	3	0	22	0	37	Cotton	28
98	10	19	46	8	38	114	4	1156	76	360	Groundnuts	233
194	166	90	109	106	243	73	24	32	47	24	Vegetables	52
123	120	25	62	199	395	192	32	76	23	125	Flowers	98
			102	48	29	74	26	14	20	28	Sugar beets	26
		83	34	25	67	99	2	196	40	3	Grains	76
			3	22	50	94	79	15	19	32	Poultry	39
	167	82	67	108	176	98	87	92	39	58	Fishery	76