

表 2.3 ジョルダンにおける農業生産 (生産量)

(Unit: 1,000t)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
FIELD CROPS															
1 Wheat	131.75	61.92	52.44	54.93	53.74	16.40	139.01	62.80	30.60	115.80	29.00	65.00	41.50	116.40	182.70
2 Barley	50.88	13.73	13.12	13.64	16.05	6.70	58.03	20.10	8.40	35.00	5.50	20.70	17.50	44.40	53.20
3 Lentils	21.80	10.48	10.87	7.32	8.39	1.97	10.83	6.50	2.60	8.10	1.70	4.10	2.50	7.50	5.80
4 Vetch	5.96	2.37	3.31	3.11	3.93	1.32	3.59	3.30	2.30	4.90	1.40	2.50	1.60	3.80	6.70
5 Chick-peas	3.19	1.50	0.78	1.55	1.32	0.73	1.29	1.30	0.90	1.50	0.60	1.60	0.90	1.00	2.10
6 Maize	0.73	0.55	0.62	0.69	0.19	0.10	0.52	0.40	0.10	0.40	0.20	0.40	0.10	0.40	0.20
7 Tobacco	1.87	1.07	0.80	0.86	1.36	1.30	3.34	2.91	4.02	4.73	1.32	3.46	1.07	4.50	3.14
8 Dry Beans	1.29	0.24	0.48	0.29	0.65	0.11	0.82	0.80	0.40	1.40	0.20	0.50	0.20	4.20	1.20
9 Sesame	0.18	0.07	0.13	0.13	0.13	0.03	0.10	0.06	0.03	0.05	0.05	0.10	0.02	0.02	0.04
10 Others	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
TREE CROPS															
11 Olive	31.91	9.54	25.91	6.25	31.41	5.13	42.00	18.90	43.19	25.20	38.50	22.70	45.70	24.10	78.80
12 Grape	34.27	39.14	38.32	33.75	43.85	36.79	43.49	45.90	46.50	51.90	41.50	50.30	57.90	55.60	69.40
13 Fig	3.24	3.15	3.23	2.94	2.83	2.24	2.24	2.20	2.40	2.20	2.40	2.60	2.80	3.00	3.30
14 Almond	2.38	2.36	2.40	2.20	1.89	1.77	1.75	1.10	1.30	1.50	1.60	1.80	1.00	2.00	1.30
15 Peach	0.46	0.48	0.48	0.40	0.45	0.42	0.44	1.80	4.20	4.40	2.90	3.10	4.30	0.80	4.10
16 Plum and Prune	2.80	3.09	3.20	2.96	2.44	1.88	1.74	1.60	2.30	2.20	2.20	2.30	2.80	1.10	3.00
17 Apricot	1.02	1.04	1.18	1.03	0.86	0.67	0.62	0.70	0.80	0.60	0.60	0.70	0.60	0.60	0.90
18 Pomegranate	4.25	4.07	4.22	3.35	3.30	2.45	2.41	1.90	2.00	2.00	1.70	1.80	1.80	1.50	4.20
19 Apple	2.37	2.67	2.53	2.19	2.35	2.30	2.28	3.20	4.40	4.70	4.40	2.90	2.50	2.00	4.80
20 Pear	0.61	0.63	0.70	0.48	0.54	0.49	0.48	0.20	0.20	0.20	0.20	0.20	0.30	0.30	0.60
21 Banana	12.14	11.56	14.60	15.92	15.81	14.50	15.94	12.00	13.00	18.90	17.10	30.70	27.80	44.80	39.90
22 Citrus	52.27	57.20	69.71	70.34	67.79	50.37	59.53	83.00	86.50	117.60	95.10	116.00	115.70	125.80	141.90
23 Guava	#	#	#	#	#	#	#	0.30	0.30	0.40	0.40	0.30	0.30	0.40	2.70
24 Quince	0.06	0.06	0.07	0.06	0.07	0.06	0.04	0.03	0.04	0.04	0.08	0.04	0.02	0.10	0.10
25 Cherries	#	#	#	#	#	#	na	na	na	0.04	0.02	0.02	0.03	0.05	0.10
26 Others	1.05	0.74	0.81	0.66	0.67	0.71	0.24	-	-	0.02	-	0.10	0.10	0.20	0.30

Remark: * Negligible small. Source: Annual Agricultural Statistics, Department of Statistics.

表 2.3 ショルダンにおける農業生産 (生産量)

(Unit: 1,000t)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
27 Tomatoes	184.90	151.80	145.30	155.70	201.50	195.40	205.20	311.40	375.40	408.20	354.60	392.30	305.90	258.40	290.80
28 Squash	7.63	17.16	18.61	18.07	21.37	27.53	24.96	34.00	73.80	83.10	78.70	69.50	51.90	47.50	33.30
29 Eggplant	62.69	85.92	44.01	49.15	48.57	69.41	81.45	99.30	110.00	93.90	73.70	76.30	80.00	68.90	34.90
30 Cucumber	10.98	17.10	18.38	21.66	22.58	44.54	64.19	106.20	87.50	108.20	99.10	124.70	92.70	110.70	80.90
31 Potatoes	2.10	9.10	8.30	7.50	10.10	4.50	8.40	9.10	11.50	25.70	26.60	26.30	38.50	48.20	51.70
32 Cabbage	8.30	15.10	16.00	13.40	8.90	18.30	16.70	15.40	20.60	31.60	27.90	28.90	27.90	20.10	16.20
33 Cauliflower	13.10	35.90	19.00	15.60	15.40	15.30	15.60	34.30	44.60	57.30	41.30	35.40	36.50	31.70	36.20
34 Pepper	4.66	6.28	6.78	6.98	6.68	10.82	12.32	13.20	15.50	32.50	27.80	27.50	26.80	31.80	29.30
35 Broad Bean	7.52	16.57	7.15	8.23	12.83	13.93	7.31	9.00	6.80	11.30	7.70	5.40	8.30	11.50	3.40
36 String Beans	3.11	6.62	6.64	4.84	6.78	4.22	9.94	9.20	11.70	12.10	16.90	17.50	19.90	10.50	13.20
37 Peas	0.17	0.52	0.18	0.03	0.04	0.37	0.09	0.20	0.60	0.40	0.40	0.50	0.40	0.90	0.20
38 Okra	2.39	2.49	2.06	3.00	2.06	1.06	3.81	3.50	2.00	4.00	2.20	3.00	4.00	4.10	4.60
39 Lettuce	*	*	*	*	*	*	*	3.70	9.30	20.10	26.20	18.60	26.40	19.70	12.70
40 Sweet Melon	14.71	6.50	5.08	5.48	5.15	12.98	10.22	9.30	13.10	34.10	34.70	51.60	27.10	47.70	57.40
41 Water Melon	59.11	50.24	62.77	36.29	25.65	3.43	27.09	19.40	25.20	73.70	46.50	65.00	60.70	91.70	100.70
42 Spinach	*	*	*	*	*	*	*	1.00	0.50	2.10	5.20	3.90	4.30	1.00	1.10
43 Onions	8.38	7.25	5.29	7.70	8.01	4.30	7.75	11.70	30.20	24.60	8.90	13.70	21.40	18.10	44.50
44 Snake Cucumber	5.96	5.61	4.40	4.52	3.27	1.03	7.83	6.60	5.40	6.20	6.00	3.70	2.80	4.20	7.60
45 Radish	*	*	*	*	*	*	*	0.30	-	-	1.00	2.20	-	-	-
46 Carrots	1.67	1.02	0.57	0.36	0.26	0.57	0.43	0.40	0.90	0.20	0.50	1.30	1.00	0.40	0.60
47 Beans	*	*	*	*	*	*	*	0.10	0.30	0.30	0.90	0.40	0.20	0.30	0.40
48 Garlic	1.28	1.17	0.87	0.21	0.38	0.19	0.12	0.20	0.20	0.30	1.20	0.70	1.00	1.00	2.20
49 Hulukhiyeh	-	5.98	9.19	-	5.28	13.44	9.94	23.60	28.70	23.40	20.00	18.00	15.20	28.90	27.00
50 Others	20.66	18.46	18.57	18.56	26.19	33.13	48.42	5.60	6.10	14.90	12.90	16.60	12.20	8.70	14.60

Remark: * Negligible small. Source: Annual Agricultural Statistics, Department of Statistics.

表 2.4 県別農業生産

CROPS *	Harvested Area (1,000 dunams)										Distribution (%)									
	Assan	Zarga	Irbit	Mafrag	Belge	Karak	Tafila	Ma'an	Al-Ghouz	Total	Assan	Zarga	Irbit	Mafrag	Belge	Karak	Tafila	Ma'an	Al-Ghouz	Total
FIELD CROPS *	437.54	34.76	202.77	206.91	24.35	151.26	55.16	97.01	50.56	1,271.02	31.9	2.5	14.8	22.4	1.8	11.8	4.0	7.1	3.7	100.0
1 Wheat	169.49	8.08	134.02	163.55	14.39	94.75	30.77	57.24	29.42	701.77	24.2	1.2	19.1	23.3	2.1	13.5	4.4	8.2	4.2	100.0
2 Barley	229.41	25.10	20.72	140.65	5.72	55.75	23.34	36.26	12.55	559.56	42.8	4.5	3.7	25.1	1.0	10.0	4.2	6.5	2.2	100.0
3 Lentils	13.78	0.07	34.23	1.24	0.27	2.27	0.38	0.28	0.02	53.14	25.9	0.1	65.5	2.3	0.5	4.3	0.7	0.5	-	100.0
4 Vetch	1.58	0.05	4.35	0.08	3.37	3.47	0.08	0.09	0.02	13.01	12.1	0.4	33.4	0.6	25.9	26.7	-	0.7	0.2	100.0
5 Chick-peas	6.50	1.12	4.50	0.72	0.24	2.92	0.67	0.08	0.02	16.79	38.7	5.7	26.8	4.2	1.4	17.4	4.0	0.5	0.1	100.0
6 Maize	4.41	0.05	0.92	0.56	0.27	1.86	-	-	4.33	12.50	33.3	0.4	7.4	2.2	15.7	-	-	-	34.6	100.0
7 Clover, Alfalfa	-	0.21	-	0.05	0.09	0.68	-	3.01	1.19	5.14	26.0	4.1	-	1.0	-	13.2	-	58.5	23.2	100.0
8 Others	2.37	0.07	3.31	0.05	0.09	0.06	-	0.05	3.11	9.11	-	0.8	26.3	0.5	1.0	0.7	-	0.5	34.1	100.0
TREE CROPS	65.78	40.69	234.14	44.00	41.33	18.88	8.27	15.98	71.83	540.90	12.2	7.5	43.3	8.1	7.6	3.5	1.5	3.0	13.3	100.0
9 Olives	40.76	29.83	204.74	40.24	30.24	7.08	4.07	3.99	1.80	362.75	11.2	8.2	56.4	11.1	8.3	2.0	1.1	1.1	0.5	100.0
10 Grapes	11.62	3.82	14.50	1.54	7.43	10.34	2.93	2.44	2.57	57.35	20.4	6.7	25.5	2.7	13.0	18.0	5.1	4.3	4.5	100.0
11 Figs	2.00	0.43	2.05	0.80	0.55	0.39	0.29	0.31	0.20	7.02	28.5	6.1	29.2	1.4	1.4	0.8	0.6	4.4	2.8	100.0
12 Apples	0.67	0.22	3.97	0.18	0.18	0.10	0.08	7.55	0.06	13.01	5.1	1.7	30.5	1.4	1.4	0.8	2.5	3.1	0.5	100.0
13 Almonds	1.05	0.33	2.55	0.15	0.47	0.31	0.13	0.18	0.52	5.15	20.4	6.4	49.5	2.9	9.1	6.0	2.5	3.1	-	100.0
14 Peaches	5.72	0.16	0.24	0.24	1.11	0.09	0.28	0.31	0.52	9.27	61.7	1.7	9.1	2.6	12.0	1.0	3.0	3.3	5.6	100.0
15 Apricots	0.69	0.06	0.51	0.19	0.13	0.09	0.28	0.22	2.17	2.17	31.8	2.8	23.5	8.8	6.0	4.1	12.9	10.1	-	100.0
16 Citrus	0.31	0.11	0.42	0.01	0.48	0.16	0.02	0.28	54.56	56.35	0.6	0.2	0.7	-	0.9	0.3	-	0.5	96.8	100.0
17 Pomegranates	0.34	2.68	1.78	0.31	0.11	0.06	0.05	0.13	0.45	5.92	5.7	45.3	30.1	5.2	1.9	1.0	1.0	2.2	7.5	100.0
18 Others	2.56	3.06	2.68	0.34	0.63	0.26	0.13	0.59	11.67	21.91	11.7	13.9	12.2	1.6	2.9	1.2	0.6	2.7	53.3	100.0
VEGETABLES	23.28	7.12	23.58	19.15	6.66	1.94	0.47	5.31	192.05	279.56	8.3	2.5	8.4	6.9	2.4	0.7	0.2	1.9	58.7	100.0
19 Tomatoes	1.29	0.83	0.96	5.18	0.59	0.87	0.21	1.22	45.89	57.04	2.3	1.5	1.7	9.1	1.0	1.5	0.4	2.1	80.5	100.0
20 Squash	3.97	0.41	0.27	0.59	0.52	0.49	-	0.08	17.00	23.33	17.0	1.8	1.2	2.5	2.2	2.1	-	0.3	72.9	100.0
21 Eggplants	0.66	0.18	0.33	0.27	0.24	0.03	-	0.02	19.98	21.71	3.0	0.8	1.5	1.2	1.1	0.1	-	0.1	92.0	100.0
22 Cucumber	0.74	0.19	0.09	0.09	2.08	0.09	-	0.17	6.94	10.49	7.1	1.8	1.8	0.9	19.8	0.9	-	1.6	56.2	100.0
23 Potatoes	1.23	0.35	0.38	0.70	0.07	-	-	1.23	20.39	24.15	5.1	1.4	1.6	2.9	0.3	-	-	5.1	83.6	100.0
24 Cabbages	1.89	0.33	0.51	0.17	-	0.02	-	-	1.73	4.65	40.6	7.1	11.0	3.7	-	0.4	-	-	37.2	100.0
25 Cauliflowers	3.30	1.45	0.97	2.39	0.42	0.01	-	0.02	1.36	9.92	33.3	14.6	9.8	24.1	4.2	0.1	-	0.2	13.7	100.0
26 Hot Pepper	0.23	0.19	0.03	0.24	0.23	-	-	-	6.12	7.04	3.4	0.4	3.4	3.4	3.3	-	-	-	85.9	100.0
27 Sweet Pepper	0.06	0.03	0.04	0.29	0.06	-	-	-	4.21	4.69	1.3	0.6	0.9	6.2	1.3	-	-	-	89.8	100.0
28 String Beans	0.69	0.01	0.07	0.08	0.96	-	-	-	10.68	12.49	5.5	0.1	0.6	0.6	7.7	-	-	-	85.5	100.0
29 Okra	1.03	-	2.05	0.11	0.82	0.05	-	0.04	1.04	5.14	20.0	-	39.3	2.1	15.0	1.0	-	0.8	20.2	100.0
30 Lettuce	0.49	0.03	0.54	0.44	0.22	-	-	-	4.09	5.81	8.4	0.5	9.3	7.6	3.8	-	-	-	70.4	100.0
31 Sweet Melons	0.25	0.82	4.35	0.69	-	0.23	0.22	0.30	22.30	29.17	0.9	2.8	14.9	2.4	0.8	0.8	-	1.0	76.4	100.0
32 Onions	0.59	0.07	5.60	0.09	0.35	0.01	-	0.80	7.82	15.23	3.9	0.5	36.1	0.6	2.3	0.1	-	5.3	51.3	100.0
33 Water Melons	4.15	1.37	6.17	7.54	-	0.11	0.04	1.39	9.91	30.68	13.5	4.5	20.1	24.6	-	0.4	0.1	4.5	32.3	100.0
34 Others	2.70	0.86	1.22	0.28	0.10	0.03	-	0.04	12.79	18.02	15.0	4.8	6.8	1.6	0.6	0.2	-	0.2	71.0	100.0
TOTAL	526.60	82.57	460.49	370.06	72.34	182.68	63.90	118.30	314.54	2,191.48	24.0	3.8	21.0	16.9	3.3	8.3	2.9	5.4	14.4	100.0

Remark: * Excluding tobacco. Source: Statistical Yearbook 1988, Department of Statistics.

表 2.4 県別農業生産

	Crop Production (1,000 t)								Distribution (%)											
	Amnan	Zarga	Irbid	Ma'raq	Balqa	Karak	Tafila	Ma'an	Al-Ghouar	Total	Amnan	Zarga	Irbid	Ma'raq	Balqa	Karak	Tafila	Ma'an	Al-Ghouar	Total
FIELD CROPS	38.88	2.31	26.08	22.23	2.86	19.76	3.95	22.59	13.99	152.65	25.4	1.5	17.1	14.6	1.9	12.9	2.6	14.8	9.2	100.0
1 Wheat	17.46	0.45	16.44	12.00	2.03	10.06	1.66	12.82	5.85	78.77	22.2	0.6	20.8	15.2	2.6	12.8	2.1	16.3	7.4	100.0
2 Barley	16.78	1.49	2.33	9.99	0.54	6.85	2.24	2.68	1.95	44.35	37.4	3.3	5.2	22.3	1.2	15.3	5.0	6.0	4.3	100.0
3 Lentils	1.67	-	4.53	0.10	0.04	0.17	0.02	0.01	-	6.54	25.5	-	69.3	1.5	0.6	2.6	0.3	0.2	-	100.0
4 Vetch	0.16	0.05	1.30	0.01	0.21	0.26	-	-	-	1.99	8.0	2.5	65.3	0.5	10.6	13.1	-	-	-	100.0
5 Chick-peas	0.66	0.12	0.53	0.06	0.03	0.36	0.03	0.01	3.48	1.80	36.7	6.7	29.3	3.3	1.7	20.0	1.7	0.6	77.8	100.0
6 Balze	0.28	0.01	0.29	0.03	-	0.38	-	4.47	-	4.47	5.3	0.2	6.5	0.7	-	8.5	-	-	100.0	
7 Clover, Alfalfa	-	0.18	-	0.02	-	1.67	-	7.06	1.30	10.23	-	1.8	-	0.2	-	16.3	-	59.0	12.7	100.0
8 Others	1.87	0.01	0.66	0.02	0.01	0.01	-	0.01	1.41	4.00	46.7	0.3	16.4	0.5	0.3	0.3	-	0.3	35.2	100.0
TREE CROPS	14.30	5.56	63.63	6.31	7.56	3.06	1.45	4.55	138.31	244.73	5.8	2.3	26.0	2.6	3.1	1.3	0.6	1.9	56.4	100.0
9 Olives	4.70	3.35	50.90	4.88	4.17	1.20	0.52	0.59	0.48	70.79	6.6	4.7	72.0	6.9	5.9	1.7	0.7	0.8	0.7	100.0
10 Grapes	5.21	0.96	7.44	0.67	1.38	1.15	0.69	0.86	3.27	21.53	24.2	4.5	34.6	2.6	6.4	5.3	3.2	4.0	15.2	100.0
11 Figs	0.48	0.13	1.02	0.14	0.14	0.09	0.05	0.03	0.10	2.38	22.0	6.0	46.8	6.4	6.4	4.1	2.3	1.4	4.6	100.0
12 Apples	0.12	0.03	1.50	0.12	0.03	0.02	-	2.66	0.06	4.53	2.6	0.7	33.1	2.6	0.7	0.4	-	58.6	1.3	100.0
13 Almonds	0.33	0.03	0.47	0.02	0.14	0.05	0.08	0.01	-	1.13	29.2	2.7	41.5	1.8	12.4	4.4	7.1	0.9	16.0	100.0
14 Peaches	2.56	0.03	0.19	0.24	0.45	0.19	-	0.02	0.70	4.38	58.4	0.7	4.3	6.5	10.3	4.3	-	0.5	16.0	100.0
15 Apricots	0.03	0.01	0.04	0.10	0.02	0.08	0.06	0.03	-	0.37	8.1	2.7	10.8	27.1	5.4	21.6	16.2	8.1	0.5	100.0
16 Citrus	0.09	0.04	0.78	-	1.07	0.07	0.01	0.16	99.06	101.28	0.1	-	0.8	3.8	1.1	0.1	-	0.2	97.7	100.0
17 Pomegranates	0.09	0.30	0.64	0.07	0.02	0.03	0.01	0.02	0.64	1.82	4.9	15.6	35.2	3.8	1.1	1.6	0.5	1.1	35.2	100.0
18 Others	0.69	0.68	0.65	0.17	0.14	0.18	0.03	0.18	34.00	36.72	1.9	1.9	1.8	0.5	0.4	0.5	0.1	0.5	92.4	100.0
VEGETABLES	49.38	13.02	30.63	53.50	25.08	4.11	1.06	12.02	475.58	694.38	7.4	2.0	4.6	8.1	3.8	0.6	0.2	1.8	71.5	100.0
19 Potatoes	2.65	0.93	1.84	23.28	1.39	1.96	0.59	3.85	189.12	218.71	1.2	0.4	0.8	10.6	0.6	0.9	0.3	1.8	83.4	100.0
20 Squash	5.98	0.42	0.31	0.90	0.43	1.19	-	0.08	25.04	31.35	19.1	1.3	1.0	2.9	1.4	3.8	-	0.3	70.2	100.0
21 Eggplants	0.63	0.22	0.74	0.11	0.22	0.04	-	0.03	70.88	72.87	0.9	0.3	1.0	0.2	0.3	0.1	-	0.0	97.2	100.0
22 Cucumber	5.63	0.15	0.77	0.03	20.25	0.17	-	0.02	40.25	67.27	8.4	0.2	1.1	0.0	30.1	0.3	-	0.0	59.9	100.0
23 Potatoes	3.45	0.45	0.52	0.68	0.09	-	-	3.69	39.04	47.92	7.2	0.9	1.1	1.4	0.2	-	-	7.7	81.5	100.0
24 Cabbages	5.68	1.02	1.60	0.70	-	0.02	-	-	5.36	14.38	39.5	7.1	11.1	4.9	-	0.1	-	-	37.3	100.0
25 Cauliflowers	9.14	2.62	1.69	2.82	0.82	0.02	-	0.04	2.05	19.20	47.6	13.6	8.8	14.7	4.7	0.1	-	0.2	10.7	100.0
26 Hot Pepper	0.20	0.15	0.03	0.23	0.36	-	-	-	12.61	13.38	1.5	1.1	0.2	1.7	2.7	0.1	-	-	92.8	100.0
27 Sweet Pepper	0.09	0.02	0.04	0.31	0.19	-	-	-	10.88	11.53	0.8	0.2	0.3	2.7	1.6	-	-	-	94.4	100.0
28 String Beans	0.21	0.01	0.04	0.02	0.40	-	-	-	13.22	13.90	1.5	0.1	0.3	0.1	2.9	-	-	-	95.1	100.0
29 Okra	0.20	-	0.40	0.02	0.16	0.01	-	0.02	-	1.14	17.5	35.1	1.8	14.0	14.0	0.9	-	1.8	28.9	100.0
30 Lettuce	0.37	0.05	0.83	1.36	0.27	-	-	-	11.29	14.17	2.6	0.4	5.9	9.6	1.9	-	-	-	79.6	100.0
31 Sweet Melons	1.40	4.76	1.19	1.19	0.47	0.47	0.32	0.35	11.28	20.20	2.1	6.9	23.6	5.9	-	2.3	1.6	1.7	55.9	100.0
32 Onions	0.75	0.07	3.54	0.09	0.45	0.01	-	0.83	21.04	29.38	2.5	0.2	11.9	0.3	1.5	-	-	2.8	80.8	100.0
33 Water Melons	12.78	4.35	13.20	21.53	-	0.20	0.05	3.11	11.55	66.77	19.1	6.5	19.8	32.2	-	0.3	0.1	4.7	17.3	100.0
34 Others	1.19	1.16	0.32	0.23	0.05	0.02	-	-	18.64	21.61	5.5	5.4	1.5	1.1	0.2	0.1	-	-	86.2	100.0
TOTAL	102.56	20.89	120.34	82.04	35.50	26.93	6.46	39.16	627.88	1,051.76	9.7	2.0	11.3	7.7	3.3	2.5	0.6	3.7	59.2	100.0

表 2.5 ジョルダンにおける家畜生産

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
(1) Number of Livestock (1,000 heads)													
- Poultry	*	*	*	*	*	*	*	*	*	*	*	*	*
- Camels	25.5	29.0	32.0	28.0	28.0	27.5	30.0	34.0	34.5	31.1	29.0	*	*
- Cows	(19.0)	(21.0)	(22.0)	(21.0)	(20.0)	(18.0)	(19.0)	(20.0)	(19.5)	(15.5)	(11.5)	(11.6)	29.5
{Local}	(5.5)	(8.0)	(10.0)	(7.0)	(8.0)	(5.5)	(11.0)	(14.0)	(15.0)	(15.6)	(17.5)	(17.9)	17.9
{Duch}	358.0	392.0	573.0	453.0	529.3	590.0	442.0	419.0	515.0	439.2	460.1	509.9	509.9
- Goats	(347.0)	(382.0)	(594.0)	(445.0)	(515.0)	(567.0)	(420.0)	(400.0)	(490.0)	(420.0)	(441.0)	(490.0)	(490.0)
{Local}	(11.0)	(10.0)	(9.0)	(8.0)	(14.3)	(23.0)	(22.0)	(19.0)	(25.0)	(19.2)	(19.1)	(19.9)	(19.9)
{Syria}	804.0	856.0	924.0	852.0	1,073.0	990.0	380.0	960.0	1,121.0	930.0	1,219.0	1,219.0	1,219.0
- Sheep													
(2) Slaughtered Livestock (1,000 heads)													
- Poultry	-	-	465.2	365.3	1,721.0	2,322.0	3,056.0	3,000.0	3,856.0	4,528.0	3,636.0	5,050.8	5,050.8
- Camels	1.20	1.50	1.90	2.10	2.00	1.00	1.00	1.30	1.00	1.50	1.56	1.64	1.64
- Cows	21.5	16.3	15.2	9.2	11.6	9.5	6.4	12.3	23.3	17.7	12.5	15.3	15.3
- Goats	220.2	179.5	185.3	84.0	173.5	190.7	51.0	114.0	85.0	79.0	58.5	56.7	56.7
- Sheep	188.4	210.0	263.0	270.0	295.7	314.0	444.2	295.4	251.5	269.5	281.1	282.5	282.5
(3) Livestock Production													
1) Red Meat Production (tons)													
- Camels	*	525	575	755	945	405	255	225	495	204	218	231	231
- Cows	*	1,554	1,550	1,554	1,555	1,470	2,078	2,125	1,278	1,008	1,065	1,001	1,001
- Goats	*	1,604	1,600	1,980	2,025	2,381	2,300	2,125	2,778	1,511	1,853	1,314	1,314
- Sheep	*	3,895	3,381	3,825	4,050	4,455	5,557	5,445	6,356	3,776	5,028	5,193	5,193
2) Milk Production (tons)													
- Cows	*	44,059	38,708	45,968	41,970	47,178	45,550	49,956	56,465	51,720	61,535	66,423	66,423
- Goats	*	21,179	17,407	21,256	16,112	18,090	18,785	26,526	25,630	25,880	30,703	33,026	33,026
- Sheep	*	9,176	9,142	11,112	11,488	13,608	11,085	9,870	12,915	10,950	11,024	12,678	12,678
- Broiler	*	13,704	12,159	13,500	14,400	15,480	15,580	13,560	17,920	14,880	19,808	20,119	20,119
3) Broiler (1,000 tons) *													
		23.7	32.0	33.0	32.0	40.0	49.0	63.0	69.0	78.0	84.3	75.3	75.3
4) Eggs (million eggs) *													
		260	280	330	340	365	415	390	520	500	425	380	380

Source: Statistical Yearbook 1988, Department of Statistics.

表 2.6 農業貿易 (1983-1988)

(Unit: JD 1,000)

	1983	1984	1985	1986	1987	1988	Average
EXPORTS							
Agricultural Commodity #1	37,459	15,960	19,678	21,594	14,263	14,355	20,552
1) Live Animals	6,855	3,727	3,663	3,493	2,750	560	3,508
2) Daily Products & Eggs	2,580	1,455	3,314	1,841	4,475	5,862	3,255
3) Wheat and Flour of Wheat	79	1,622	5,100	1,564	3,213	832	2,068
4) Vegetables	17,614	18,565	16,628	13,377	14,765	15,168	16,020
- Tomatoes	(6,002)	(6,214)	(5,332)	(4,422)	(4,767)	(5,614)	(5,392)
- Eggplant	(1,229)	(1,672)	(1,509)	(1,220)	(1,089)	(1,119)	(1,306)
- Squash	(1,557)	(1,254)	(1,227)	(930)	(738)	(624)	(1,055)
- Cucumber	(2,961)	(3,081)	(3,017)	(2,062)	(2,600)	(2,051)	(2,629)
- Cauliflower	(827)	(798)	(648)	(501)	(500)	(468)	(624)
- Others	(5,038)	(5,546)	(4,895)	(4,242)	(5,071)	(5,292)	(5,014)
5) Fruits and Nuts	7,604	8,359	7,458	8,475	5,246	4,400	6,924
- Orange	(3,749)	(4,099)	(3,405)	(5,290)	(2,539)	*	*
- Mandarin	(286)	(957)	(1,213)	(1,157)	(777)	*	*
- Lemons	(845)	(917)	(1,204)	(873)	(764)	*	*
- Water Melon	(139)	(306)	(337)	(336)	(400)	(586)	*
- Sweet Melon	(750)	(798)	(708)	(441)	(624)	(533)	*
- Others	(1,835)	(1,282)	(591)	(378)	(142)	*	*
6) Fodder	101	6,962	6,587	12,407	1,721	1,408	4,864
7) Others	1,444	1,071	838	775	1,667	1,780	1,263
8) Animal & Vegetable Oil	1,182	1,123	176	1,514	437	532	844
- Olive Oil	(1,002)	(913)	(94)	(1,373)	(196)	(365)	(657)
- Others	(180)	(210)	(82)	(141)	(241)	(267)	(187)
Total Export of Jordan	160,085	261,055	255,346	225,615	248,773	324,788	245,944
% of Agricultural Commodity	23.4	6.1	7.7	9.6	5.7	4.4	8.4
IMPORTS							
Agricultural Commodity #1	184,471	194,796	185,936	174,985	163,737	183,772	181,283
1) Live Animals	21,557	5,892	8,599	2,923	3,627	4,334	7,822
2) Meat	24,576	23,032	33,225	24,324	27,020	28,654	26,805
3) Daily Products & Eggs	15,458	16,756	17,866	17,012	15,798	16,728	16,603
4) Wheat and Flour of Wheat	32,840	39,165	28,185	15,822	28,710	25,417	28,357
5) Rice	4,419	8,247	7,301	9,772	7,256	10,570	7,928
6) Sugar	6,509	5,151	3,640	8,696	9,307	8,251	6,926
7) Fruits, Vegetables and Nuts	32,274	27,786	25,361	25,367	16,506	17,410	24,117
- Apples	(8,452)	(5,284)	(7,177)	(4,940)	*	*	*
- Potatoes	(2,020)	(2,048)	(1,543)	(1,646)	(606)	(1,461)	*
- Onion	(1,600)	(1,450)	(892)	(1,592)	(445)	(546)	*
- Apricot	(436)	(161)	(456)	(328)	*	*	*
- Almonds	(399)	(618)	(301)	(283)	(711)	*	*
- Chick-pea	(1,782)	(1,597)	(2,123)	(1,696)	(2,444)	(987)	*
- Others	(17,605)	(16,628)	(12,869)	(14,882)	*	*	*
8) Coffee, Tea, Cocoa & Spices	5639	6785	6033	6240	6100	7700	6,416
9) Animal & Vegetable Oil	4,105	10,479	10,152	9,417	8,018	10,863	8,839
10) Others	37,094	51,503	45,574	55,412	41,395	53,845	47,471
Total Import of Jordan	1,103,310	1,071,340	1,074,445	850,199	915,545	1,022,469	1,006,218
% of Agricultural Commodity	16.7	18.2	17.3	20.6	17.9	18.0	18.0

Remarks: #1 Excluding tobacco.

Source: Statistical Yearbook 1987 & 1988, Department of Statistics.

表 2.7 農業生産物の輸出及び輸入

(Unit: 1,000 tons)

	1982	1983	1984	1985	1986	1987	1988
EXPORTS							
1 Wheat	-	-	-	-	-	58.46	5.00
2 Wheat Flour	1.10	0.70	30.50	51.30	17.70	8.40	*
3 Lentils	0.90	0.60	-	-	-	-	*
4 Chick-peas	0.10	-	-	0.50	-	-	*
5 Sesame	-	0.10	0.03	-	-	-	*
6 Tomato	152.31	125.52	128.00	108.20	94.90	94.45	116.90
7 Eggplant	37.60	27.44	35.20	31.70	27.00	22.71	26.00
8 Pepper	12.43	17.15	19.60	18.90	18.90	20.49	23.60
9 Potato	1.19	2.04	5.20	5.50	1.70	11.28	8.60
10 Cauliflower	13.60	16.71	15.00	12.30	9.60	9.80	11.10
11 String Beans	5.94	7.53	7.10	6.60	5.90	6.21	9.10
12 Carrot	0.70	0.70	0.50	0.40	0.20	0.10	0.02
13 Squash	40.17	32.65	23.50	23.90	18.00	14.39	14.90
14 Cucumber	54.74	59.11	58.00	58.50	39.60	43.27	44.30
15 Watermelon	0.15	2.44	5.20	5.70	6.30	7.26	11.20
16 Sweet Melon	5.13	14.85	14.40	13.40	8.40	11.61	12.60
17 Onions	4.30	4.15	3.96	4.07	2.05	1.53	1.00
18 Okra	0.90	1.80	0.80	1.30	0.50	0.80	1.60
19 Cabbages	8.08	9.09	12.34	8.40	6.80	6.43	9.70
20 Oranges	105.46	74.13	82.06	71.58	78.55	48.00	26.60
21 Lemons	15.81	16.79	18.51	23.88	17.43	16.00	12.60
22 Clementine	4.20	4.40	15.00	17.20	16.50	11.50	11.10
23 Mandarins	1.50	1.00	3.00	4.90	4.50	3.00	2.40
24 Other Citrus	15.40	13.60	4.30	1.10	1.70	0.60	1.30
25 Apples	0.30	0.20	0.30	0.20	-	-	-
26 Grapes	5.78	5.79	4.40	2.10	1.10	0.91	1.20
27 Figs	0.30	0.40	0.30	0.10	-	0.10	0.10
28 Pomegranate	0.90	0.90	0.90	0.60	0.50	0.40	0.40
29 Peaches	0.30	0.20	0.30	0.10	0.10	0.01	0.03
30 Apricots	0.30	0.20	0.10	0.30	1.50	0.01	0.02
31 Plums	3.90	2.70	2.60	2.20	1.30	0.10	1.10
32 Pears	0.10	0.05	0.20	0.10	0.10	-	-
33 Green Olives	0.89	1.43	1.40	0.54	1.19	0.50	0.08
34 Olive oil	0.95	1.32	1.26	0.30	1.87	0.26	0.53
IMPORTS							
1 Wheat	209.2	318.7	450.5	376.9	270.9	542.4	400.0
2 Wheat Flour	138.5	19.8	12.2	8.8	9.5	27.5	*
3 Barley	69.3	17.4	179.8	74.9	143.5	114.8	98.0
4 Maize	151.5	170.1	132.1	205.4	233.5	182.8	*
5 Lentils	1.4	2.7	0.1	0.6	1.1	1.6	0.5
6 Chick-peas	7.1	9.8	8.4	10.4	10.1	18.1	7.5
7 Broadbeans	3.1	2.5	2.7	3.2	3.4	3.2	*
8 Stringbeans	1.3	1.4	1.5	1.1	1.5	1.6	*
9 Peas	0.1	0.2	0.3	0.1	0.2	0.2	*
10 Sesame	6.9	5.3	6.1	5.4	8.5	9.6	*
11 Rice (husked)	45.9	38.1	55.3	51.1	71.6	71.8	*
12 Potatoes	24.4	26.5	23.8	16.2	13.4	3.9	2.4
13 Onion	19.6	19.1	16.2	8.6	14.4	4.5	4.7
14 Carrots	3.8	3.7	4.2	3.9	5.5	2.0	0.6
15 Garlic	1.4	2.7	1.9	1.8	1.6	0.7	0.1
16 Water Melon	5.7	3.1	1.0	0.5	0.9	-	0.1
17 Sweet Melon	0.5	0.4	0.4	0.4	0.4	1.8	1.1
18 Lemons	0.9	1.1	0.3	0.9	1.0	-	-
19 Apples	40.4	46.0	29.7	53.1	31.8	17.6	8.6
20 Apricots	1.8	1.9	0.6	2.0	1.8	*	0.4
21 Pears	2.6	3.0	2.5	3.9	2.3	-	0.6
22 Cherries	0.6	0.5	0.3	0.8	0.6	-	0.1
23 Almonds	0.28	0.35	0.48	0.25	0.21	0.50	*
24 Peanuts	0.25	0.24	0.50	0.35	*	*	*
25 Sugar	90	61	45	40	122	128	*

Source: (1) Annual Agricultural Statistics 1988, Department of Statistics.

(2) Agricultural Statistics Indicators 1981-1988, Ministry of Agriculture.

表 2.8 一人当たり農業生産物消費量

(Unit: kg/year)

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	Average#1	Trend
1 Wheat (grain)	164	153	202	212	171	184	176	145	108	216	190	156	±
2 Barley (grain)	20	24	35	13	32	21	72	36	58	55	51	50	+
3 Lentils	4.3	1.0	5.3	1.8	1.3	4.1	0.7	1.7	1.3	3.2	3.4	2.1	-
4 Vetch	1.9	0.6	1.6	1.4	1.0	2.0	0.5	0.9	0.6	1.3	2.2	0.9	-
5 Chick-pea	1.8	4.0	3.4	3.4	3.3	4.5	3.5	4.3	3.9	6.6	3.2	4.9	+
6 Maize	47	59	50	59	63	68	51	77	84	63	*	75	+
7 Rice (husked)	12	16	21	16	19	14	21	19	26	25	*	23	+
8 Grape	22.4	17.2	19.6	19.7	19.3	20.9	16.7	20.9	22.2	21.1	25.7	21.4	±
9 Fig	1.4	1.0	0.9	0.9	0.9	0.8	0.8	0.9	1.0	1.0	1.1	1.0	-
10 Almonds	1.4	1.5	1.3	1.2	1.1	1.1	1.2	0.9	0.8	0.9	*	0.9	±
11 Peache	0.2	0.6	0.5	0.7	2.3	1.7	1.1	1.1	1.5	0.3	1.4	1.0	±
12 Plum and Prune	1.7	0.9	1.3	2.0	2.6	1.1	1.4	1.5	1.6	0.5	1.4	1.2	-
13 Apricot	0.7	0.7	0.6	0.7	1.0	1.0	0.4	0.9	0.3	0.2	0.4	0.5	±
14 Ponegranate	1.5	0.9	0.9	0.4	0.5	0.5	0.3	0.5	0.5	0.4	1.4	0.4	-
15 Apple	7.6	11.5	10.1	13.1	18.5	20.3	13.1	20.7	12.3	6.8	4.5	13.3	±
16 Pear	0.4	0.9	0.7	0.4	1.1	1.3	1.0	1.5	0.9	0.1	0.4	0.8	±
17 Banana	8.7	7.6	8.0	6.7	7.2	9.1	9.8	14.2	12.7	17.0	12.3	14.6	+
18 Citrus	38.5	59.1	34.7	39.5	35.6	46.5	37.0	40.7	36.0	43.7	45.4	40.1	-
19 Quince	0.03	0.03	0.02	0.01	0.02	0.02	0.03	0.02	0.01	0.04	0.03	0.02	±
20 Tomatoes	61.0	51.1	47.0	95.5	99.3	117.8	95.3	113.7	81.4	61.8	58.5	85.6	±
21 Squash	3.3	4.4	2.0	2.3	14.0	20.3	21.3	17.0	12.2	11.5	6.2	13.6	±
22 Eggplant	16.2	20.6	25.6	30.5	33.1	27.6	15.5	17.8	19.7	9.1	3.0	15.5	±
23 Cucumber	6.2	17.1	18.9	28.5	14.6	19.9	16.0	24.7	19.0	23.3	11.9	22.3	±
24 Potatoes	11.8	8.5	12.3	21.2	15.5	21.7	19.4	15.4	19.4	16.3	16.3	17.0	±
25 Cabbage	2.5	6.9	5.2	3.4	5.2	9.0	17.4	7.6	7.6	4.7	2.2	6.6	±
26 Cauliflower	3.8	4.9	2.3	10.1	12.9	16.3	10.2	8.6	9.6	7.6	8.4	8.6	±
27 Sweet Pepper	0.9	1.3	2.6	1.2	1.3	6.2	3.2	3.2	2.8	3.6	1.9	3.2	±
28 Okra	0.8	0.4	1.2	1.0	0.5	0.9	0.5	0.6	1.3	1.1	1.0	1.0	±
29 Lettuce	4.6	3.0	1.7	4.2	3.9	8.1	10.1	6.9	9.5	6.8	4.2	7.7	±
30 Water Melon	15.0	4.6	15.7	17.2	19.7	42.1	31.5	37.3	28.1	35.4	32.3	33.6	±
31 Onion	7.1	7.0	5.6	10.4	15.9	16.5	9.7	8.5	14.0	9.0	16.8	10.5	+
32 Snake Cucumber	1.6	0.5	3.5	2.9	2.3	2.5	2.3	1.4	1.0	1.5	2.5	1.3	±
33 Carrot	0.2	1.0	1.1	0.9	1.7	1.3	1.6	1.8	2.3	0.8	0.4	1.6	±
34 Sweet Melon	2.0	6.3	3.6	5.7	4.8	10.8	10.9	17.0	6.8	13.1	15.4	12.3	±
35 Green Pea	0.3	0.2	0.7	2.0	1.6	3.2	3.2	2.9	1.9	1.1	0.4	2.0	+
36 Hulukhiyeh	2.6	6.3	4.5	10.2	12.0	9.4	7.7	6.7	5.4	10.0	9.0	7.4	+
37 Garlic	0.6	0.5	0.7	0.6	0.7	1.2	1.2	0.9	0.9	0.6	0.8	0.8	±
38 Olive	*	*	*	11.0	35.0	11.5	22.4	13.4	32.9	12.4	*	19.6	±
39 Red Meat	10.8	10.6	9.6	16.7	16.1	13.4	13.0	25.1	16.5	16.7	*	19.4	+
40 Broiler	13.3	15.8	17.1	14.3	15.7	19.6	22.1	21.4	23.9	22.5	*	22.6	+
41 Eggs (No.)	130	177	141	122	130	133	137	144	153	114	*	137	+

Remark: #1 Average between 1985 and 1987

表 3.1 調査対象地域における行政及び人口

Region	Sub-Region	Unit	No. of Village	Actual		Projected	
				1979	1980	1985	1990
1.	AMMAN		46	11,569	12,177	13,745	15,001
	1.1	Madaba	46	11,569	12,177	13,745	15,001
		(1) Aljeezeh	11	1,046	1,434	1,584	1,750
		(2) Ummleih	5	3,462	3,531	3,899	4,035
		(3) Jmail	14	2,372	2,419	2,912	3,244
		(4) Dhiban	16	4,689	4,793	5,350	5,972
2.	KARAK		112	81,030	83,162	96,310	109,280
	2.1	Karak	39	30,853	31,706	37,838	43,218
		(1) Karak	19	22,793	23,451	27,046	31,102
		(2) Abdalia	10	5,035	5,158	6,306	7,073
		(3) Zahoum	10	3,025	3,097	4,486	5,043
	2.2	Al-qaser	22	15,909	16,291	18,439	20,652
		(1) Al-qaser	9	7,268	7,442	8,378	9,378
		(2) Faqu'a	7	5,587	5,721	6,542	7,331
		(3) Jad'a	6	3,054	3,128	3,519	3,943
	2.3	Mazal Janobi	42	22,729	23,350	26,729	30,503
		(1) M. Janobi	7	9,140	9,435	11,062	12,950
		(2) Taybeh	12	3,488	3,570	4,021	4,504
		(3) Hosaynia	23	10,101	10,345	11,646	13,049
	2.4	Ayy					
		(1) Ayy	6	9,159	9,378	10,560	11,832
	2.5	Qatraneh					
		(1) Qatraneh	3	2,380	2,437	2,744	3,075
3.	TAFILA		36	31,921	32,770	37,371	42,508
	3.1	Tafila					
		(1) Tafila	26	24,622	25,295	28,955	33,078
	3.2	Bosarah					
		(1) Bosarah	10	7,299	7,475	8,416	9,430
Total Study Area			194	124,520	128,109	147,426	166,789

Source: National Village Survey 1984.

表 3.2 ジョルダンにおける調査対象地域の位置付

Aspects	Unit	Figure		Share of Study Area (%)
		Whole Country	Study Area	
1. Land Area and Population				
1) Land area	(km ²)	89,200 *1	8,100	9.1
2) Population	(1,000)	2,700	143	5.3
3) Population density	(P/km ²)	30	18	-
4) Annual growth rate	(%)	4.0	2.8	-
5) Urban pop. ratio *2	(%)	70	24	-
3. Employment (1,000)				
1) Agriculture sector		39.2	4.8	12.2
2) Mining & manuf'g sector		53.1	3.4	6.4
3) Other productive sector		60.8	2.9	4.8
4) Services sector		114.6	3.3	2.9
5) Public services sector		234.7	14.4	6.1
(Total)		(502.4)	(28.8)	(5.7)
4. GDP/GRDP				
1) GDP/GRDP by industry (Million JD)				
- Agriculture sector		114.5	9.3	8.1
- Mining & manuf'g sector		291.2	47.2	16.2
- Other productive sector		151.8	5.6	3.7
- Services sector		622.0	15.0	2.4
- Public services sector		426.4	21.1	4.9
(Total)		(1,605.9)	(98.2)	(6.1)
2) Per capita GDP/GRDP (JD)		595	687	-
(Excluding mining sector contribution)			381	-
3) Per capita household income (1980) (JD)		641	495 *3	-
5. Total Planned Investment 1986-1990 (Million JD)				
		2,706	227	8.4
6. Infrastructure				
1) School enrollment ratio (%)		30	30	-
2) Hospital beds (Nos.)		n.a.	190	-
3) Number of physician per 10,000		11.3	5.6	-
4) Electrification ratio (%)		90.8	87.1	-
5) Electric power consumption (GWh/yr)		2,151	175 *4	8.1
7. Water (MCM/yr)				
1) Municipal water supply		68	3.5	5.1
2) Industrial water supply		41	10.1	24.6
3) Irrigation water supply		409	11.0	2.7
8. Agriculture				
1) Arable land (1,000ha)		684 *5	125	18.3
2) Irrigated land (1,000ha)		57	3.2	5.6
3) Farm household (1,000)		58	13	22.4
4) Wheat production (1,000t)		163 *6	11.7 *7	7.2
5) Yield of cereal (t/ha)		1.1 *6	0.9 *7	-
6) Number of sheep (1,000)		283 *6	19.7 *7	7.0
7) Number of goats (1,000)		56.7 *6	13.7 *7	24.2

Note: Basic data year 1985 *1 Land area of the East Bank.

*2 Population ratio who live in urban with more than 5,000 persons.

*3 Old Karak governorate.

*4 Karak, Tafila and Shaubak areas.

*5 Normally used for agriculture.

*6 1988 *7 Karak and Tafila (1988)

Source: (1) The Study on Integrated Regional Development Master Plan for the Karak-Tafila Development Region, 1988, JICA.

(2) Statistical Yearbook 1988, Department of Statistics.

表 3.3 デイバンにおける開発可能地域の分布

Slope (%)	(Unit: ha)												Total					
	0 - 4			4 - 8			8 - 12			12 - 30				30 <				
	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<						
Soil Depth (cm)	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<	Total		
Annual Rainfall	300 - 250 mm	275	275	0	0	0	925	806	119	25	100	550	325	125	375	25	2,575	
		275	0	0	0	0	806	119	25	75	100	325	119	19	6	6	1,637	
		0	0	0	0	0	119	25	25	23	23	203	225	106	256	19	1,938	
		0	0	0	0	0	107	107	23	23	23	203	225	27	42	17	667	
	250 - 200 mm	450	444	6	6	0	1,575	1,544	31	50	44	325	269	50	225	0	2,850	
		444	6	6	0	0	1,544	31	6	44	44	269	13	13	31	31	2,476	
		6	6	0	0	0	31	6	2	6	2	56	38	9	94	36	375	
		6	0	0	0	0	28	28	2	2	2	51	9	9	84	216	216	
	200 - 150 mm	925	25	25	0	0	5,750	3,294	19	2,025	50	2,125	219	1,300	450	25	25,500	
		544	25	25	0	0	3,294	1,188	31	581	31	919	188	188	163	6	11,890	
		381	0	0	0	0	2,456	1,438	19	1,444	19	1,206	106	1,112	288	19	13,613	
		343	0	0	0	0	2,621	1,294	17	1,267	17	1,086	96	835	259	17	11,384	
	150 - 100 mm	1,250	0	0	0	0	1,625	1,094	0	225	0	625	875	875	275	0	5,350	
		638	0	0	0	0	1,094	63	138	0	0	375	238	238	50	0	2,621	
		613	0	0	0	0	531	38	88	0	0	250	638	638	225	0	2,733	
		551	0	0	0	0	478	17	79	0	0	225	492	203	185	0	2,230	
	Total	925	25	25	0	0	9,875	6,738	31	2,400	50	3,625	325	2,350	1,325	200	50	36,275
		544	25	25	0	0	6,738	1,257	31	838	31	1,888	219	458	463	0	12	18,624
		381	0	0	0	0	3,137	1,495	19	1,563	19	1,737	106	1,894	863	200	38	17,659
		343	0	0	0	0	2,824	1,328	17	1,371	17	1,565	96	1,363	777	180	34	14,497

Remark: Four (4) figures in each class indicate (i) Total Area, (ii) Extent of Farmland, (iii) Extent of Non-Farmland and (iv) Expansable Area from top to bottom in order.

表 3.4 アビヤドにおける開発可能地域の分布

Slope (%)	(Unit: ha)												Total	
	0 - 4			4 - 8			8 - 12			12 - 30				Total
	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<		
Soil Depth (cm)														
Annual Rainfall														
250 - 200 mm		75	200	25	175	75	700							1,275
		63	81	0	119	19	138							433
		13	119	25	56	56	563							845
		11	107	23	51	51	506							760
200 - 150 mm	200	375	1,300	975	1,025	250	700	25	700	50				5,725
	106	256	544	325	350	113	206	19	206	0				2,169
	94	119	756	650	675	138	494	6	494	50				3,557
	84	107	681	585	608	124	444	6	444	45				3,202
150 - 100 mm	1,875	2,575	3,825	2,750	3,325	1,925	2,400	25	2,400	700				22,550
	188	1,750	1,238	100	6	88	0	13	0	0				2,921
	1,688	1,825	2,588	2,650	3,319	1,838	2,400	13	2,400	700				19,633
	1,519	1,643	2,329	2,385	2,987	1,654	2,160	11	2,160	630				17,248
100 - 50 mm	1,200	225	2,650	850	475									6,100
	0	0	0	0	0									0
	1,200	225	2,650	850	475									6,100
	1,080	203	2,385	765	428									5,492
Total	3,275	3,250	7,975	4,600	5,000	2,250	4,125	50	4,125	750	0	0	0	35,650
	294	1,069	1,863	438	475	220	344	32	344	0	0	0	0	5,523
	2,982	2,182	6,113	4,163	4,525	2,032	3,782	19	3,782	750	0	0	0	30,135
	2,683	1,964	5,502	3,746	4,074	1,829	3,403	17	3,403	675	0	0	0	26,702

Remark: Four (4) figures in each class indicate (i) Total Area, (ii) Extent of Farmland, (iii) Extent of Non-Farmland and (iv) Expansable Area from top to bottom in order.

表 3.5 タフインターラにおける開発可能地域の分布

Slope (%)	0-4			4-8			8-12			12-30			30<			Total
	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<	
Soil Depth (cm)																
Annual Rainfall																
300 - 250 mm	0	200	550	175	325	313	181	456	1,881	144	2,444	19	4,925	1,025	14,025	
	0	194	526	19	132	44	112	94	1,881	31	2,444	6	556	350	4,695	
	0	0	26	6	37	58	39	58	1,881	28	7,782	6	4,369	675	9,334	
	0	6	22	5	37	58	39	58	1,881	28	7,782	6	1,355	325	4,474	
250 - 200 mm																
				50	650	225	181	1,025	2,600	175	10,225	25	4,100	625	25,525	
				38	538	181	456	1,881	1,881	144	2,444	19	4,138	75	8,647	
				13	112	44	569	421	719	31	7,782	6	3,963	551	16,835	
				9	99	39	421	637	637	28	5,656	6	1,291	358	11,003	
200 - 150 mm																
				100	150	175	113	600	800		2,775		650	125	6,800	
				75	106	63	225	481	481		513		87	25	2,338	
				25	44	39	375	319	319		2,263		563	100	4,465	
				19	39	56	281	287	287		1,684		317	90	3,414	
150 - 100 mm																
Total	0	200	550	175	975	400	1,750	4,075	175	16,950	10,775	75	10,100	1,875	48,075	
	0	194	526	132	776	294	712	2,806	144	3,876	5,025	25	787	451	15,748	
	0	6	26	44	200	107	1,038	1,270	31	13,077	5,752	50	9,314	1,426	32,341	
	0	6	22	33	175	95	760	1,099	28	9,285	4,494	45	3,197	863	20,102	

Remark: Four (4) figures in each class indicate (i) Total Area, (ii) Extent of Farmland, (iii) Extent of Non-Farmland and (iv) Expansive Area from top to bottom in order.

表 3.6 カラク県における土地所有規模

Size of Group (dunum)	Land Holders		Area		Average Size (dunum)
	(No.)	(%)	(dunum)	(%)	
< 5	1,085	14.4	2,650	0.5	2.4
5 - 10	535	7.1	3,558	0.7	6.7
10 - 20	920	12.2	12,183	2.3	13.2
20 - 30	753	10.0	17,246	3.2	22.9
30 - 40	697	9.3	22,421	4.2	32.2
40 - 50	518	6.9	21,901	4.1	42.3
50 - 100	1,465	19.5	96,013	17.9	65.5
100 - 200	938	12.5	121,023	22.6	129.0
200 - 500	505	6.7	139,355	26.0	276.0
500 - 1,000	82	1.1	51,962	9.7	633.7
1,000 - 2,000	19	0.3	25,182	4.7	1,325.4
2,000 - 5,000	1	0.0	2,000	0.4	2,000.0
5,000 - 10,000	-	-	-	-	-
10,000 - 25,000	1	0.0	20,596	3.8	20,596.0
25,000 <	-	-	-	-	-
Total/Mean	7,519	100.0	536,090	100.0	71.3

Source: National Village Survey 1983, Department of Statistics.

表 3.7 カラク県における土地所有形態

Size of Group (dunum)	Land Holders		Free Holders		Lease Holders	
	(No.)	(dunum)	(No.)	(dunum)	(No.)	(dunum)
< 5	1,085	2,650	1,070	2,615	15	35
5 - 10	535	3,558	530	3,528	5	31
10 - 20	920	12,183	914	12,098	6	85
20 - 30	753	17,246	748	17,126	5	120
30 - 40	697	22,421	691	22,222	6	199
40 - 50	518	21,901	517	21,861	1	40
50 - 100	1,465	96,013	1,454	95,216	11	797
100 - 200	938	121,023	929	119,807	9	1,216
200 - 500	505	139,355	493	135,642	12	3,713
500 - 1,000	82	51,962	79	50,047	3	1,915
1,000 - 2,000	19	25,182	19	25,182	-	-
2,000 - 5,000	1	2,000	1	2,000	-	-
5,000 - 10,000	-	-	-	-	-	-
10,000 - 25,000	1	20,596	1	20,596	-	-
25,000 <	-	-	-	-	-	-
Total/Mean	7,519	536,090	7,446	527,940	73	8,151

Source: National Village Survey 1983, Department of Statistics.

表 3.8 作物栽培面積

(ANNAM GOVERNORATB)

(Unit: Dunum)

	1981	1982	1983	1984	1985	1986	1987	Average 1981-1987
Field Crops	459,304	458,305	564,000	256,716	372,367	165,951	600,192	410,976
Wheat (grain)	256,944	236,152	319,160	128,826	200,550	96,600	330,060	224,042
Barley (grain)	114,380	135,950	152,470	65,000	101,825	28,070	204,750	114,635
Lentils	30,870	25,100	21,450	10,500	17,450	12,705	32,615	21,527
Vetch	12,310	15,800	18,950	11,715	13,107	5,720	10,860	12,637
Chick pea	4,201	5,223	5,320	5,760	7,788	5,984	4,375	5,522
Rice	-	-	-	-	-	-	-	-
Others	40,599	40,080	46,650	34,915	31,647	16,872	17,532	32,614
Tree Crops	54,531	57,503	59,263	60,051	65,926	78,160	88,152	66,227
Olive (green)	25,030	25,450	26,490	26,606	31,580	40,134	48,389	31,954
Grape	21,780	23,650	23,975	24,273	24,734	26,866	27,861	24,734
Fig	907	975	1,005	1,022	1,086	1,735	2,025	1,251
Almond	1,481	1,505	1,590	1,620	1,730	2,000	2,043	1,710
Peach	2,150	2,300	2,350	2,380	2,408	2,515	2,535	2,377
Plum and Prune	1,526	1,710	1,875	1,908	1,918	2,048	2,148	1,876
Apricot	165	181	185	198	209	219	230	198
Pomegranate	256	273	302	320	344	446	586	361
Apple	1,128	1,314	1,321	1,530	1,591	1,947	2,041	1,567
Pear	31	35	41	48	62	68	85	53
Banana	-	-	-	-	-	-	-	-
Citrus	20	70	76	86	93	94	94	76
Quince	-	-	-	-	-	-	2	-
Others	57	40	53	60	71	88	113	69
Vegetables	37,622	43,074	77,479	78,477	67,276	46,364	48,068	56,909
Tomatoes	10,260	9,670	17,265	15,058	12,423	5,253	5,340	10,753
Squash	2,526	2,760	4,753	6,455	3,323	3,933	2,383	3,733
Eggplant	630	1,030	2,981	3,184	1,948	1,055	1,566	1,771
Cucumber	1,360	1,517	5,655	4,785	2,531	2,374	1,058	2,754
Potatoes	150	1,190	-	600	328	578	2,481	761
Cabbages	225	450	4,265	6,410	4,367	2,770	1,961	2,921
Cauliflower	810	1,033	4,445	3,640	5,070	4,181	2,002	3,026
Sweet Pepper	1,197	1,490	6,440	6,410	1,261	1,032	1,325	2,736
Okra	2,739	3,275	3,630	3,345	4,672	2,874	2,393	3,275
Lettuce	-	80	295	600	490	2,344	1,705	788
Water Melon	3,445	2,412	8,532	7,385	7,842	5,210	6,876	5,957
Onion	3,210	4,340	3,598	3,625	2,225	1,915	1,896	2,913
Snake Cucumber	4,707	4,740	4,690	4,075	5,163	2,543	1,871	3,970
Carrot	-	-	109	130	330	158	390	160
Sweet Melon	3,170	2,540	5,110	4,710	5,379	1,624	1,736	3,467
Peas	280	1,469	1,472	1,630	2,622	1,807	2,547	1,690
Mulukhiye	-	-	-	-	-	-	-	-
Garlic	90	220	390	200	670	1,478	2,192	719
Others	2,823	4,858	3,849	6,235	6,632	5,235	8,346	5,425
Total	551,457	558,882	700,742	395,244	505,569	290,475	736,412	534,112

Source: Ministry of Agriculture

表 3.8 作物栽培面積

(KARAK GOVERNORATE)

(Unit: Dunum)

	1981	1982	1983	1984	1985	1986	1987	Average 1981-1987
Field Crops	236,537	200,894	240,646	87,763	171,402	76,528	198,876	173,235
Wheat (grain)	152,940	134,900	160,240	62,200	122,200	52,540	138,770	117,684
Barley (grain)	53,600	43,100	51,410	23,031	35,600	15,190	51,470	39,057
Lentils	18,895	10,330	13,040	1,260	1,820	2,115	4,170	7,376
Vetch	1,420	4,520	5,190	410	560	1,760	2,020	2,269
Chick pea	2,737	3,215	4,740	790	4,875	1,432	1,282	2,724
Rice	-	-	-	-	-	-	-	-
Others	6,945	4,829	6,026	72	6,347	3,491	1,164	4,125
Tree Crops	17,778	19,272	20,182	20,768	21,202	23,971	27,878	21,579
Olive (green)	6,160	7,088	7,757	8,097	8,249	10,478	13,996	8,832
Grape	11,009	11,460	11,657	11,817	11,977	12,384	12,549	11,836
Fig	104	127	138	148	157	175	270	160
Almond	104	118	127	141	160	176	185	144
Peach	20	22	24	25	32	46	57	32
Plum and Prune	41	51	55	63	75	84	98	67
Apricot	95	108	111	117	141	160	183	131
Pomegranate	149	168	171	180	191	208	266	190
Apple	-	-	-	-	-	8	12	3
Pear	-	-	-	-	-	-	-	-
Banana	-	-	-	-	-	-	-	-
Citrus	96	100	102	118	139	156	163	125
Quince	-	30	40	62	81	96	99	58
Others	-	-	-	-	-	-	-	-
Vegetables	6,882	2,950	3,770	3,199	4,697	4,869	3,201	4,224
Tomatoes	5,601	2,227	2,297	2,940	2,545	2,187	1,687	2,655
Squash	38	81	148	96	328	430	305	204
Eggplant	20	92	10	60	60	69	22	48
Cucumber	590	226	270	255	328	194	151	288
Potatoes	-	-	-	-	-	1	66	10
Cabbages	4	6	6	12	15	25	14	12
Cauliflower	-	-	-	-	-	-	-	-
Sweet Pepper	-	8	15	16	10	23	6	11
Okra	22	17	83	-	88	609	51	124
Lettuce	-	-	-	-	-	-	-	-
Water Melon	38	45	188	170	483	343	211	211
Onion	68	89	113	43	114	507	197	162
Snake Cucumber	83	66	224	-	182	181	130	124
Carrot	-	-	-	-	-	-	-	-
Sweet Melon	2	6	63	10	106	145	234	81
Peas	7	-	-	-	-	-	1	1
Mulukhiye	-	-	-	-	-	-	-	-
Garlic	-	-	-	-	-	-	1	-
Others	409	87	353	497	438	155	125	295
Total	261,197	223,116	264,598	111,730	197,301	105,368	229,955	199,038

Source: Ministry of Agriculture

表 3.8 作物栽培面積

(TAFILA GOVERNORATE)

(Unit: Dunum)

	1981	1982	1983	1984	1985	1986	1987	Average 1981-1987
Field Crops	59,321	20,636	65,115	10,550	63,615	129,575	16,550	52,195
Wheat (grain)	40,000	10,000	35,000	6,000	36,000	88,000	14,500	32,786
Barley (grain)	13,700	4,300	20,000	3,500	20,000	32,000	700	13,457
Lentils	4,550	1,800	5,000	500	1,500	7,400	300	3,007
Vetch	-	-	-	-	-	-	-	-
Chick pea	1,050	4,500	5,000	520	6,000	2,100	1,000	2,881
Rice	-	-	-	-	-	-	50	-
Others	21	36	115	30	115	75	50	63
Tree Crops	6,628	7,008	7,405	7,608	8,285	9,642	11,382	8,280
Olive (green)	3,989	4,120	4,412	4,445	4,910	5,640	6,895	4,916
Grape	1,425	1,510	1,526	1,563	1,595	1,835	1,970	1,632
Fig	105	117	120	137	150	174	218	146
Almond	166	195	205	226	241	259	285	225
Peach	143	167	176	190	210	233	264	198
Plum and Prune	187	207	128	227	254	291	333	232
Apricot	250	275	294	299	328	359	421	318
Pomegranate	138	145	162	171	182	188	289	182
Apple	149	183	195	212	261	288	386	239
Pear	34	44	46	51	48	65	84	53
Banana	-	-	-	-	-	-	-	-
Citrus	6	10	11	25	25	47	59	26
Quince	36	35	40	62	81	96	99	64
Others	0	0	90	0	0	167	79	48
Vegetables	935	850	2,638	2,170	2,013	1,621	1,319	1,649
Tomatoes	551	605	984	800	769	626	620	708
Squash	100	80	245	186	130	169	58	138
Eggplant	0	25	90	130	70	14	64	56
Cucumber	104	75	430	330	233	153	181	215
Potatoes	-	-	-	10	115	15	10	21
Cabbages	-	-	-	-	-	16	-	2
Cauliflower	-	-	-	20	5	16	14	8
Sweet Pepper	2	-	12	50	23	38	15	20
Okra	-	-	-	-	25	7	-	5
Lettuce	-	-	-	-	-	-	-	-
Water Melon	3	-	110	240	324	285	171	162
Onion	136	55	300	145	94	50	16	114
Snake Cucumber	-	-	450	160	175	27	-	116
Carrot	-	-	-	-	-	-	-	-
Sweet Melon	-	-	-	-	-	158	140	43
Peas	-	-	-	5	-	-	-	1
Mulukhiye	-	-	-	-	-	-	-	-
Garlic	-	-	-	-	-	-	-	-
Others	39	10	17	94	50	47	21	40
Total	66,884	28,494	75,158	20,328	73,913	140,838	29,251	62,124

Source: Ministry of Agriculture

表 3.9 作物生産

(ANHAN GOVERNORATE)

(Unit: ton)

	1981	1982	1983	1984	1985	1986	1987	Average 1981-1987
Field Crops								
Wheat (grain)	15,696	8,967	35,377	12,252	11,086	8,105	30,007	17,356
Barley (grain)	4,574	1,947	11,918	1,035	3,707	1,854	13,214	5,464
Lentils	1,630	1,092	1,514	418	1,286	667	2,434	1,292
Vetch	772	617	1,337	341	823	250	721	694
Chick pea	274	106	110	175	313	271	367	231
Rice	-	-	-	-	-	-	-	-
Tree Crops								
Olive (green)	1,807	2,654	2,589	3,547	2,230	4,425	1,322	2,653
Grape	12,465	13,452	13,922	6,753	9,813	9,254	16,538	11,750
Fig	640	700	710	750	800	915	1,227	820
Almond	385	320	360	412	480	680	164	400
Peach	401	930	955	960	1,040	1,140	213	806
Plum and Prune	351	830	806	825	840	1,015	189	694
Apricot	85	75	51	54	60	66	22	59
Pomegranate	140	150	155	160	165	224	338	190
Apple	380	420	450	370	522	124	108	339
Pear	3	3	4	14	18	3	9	8
Banana	-	-	-	-	-	-	-	-
Citrus	142	144	150	111	134	26	37	106
Quince	-	-	-	-	-	-	2	-
Vegetables								
Tonatoes	6,692	5,921	14,452	29,905	20,079	11,634	10,994	14,240
Squash	1,732	1,866	3,982	8,909	6,241	6,403	3,826	4,708
Eggplant	1,260	992	3,436	7,341	2,468	1,267	4,023	2,970
Cucumber	1,445	1,415	5,527	12,377	4,657	10,657	7,994	6,296
Potatoes	150	272	-	2,400	503	1,520	5,033	1,411
Cabbages	325	322	6,377	15,460	8,134	7,705	3,063	5,912
Cauliflower	2,435	1,275	6,045	11,230	9,909	13,809	5,243	7,135
Sweet Pepper	954	1,134	5,152	8,974	2,049	1,881	2,308	3,207
Okra	669	845	1,172	1,015	1,246	837	775	937
Lettuce	-	64	295	600	490	10,843	4,762	2,436
Water Melon	2,593	1,702	12,353	16,285	24,213	22,381	26,589	15,159
Onion	1,293	10,915	1,710	2,707	890	1,149	1,730	2,913
Snake Cucumber	2,786	2,866	3,047	4,072	1,505	709	646	2,233
Carrot	-	-	178	104	264	316	423	184
Sweet Melon	2,183	1,959	4,981	11,050	8,101	6,149	6,466	5,841
Peas	84	774	637	1,185	791	636	1,137	756
Kulukhiye	-	-	-	-	-	-	-	-
Garlic	36	160	132	75	335	426	788	279

Source: Ministry of Agriculture

表 3.9 作物生産

(BARAK GOVERNORATE)

(Unit: ton)

	1981	1982	1983	1984	1985	1986	1987	Average 1981-1987
Field Crops								
Wheat (grain)	9,594	7,728	14,464	1,694	9,825	3,091	8,995	7,913
Barley (grain)	2,827	1,768	3,950	123	2,451	782	3,292	2,170
Lentils	1,197	479	925	14	151	117	214	442
Vetch	92	275	417	-	37	119	83	146
Chick pea	139	168	46	-	294	51	64	109
Rice	-	-	-	-	-	-	-	-
Tree Crops								
Olive (green)	913	745	1,150	554	590	1,339	353	806
Grape	3,943	3,226	4,080	3,409	2,682	4,448	4,389	3,740
Fig	34	41	40	49	62	57	54	48
Almond	12	28	32	38	48	45	30	33
Peach	5	26	8	7	8	14	8	11
Plum and Prune	18	22	17	19	22	14	13	18
Apricot	40	52	38	41	42	26	29	38
Pomegranate	71	76	76	32	38	47	51	56
Apple	-	-	-	-	-	8	2	1
Pear	-	-	-	-	-	-	-	-
Banana	-	-	-	-	-	-	-	-
Citrus	112	97	90	100	105	139	153	114
Quince	-	-	-	-	-	2	2	1
Vegetables								
Tomatoes	4,895	2,993	2,905	2,274	3,863	5,091	4,098	3,731
Squash	19	75	76	92	280	322	289	165
Eggplant	12	89	8	56	51	85	54	51
Cucumber	485	96	274	255	346	522	176	308
Potatoes	-	-	-	-	-	-	134	19
Cabbages	2	4	3	10	30	15	40	15
Cauliflower	-	-	-	-	-	-	-	-
Sweet Pepper	-	5	3	16	3	2	5	5
Okra	9	9	32	-	36	158	17	37
Lettuce	-	-	-	-	-	-	-	-
Water Melon	38	17	165	65	693	90	154	175
Onion	40	103	120	43	119	212	200	120
Snake Cucumber	99	29	133	-	112	44	79	71
Carrot	-	-	-	-	-	-	-	-
Sweet Melon	1	6	30	10	85	-	171	43
Peas	3	-	-	-	-	-	-	-
Mulukhiye	-	-	-	-	-	-	-	-
Garlic	-	-	-	-	-	-	1	-

Source: Ministry of Agriculture

表 3.9 作物生産

(TAFILA GOVERNORATE)

(Unit: ton)

	1981	1982	1983	1984	1985	1986	1987	Average 1981-1987
Field Crops								
Wheat (grain)	2,660	592	2,100	180	2,304	9,600	435	2,553
Barley (grain)	851	171	1,000	89	1,500	3,040	-	950
Lentils	337	36	295	15	165	926	18	256
Velch	-	-	-	-	-	-	-	-
Chick pea	84	63	205	-	360	168	51	133
Rice	-	-	-	-	-	-	-	-
Tree Crops								
Olive (green)	2,148	1,779	1,085	941	800	3,197	15	1,424
Grape	3,000	156	5,480	2,000	1,500	2,115	1,970	2,317
Fig	28	33	29	22	18	20	153	43
Almond	18	55	62	71	80	28	6	46
Peach	2	54	52	57	60	8	122	51
Plum and Prune	62	68	57	60	68	20	252	84
Apricot	98	112	87	85	100	13	322	117
Pomegranate	43	52	46	38	42	51	233	72
Apple	22	57	62	100	87	22	194	78
Pear	4	3	2	9	9	5	35	10
Banana	-	-	-	-	-	-	-	-
Citrus	10	15	12	15	15	39	17	18
Quince	12	10	12	19	23	14	123	30
Vegetables								
Tomatoes	221	198	1,560	1,305	2,146	1,638	1,412	1,211
Squash	74	64	530	186	143	193	93	183
Eggplant	-	2	200	130	105	27	122	84
Cucumber	55	78	646	330	235	155	210	244
Potatoes	-	-	-	20	230	30	20	43
Cabbages	-	-	-	-	-	12	-	2
Cauliflower	-	-	-	60	12	16	23	16
Sweet Pepper	1	-	12	30	14	22	10	13
Okra	-	-	-	-	20	2	-	3
Lettuce	-	-	-	-	-	-	-	-
Water Melon	3	-	220	720	984	854	487	467
Onion	16	53	344	142	93	31	28	101
Snake Cucumber	-	-	680	160	125	10	-	139
Carrot	-	-	-	-	-	-	-	-
Sweet Melon	-	-	-	-	-	457	279	105
Peas	-	-	-	5	-	-	-	1
Mulukhiye	-	-	-	-	-	-	-	-
Garlic	-	-	-	-	-	-	-	-

Source: Ministry of Agriculture

表 3.10 平均单位收穫量

(ANNAN GOVERNORATE)

(Unit: kg/dunua)

	1981	1982	1983	1984	1985	1986	1987	Average 1981-1987
Field Crops								
Wheat (grain)	61	38	111	95	55	84	91	77
Barley (grain)	40	14	78	16	36	66	65	48
Lentils	53	44	71	40	74	52	75	60
Vetch	63	39	71	29	63	44	66	55
Chick pea	65	20	21	30	40	45	84	42
Rice	-	-	-	-	-	-	-	-
Tree Crops								
Olive (green)	72	104	98	133	71	110	27	83
Grape	572	569	581	278	397	344	595	475
Fig	706	718	706	734	737	527	606	656
Almond	260	213	226	254	277	340	80	234
Peach	187	404	406	403	432	453	84	339
Plum and Prune	230	485	430	432	438	496	88	370
Apricot	515	414	276	273	287	301	96	298
Pomegranate	547	549	513	500	480	502	577	527
Apple	337	320	341	242	309	64	53	216
Pear	97	86	98	292	290	44	106	146
Banana	-	-	-	-	-	-	-	-
Citrus	7,100	2,057	1,974	1,291	1,441	277	394	1,396
Quince	-	-	-	-	-	-	1,000	-
Vegetables								
Tomatoes	652	612	837	1,986	1,616	2,215	2,059	1,324
Squash	686	676	838	1,380	1,878	1,628	1,606	1,261
Eggplant	2,000	963	1,153	2,306	1,267	1,201	2,569	1,577
Cucumber	1,063	933	977	2,587	1,840	4,489	7,556	2,286
Potatoes	1,000	229	-	4,000	1,534	2,630	2,029	1,854
Cabbages	1,444	716	1,495	2,412	1,863	2,782	1,562	2,024
Cauliflower	3,006	1,234	1,360	3,085	1,954	3,303	2,619	2,358
Sweet Pepper	797	761	800	1,400	1,625	1,823	1,742	1,172
Okra	244	258	323	303	267	291	324	286
Lettuce	-	800	1,000	1,000	1,000	4,626	2,793	3,093
Water Melon	753	706	1,448	2,205	3,088	4,296	3,867	2,545
Onion	403	2,515	475	747	400	600	912	980
Snake Cucumber	592	605	650	999	291	279	345	562
Carrot	-	-	1,633	800	800	2,000	1,085	1,150
Sweet Melon	689	771	975	2,346	1,506	3,786	3,725	1,685
Peas	300	527	433	727	302	352	466	448
Mulukhiye	-	-	-	-	-	-	-	-
Garlic	400	727	338	375	500	288	359	373

Source: Ministry of Agriculture

表 3.10 平均单位收穫量 (KARAK GOVERNORATE)

(Unit: kg/dunum)

	1981	1982	1983	1984	1985	1986	1987	Average 1981-1987
Field Crops								
Wheat (grain)	63	57	90	27	80	59	65	67
Barley (grain)	53	41	77	5	69	51	64	56
Lentils	63	46	71	11	83	55	51	60
Vetch	65	61	80	-	66	68	41	64
Chick pea	51	52	10	-	60	36	50	40
Rice	-	-	-	-	-	-	-	-
Tree Crops								
Olive (green)	148	105	148	68	72	128	25	91
Grape	358	282	350	288	224	359	350	316
Fig	327	323	290	331	395	326	200	301
Almond	115	237	252	270	300	256	162	230
Peach	250	1,182	333	280	250	304	140	336
Plum and Prune	439	431	309	302	293	167	133	268
Apricot	421	481	342	350	298	163	158	293
Pomegranate	477	452	444	178	199	226	192	293
Apple	-	-	-	-	-	1,000	167	500
Pear	-	-	-	-	-	-	-	-
Banana	-	-	-	-	-	-	-	-
Citrus	1,167	970	882	847	755	891	939	911
Quince	-	-	-	-	-	21	20	10
Vegetables								
Tomatoes	874	1,344	1,265	1,115	1,518	2,328	2,429	1,405
Squash	500	926	514	958	854	749	948	809
Eggplant	600	967	800	933	850	1,232	2,455	1,066
Cucumber	822	425	1,015	1,000	1,055	2,691	1,166	1,070
Potatoes	-	-	-	-	-	-	2,030	2,000
Cabbages	500	667	500	833	2,000	600	2,857	1,268
Cauliflower	-	-	-	-	-	-	-	-
Sweet Pepper	-	625	200	1,000	300	87	833	436
Okra	409	529	386	-	409	259	333	300
Lettuce	-	-	-	-	-	-	-	-
Water Melon	1,000	378	878	382	1,435	262	730	827
Onion	588	1,157	1,062	1,000	1,044	418	1,015	740
Snake Cucumber	1,193	439	594	-	615	243	608	573
Carrot	-	-	-	-	-	-	-	-
Sweet Melon	500	1,000	476	1,000	802	-	731	535
Peas	429	-	-	-	-	-	-	-
Mulukhiye	-	-	-	-	-	-	-	-
Garlic	-	-	-	-	-	-	1,000	-

Source: Ministry of Agriculture

表 3.10 平均单位收穫量 (TAPILA GOVERNORATE)

(Unit: kg/dunum)

	1981	1982	1983	1984	1985	1986	1987	Average 1981-1987
Field Crops								
Wheat (grain)	67	59	60	30	64	109	30	78
Barley (grain)	62	40	50	25	75	95	-	71
Lentils	74	20	59	30	110	125	60	85
Vetch	-	-	-	-	-	-	-	-
Chick pea	80	14	41	-	60	80	51	46
Rice	-	-	-	-	-	-	-	-
Tree Crops								
Olive (green)	538	432	246	212	163	567	2	290
Grape	2,105	103	3,591	1,280	940	1,153	1,000	1,420
Fig	267	282	242	161	120	115	702	297
Almond	108	282	302	314	332	108	21	203
Peach	14	323	295	300	286	34	462	257
Plum and Prune	332	329	445	264	268	69	757	361
Apricot	392	407	296	284	305	36	765	367
Pomegranate	312	359	284	222	231	271	806	396
Apple	148	311	318	472	333	76	503	325
Pear	118	68	43	176	188	77	417	180
Banana	-	-	-	-	-	-	-	-
Citrus	1,667	1,500	1,091	600	600	830	288	672
Quince	333	286	300	306	284	146	1,242	474
Vegetables								
Tomatoes	401	327	1,585	1,631	2,791	2,617	2,277	1,711
Squash	740	800	2,163	1,000	1,100	1,142	1,503	1,325
Eggplant	-	80	2,222	1,000	1,500	1,329	1,906	1,491
Cucumber	529	1,040	1,502	1,000	1,009	1,013	1,160	1,135
Potatoes	-	-	-	2,000	2,000	2,000	2,000	2,000
Cabbages	-	-	-	-	-	750	-	750
Cauliflower	-	-	-	3,000	2,400	1,000	1,643	2,018
Sweet Pepper	500	-	1,000	600	609	579	667	636
Okra	-	-	-	-	800	286	-	688
Lettuce	-	-	-	-	-	-	-	-
Water Melon	1,000	-	2,000	3,000	3,037	2,996	2,848	2,884
Onion	118	964	1,147	979	989	620	1,750	888
Snake Cucumber	-	-	1,511	1,000	714	370	-	1,201
Carrot	-	-	-	-	-	-	-	-
Sweet Melon	-	-	-	-	-	2,892	1,993	2,470
Peas	-	-	-	1,000	-	-	-	1,000
Mulukhiye	-	-	-	-	-	-	-	-
Garlic	-	-	-	-	-	-	-	-

Source: Ministry of Agriculture

表 3.11 調査対象地域における家畜頭数

	Cow				Horses			Camels		Goat			Sheep
	Local		Dutch		Total			Syrian		Local		Total	
Madaba Area													
1986	582	164	746	500	150	2,000	29,000	31,000	55,000				
1987	1,733	738	2,471	450	150	2,000	60,000	62,000	95,000				
1988	1,606	388	1,994	490	110	2,200	50,000	52,200	75,000				
Average	1,307	430	1,737	480	137	2,067	46,333	48,400	75,000				
Karak Area													
1986	1,500	150	1,650	100	2,000	1,500	23,000	24,500	115,000				
1987	1,142	171	1,313	160	2,000	1,500	79,000	80,500	180,000				
1988	1,175	105	1,280	86	560	300	60,000	60,300	200,000				
Average	1,272	142	1,414	115	1,520	1,100	54,000	55,100	165,000				
Tafila Area													
1986	17	3	20	100	1,500	1,020	35,000	36,020	52,000				
1987	-	9	9	840	1,500	20	24,000	24,020	36,000				
1988	-	15	15	120	1,500	20	30,000	30,020	40,000				
Average	6	9	15	353	1,500	353	29,667	30,020	42,667				

Source: Department of Statistics

表 3.12 カラク農業事務所の組織

A. STRUCTURE	No. of Staff:	Head Office 83	Branch Office 61	Total 144	
(Head Office)					
1. Administrative Section		11			
- Director		1			
- Section chief		1			
- Store keeper		2			
- Clerk		1			
- Personal administrator		1			
- Cashier		1			
- Car arranger		1			
- Typist		3			
2. Agricultural Section (including extension)		9			
- Engineer/Agronomist		5			
- Sub-engineer (agricultural school)		4			
3. Project Section		3			
- Engineer/Agronomist		1			
- Surveyor		1			
- Assistant		1			
4. Forest and Range Section				32	
- Engineer/Agronomist				2	
- Guards (ranger)				15	
- Nursery sub-engineer				2	
- Nursery worker				13	
5. Livestock and Animal Health Section				23	
- Veterinarian				3	
- Assistant veterinarian				6	
- Typist				6	
- Animal production eng.				3	
- Nursery				3	
- Laboratory worker				2	
6. Statistic Section - Clerk				3	
7. Cropping Pattern Section				2	
- Engineer/Agronomist				1	
- Assistant				1	
(Branch Office)					
1. Mazar		11			
- Engineer/Agronomist		2			
- Veterinarian		1			
- Assistant veterinarian		2			
- Ranger		6			
2. Qastre		13			
- Engineer/Agronomist		2			
- Assistant engineer		2			
- Veterinarian		1			
- Assistant veterinarian		2			
- Ranger		6			
3. Rabba (research)				17	
- Engineer/Agronomist				10	
- Field assistant				1	
- Worker				6	
4. Ghwair (research - field crop)				9	
- Engineer/Agronomist				2	
- Field assistant				2	
- Worker				5	
5. Ghor Safi (vegetable, fruit)				11	
- Engineer/Agronomist				6	
- Field assistant				1	
- Worker				4	

B. VEHICLES	Sedan	Pick-up	Tractor	Sprayer	Tanker
- Karak	5	3	2	1	2
- Rabba	1	2	2	-	-
- Qastre	-	1	1	1	-
- Mazar	-	1	1	1	-
- Ghweir	-	1	2	-	-
- Safi	-	2	2	1	-
Total	6	10	10	4	2

C. BUDGET	530,519 JD/year				
	400 liter/month/car (gasoline)				

表 3.13 タフィーラ農業事務所の組織

A. STRUCTURE		No. of Staff:		Head Office 43	Branch Office 92	Total 135
(Head Office)						
1. Administrative Section			8		3. Statistic Section - Clerk	2
- Deputy director			1		4. Livestock and Animal Health Section	8
- Section chief			1		- Veterinarian	2
- Personal administrator			1		- Engineer	1
- Clerk			2		- Nursery	3
- Store keeper			1		- Garde	2
- Typist			2		5. Forest and Range Section	17
- Workers/Driver			12		- Engineer	1
- Car arranger			1		- Ranger	3
2. Agricultural Section			8		- Clerk	1
- Engineer/Agronomist			6		- Nursery worker	9
- Clerk			1		- Garde	2
- Worker			1		- Temporary worker	1
(Branch Office)						
1. Al-Hassa Station			81		2. Aina Station	3
- Engineer			-		- Sub-engineer	1
- Clerk			3		- Messenger	2
- Worker			75		4. Tawwaneh Station	5
- Garde			3		- Engineer	1
2. Busaira			3		- Garde	4
- Engineer			-			
- Sub-engineer			1			
- Messenger			2			
B. VEHICLES						
	Sedan	Pick-up	Tractor	Sprayer	Tanker	
- Tafila	3	5	2	2	2	
- El-Hassan	1	1	1	1	1	
- Busaira	-	-	-	-	-	
- Aina	-	-	-	-	-	
- Tawwaneh	-	1	1	-	-	
Total	4	7	4	3	3	
C. BUDGETS						
	114,000 JD/year					

表 3.14 農業資材及び生産物の庭先価格

		Prices				Prices	
		(Unit)	(JD)			(Unit)	(JD)
Crops and Livestock Products							
- Wheat	(ton)	140		- Water melon	(ton)	70	
- Barley	(ton)	90		- Sweet melon	(ton)	100	
- Lentils	(ton)	150		- Cabbages	(ton)	70	
- Chick peas	(ton)	250		- Cauliflower	(ton)	80	
- Vetch	(ton)	300		- Sheep #1	(head)	35	
- Olive (green)	(ton)	250		- 3-4 months#2	(head)	30	
- Olive oil	(ton)	2,060		- Goats #1	(head)	35	
- Grape	(ton)	150		- 3-4 months#2	(head)	30	
- Fig	(ton)	250		- Chicken	(head)	2.50	
- Apple	(ton)	280		- Milk of sheep			
- Apricot	(ton)	325		and goats	(kg)	0.30	
- Peach	(ton)	400		- Dry yogurt	(kg)	2.00	
- Pear	(ton)	600		- Milk oil	(kg)	5.00	
- Tomatoes	(ton)	80		- Wool	(No.)	0.70	
- Eggplant	(ton)	60		- Eggs	(No.)	0.04	
- Cucumber	(ton)	100					
Seed and Seedling							
- Wheat	(ton)	140		- Tomatoes #4	(tray)	2.50	
- Barley	(ton)	90		- Eggplant #4	(tray)	2.50	
- Lentils	(ton)	270		- Cucumber	(kg)	28.00	
- Chick peas	(ton)	400		- Water melon	(kg)	11.50	
- Vetch	(ton)	300		- Sweet melon	(kg)	34.00	
- Seedling of tree #3				- Cabbages	(kg)	16.00	
1 year	(No.)	0.50		- Cauliflower	(kg)	60.00	
2 years	(No.)	1.00					
Animal Feeds							
- Barley	(ton)	60		- Bran	(ton)	40	
- Sorghum	(ton)	55		- Hay	(ton)	110	
Fertilizer							
- Diammonium phosphate (DAP)				- Urea (46X)	(kg)	110	
(21:18:0)	(ton)	115		- T.S.P. (45X)	(kg)	160	
- Compound				- Organic			
fertilizer #5	(ton)	160		fertilizer #6	(ton)	15	
Agro-chemicals							
- Pesticides and				- Harbicides	(litre)	3.50	
insecticides	(litre)	10.00					

*1 Average liveweight: 50kg

*2 Average liveweight: 20kg

*3 Olive, grape, apple, etc.

*4 Seedling

1 tray (200 seedlings) = JD 2.5

*5 Content 15:15:15

*6 For chicken, sheep and goats

Source: Farm interview survey

表 3.14 農業資材及び生産物の庭先価格

		Prices				Prices	
		(Unit)	(JD)			(Unit)	(JD)
Hired Cost of Farm machinery #1							
- Plow #2	(dunum)	1.00		- Harvester #3	(dunum)	1.25	
- Seed drill	(dunum)	0.80		- Mow	(dunum)	1.30	
- Sprayer #4	(dunum)	1.00		- Rake	(dunum)	0.35	
Hired Cost of Animal (day)		8.00		Labor #5	(day)	5.00	
Purchasing Price of Farm Machinery							
- Tractor (75 PS class)						9,000	
- Disc plow (3 disks, 2 blades)						1,500	
- Chisel plow (12 legs, 2.5m wide)						750	
- Disc harrow (2.5m wide, 2 rows, 18 disks)						1,000	
- Seed driller (with fertilizer, 2.5m wide)						4,500	
- Sprayer (tractor mounted, 600 litre, 10m wide)						1,200	
- Knapsack type sprayer (20 litre)						50	
- Combine harvester (100PS, 4.5m wide)						42,000	
- Wagon (3 tons)						1,000	
- Rake (2m wide)						500	
- Mow (rotary, 1.6m wide)						2,400	
- Pump (2 inch, with engine, 2 HP)						300	
- Pump (3 inch, with engine)						600	
- Suction hose (2 inch)				(m)		5	
- Common hose (2 inch)				(m)		2	
- Common hose (3 inch)				(m)		3	
- Water tanker (2 m ³)						600	
- Bulldozer (D8)						187,000	
- Bulldozer (D6)						116,000	
Others							
- Milling cost				- Vinyl for mulch (m ²)		0.03	
Olive #6 (kg)		0.206		- Vaccination (time/head)		0.09	
Wheat #7 (kg)		0.015		- Bag (No.)		0.45	
- Transportation #8 (ton)		10.00		- Box (No.)		0.25	
- Construction cost of building				- Grazing fee			
Water tank (m ²)		12		HOA/JCO #9 (head)		0.005	
Office (m ²)		370		Private #10 (dunum)		0.50	
- Drip irrigation system				- Construction cost of fence			
(dunum)		80		(m)		1.50	
- Water (from Water Authority)							
0- 20 m ³ (JD/ton)		0.10	(minimum 1.2 JD)				
21- 40 m ³ (JD/ton)		0.19	(minimum 2.0 JD)				
41-100 m ³ (JD/ton)		0.40	(minimum 5.8 JD)				
> 100 m ³ (JD/ton)		0.50	(minimum 21.8 JD)				

#1 Including allowance of operator

#2 Disc plow

#3 Cutting wide: 3.8 m

#4 Capacity: 600 liter

#5 Including two neals

#6 JD/kg of olive oil

#7 JD/kg of grain

Source: Farm interview survey

#8 By truck: Average cost from the project area to central market of Amman.

#9 Fodder Shrub Project (HOA/JCO)

#10 Grazing in the fields of wheat and barley.

表 3.15 作物收益性 (现状)

		Wheat	Barley	Lentils	Chick pea	Tomatoes
I. Gross Income						
- Unit yield	(t/du)	0.06	0.06	0.06	0.04	1.47
- Unit price	(JD/t)	140.0	90.0	150	250	100
- Gross income	(JD/du)	8.40	5.40	9.00	10.00	147.0
	Unit Price (JD)	Q'ty Amount (JD/du)	Q'ty Amount (JD/du)	Q'ty Amount (JD/du)	Q'ty Amount (JD/du)	Q'ty Amount (JD/du)
II. Production Cost						
1) Seeds and Seedlings						
- Seeds (kg)	-	7 0.98	7 0.63	8 2.16	8 3.20	- -
- Seedlings						
Fruit tree #1	0.50	- -	- -	- -	- -	- -
Vegetables #2	2.50	- -	- -	- -	- -	1,000 12.50
2) Fertilizers						
- Urea (kg)	0.11	- -	- -	- -	- -	15 1.65
- T.S.P. (kg)	0.16	- -	- -	- -	- -	15 2.40
- Compound (kg)	0.16	- -	- -	- -	- -	- -
- Organic fertilizer (kg)	0.015	- -	- -	- -	- -	- -
3) Agro-chemicals						
- Herbicides (lit.)	3.50	- -	- -	- -	- -	- -
- Pesticides & Fungicides (lit.)	10.00	- -	- -	- -	- -	1.05 10.50
4) Laborers (man-day)						
- Seeding	5.00	0.1 0.50	0.1 0.50	0.1 0.50	0.1 0.50	- -
- Planting	5.00	- -	- -	- -	- -	1.0 5.00
- Application of fertilizer	5.00	- -	- -	- -	- -	0.9 4.50
- Weeding	5.00	0.6 3.00	0.6 3.00	0.5 2.50	0.5 2.50	1.0 5.00
- Spraying #3	5.00	- -	- -	- -	- -	0.4 2.00
- Harvesting #4	5.00	1.1 5.50	1.1 5.50	1.0 5.00	1.2 6.00	12.0 60.00
5) Farm machinery						
- Plowing (dunum)	1.00	1.0 1.00	1.0 1.00	1.0 1.00	1.0 1.00	3 3.00
- Covering (dunum)	1.00	1.0 1.00	1.0 1.00	1.0 1.00	1.0 1.00	- -
- Spraying (dunum)	1.00	- -	- -	- -	- -	- -
- Harvesting (dunum)	1.25	- -	- -	- -	- -	- -
6) Animals #5 (day)	8.00	- -	- -	- -	- -	- -
7) Materials						
- Bags #6	0.45	0.5 0.23	0.5 0.23	0.5 0.23	0.4 0.18	- -
- Boxes #7	0.25	- -	- -	- -	- -	123 30.75
8) Transportation #8		0.18	0.18	0.18	0.12	14.70
9) Miscellaneous #9		0.62	0.60	0.63	0.73	7.60
Total		13.01	12.64	13.20	15.23	159.60
III. Net Income (JD/du.)						
- Excluding family labor cost #10		(4.61)	(7.24)	(4.20)	(5.23)	(12.60)
- Including family labor cost		3.11	0.48	2.63	2.33	48.82

- #1 One year seedling
 #2 One tray = 200 seedlings = 2.5 JD
 #3 Spraying by knapsack type sprayer.
 #4 Including works for threshing, packing, etc.
 #5 Plowing by horses.
 #6 Weight of one bag: 110kg
 #7 Weight of one box: 12 kg
 #8 Average transportation cost from project area to Amman. 10 JD/ton
 #9 Including minor farm tools and equipment, etc. (5% of total cost)
 #10 Assuming that about 30 % of harvesting are done by hired laborers.
 Source: Farm interview survey by the study team (December 1983).

表 3.15 作物收益性 (现状)

			Cauliflower		Water Melon		Cabbages		Olive (Green)		Grape	
I. Gross Income												
	Unit	Price (JD)	Q'ty	Amount (JD/du)	Q'ty	Amount (JD/du)	Q'ty	Amount (JD/du)	Q'ty	Amount (JD/du)	Q'ty	Amount (JD/du)
- Unit yield	(t/du)			2.02		1.72		1.18		0.17		0.45
- Unit price	(JD/t)			80		60		70		300		150
- Gross income	(JD/du)			161.6		103.2		82.60		51.00		67.50
II. Production Cost												
1) Seeds and Seedlings												
- Seeds (kg)					0.2	2.30						
- Seedlings												
Fruit tree #1	(kg)	0.50										
Vegetables #2	(kg)	2.50	1,000	12.50			1,000	12.50				
2) Fertilizers												
- Urea (kg)		0.11										
- T.S.P. (kg)		0.16										
- Compound (kg)		0.16	20	3.20	40	6.40	20	3.20				
- Organic fertilizer (kg)		0.015	500	7.50			500	7.50	60	0.90	60	0.90
3) Agro-chemicals												
- Herbicides (lit.)		3.50	0.25	0.88			0.25	0.88				
- Pesticides & Fungicid (lit.)		10.00	1.2	12.00	0.4kg	10.00	1.2	12.00	1.0	10.00	1.7	17.00
4) Laborers (man-day)												
- Seeding		5.00			1.2	6.00						
- Planting		5.00	1.0	5.00			1.0	5.00				
- Application of fertilizer		5.00	1.1	5.50	0.4	2.00	1.1	5.50	0.4	2.00	0.4	2.00
- Weeding		5.00	1.0	5.00			1.0	5.00	1.2	6.00	0.8	4.00
- Spraying #3		5.00	0.4	2.00	0.4	2.00	0.4	2.00				
- Harvesting #4		5.00	12.0	60.00	8.6	43.00	2.0	10.00	2.7	13.50	2.7	13.50
5) Farm machinery												
- Plowing (dunua)		1.00	3	3.00	3	3.00	3.0	3.00				
- Covering (dunua)		1.00										
- Spraying (dunua)		1.00							2.0	2.00	2.6	2.60
- Harvesting (dunua)		1.25										
6) Animals #5 (day)		8.00										
7) Materials												
- Bags #6		0.45							3	1.35		
- Boxes #7		0.25	168	42.00			98	24.50			38	9.50
8) Transportation #8				20.20		17.20		11.80		1.70		4.50
9) Miscellaneous #9				8.94		4.60		5.14		1.87		2.70
Total				187.72		96.50		108.02		39.32		56.70
III. Net Income (JD/du.)												
- Excluding family labor cost #10				(26.12)		6.70		(25.42)		11.68		10.80
- Including family labor cost				36.36		48.81		0.31		30.00		27.02

*1 One year seedling

*2 One tray = 200 seedlings = 2.5 JD

*3 Spraying by knapsack type sprayer.

*4 Including works for threshing, packing, etc.

*5 Plowing by horses.

*6 Weight of one bag: 110kg

*7 Weight of one box: 12 kg

*8 Average transportation cost from project area to Annan. 10 JD/ton

*9 Including minor farm tools and equipment, etc. (5% of total cost)

*10 Assuming that about 30 % of harvesting are done by hired laborers.

Source: Farm interview survey by the study team (December 1983).

表 3.15 作物收益性 (现状)

		Apricot		Apple		Peach		Fig		
I. Gross Income										
- Unit yield	(t/du)		0.30		0.31		0.27		0.29	
- Unit price	(JD/t)		330		280		400		250	
- Gross income	(JD/du)		99.00		86.80		108.00		72.50	
		Unit Price (JD)	Q'ty	Amount (JD/du)	Q'ty	Amount (JD/du)	Q'ty	Amount (JD/du)	Q'ty	Amount (JD/du)
II. Production Cost										
1) Seeds and Seedlings										
- Seeds	(kg)	-	-	-	-	-	-	-	-	-
- Seedlings										
Fruit tree #1	0.50	-	-	-	-	-	-	-	-	-
Vegetables #2	2.50	-	-	-	-	-	-	-	-	-
2) Fertilizers										
- Urea	(kg) 0.11	-	-	-	-	-	-	-	-	-
- T.S.P.	(kg) 0.16	-	-	-	-	-	-	-	-	-
- Compound	(kg) 0.16	-	-	-	-	-	-	-	-	-
- Organic fertilizer	(kg) 0.015	47	0.71	20	0.30	20	0.30	72	1.08	
3) Agro-chemicals										
- Herbicides	(lit.) 3.50	-	-	-	-	-	-	-	-	-
- Pesticides & Fungicide	(lit.) 10.00	1.0	10.00	0.5	5.00	0.5	5.00	0.4	4.00	
4) Laborers (man-day)										
- Seeding	5.00	-	-	-	-	-	-	-	-	-
- Planting	5.00	-	-	-	-	-	-	-	-	-
- Application of fertilizer	5.00	0.2	1.00	0.1	0.50	0.1	0.50	0.1	0.50	
- Weeding	5.00	1.4	7.00	0.5	2.50	0.5	2.50	1.2	6.00	
- Spraying #3	5.00	-	-	0.5	2.50	0.5	2.50	0.2	1.00	
- Harvesting #4	5.00	3.3	16.50	2.0	10.00	2.0	10.00	1.2	6.00	
5) Farm machinery										
- Plowing	(dunua) 1.00	-	-	-	-	-	-	-	-	-
- Covering	(dunua) 1.00	-	-	-	-	-	-	-	-	-
- Spraying	(dunua) 1.00	2.7	2.70	-	-	-	-	-	-	-
- Harvesting	(dunua) 1.25	-	-	-	-	-	-	-	-	-
6) Animals #5 (day)	8.00	-	-	-	-	-	-	-	-	-
7) Materials										
- Bags #6	0.45	-	-	-	-	-	-	-	-	-
- Boxes #7	0.25	25	6.25	26	6.50	23	5.75	24	6.00	
8) Transportation #8		-	3.00	-	3.10	-	2.70	-	2.90	
9) Miscellaneous #9		-	2.36	-	1.52	-	1.46	-	1.37	
Total			49.52		31.92		30.71		28.85	
III. Net Income (JD/du.)										
- Excluding family labor cost #10			49.49		54.88		77.29		43.65	
- Including family labor cost			70.01		68.00		90.41		55.93	

- #1 One year seedling
 #2 One tray = 200 seedlings = 2.5 JD
 #3 Spraying by knapsack type sprayer.
 #4 Including works for threshing, packing, etc.
 #5 Plowing by horses.
 #6 Weight of one bag: 110kg
 #7 Weight of one box: 12 kg
 #8 Average transportation cost from project area to Annan. 10 JD/ton
 #9 Including minor farm tools and equipment, etc. (5% of total cost)
 #10 Assuming that about 30 % of harvesting are done by hired laborers.
 Source: Farm interview survey by the study team (December 1983).

表 3.16 畜產收益性 (現狀)

1 flock: 100 heads		Products	Unit Price (JD)	Amount (JD)
I. Gross Income				
-	Selling of sheep and goats *1.			
	100 heads x 13% (head)	13	35	455
-	Lamb and kid *2 (head)	47	30	1,410
-	Wool (kg)	85	0.7	60
-	Milk (kg)	1,848		
	Dry yorgult *3 (kg)	277	2	554
	Milk oil *3 (kg)	111	5	555
Total				3,034
II. Production Cost				
		Q'ty	Unit Price (JD)	Amount (JD)
1)	Labor (person)	1.3	960	1,248
2)	Feeds			
	- Sorghum (ton)	3.9	55	215
	- Barley (ton)	5.7	60	342
	- Bran (ton)	4.3	40	172
3)	Vaccines: 3 times/year (head)	100	0.27	27
4)	Others *4			200
Total				2,204
III. Net Income				830

*1 Farmers sale about 13% of total raising head.

*2 Delivering rate: 56% of total raising head

Mortality: 9%

100 heads x 56% - (100 heads x 9%) = 47 heads

*3 Conversion factors:

Dry yorgult: 15% of milk

Milk oil: 6% of milk

*4 Including grazing fee, water charge, etc.

表 3.17 典型的家計 (現状)

	Dhiban (JD)	Abyad (JD)	Tafila (JD)
Family size (persons)	8.7	10.1	9.3
Farm size (dunum/household)	82	250	156
Raising head of sheep and goats (head/household)	79	74	80
I. Gross Income	5,424	5,762	5,035
1) Farm Income	4,484	4,642	4,405
(Crops)			
- Wheat (dunum)	60 504	173 1,453	63 529
- Barley (dunum)	2 11	66 356	75 405
- Other field crops *1 (dunum)	3 29	3 29	3 29
- Olive (dunum)	6 306	2 19	8 408
- Other tree crops *2 (dunum)	3 260	6 521	4 347
- Vegetables *3 (dunum)	8 989	- -	3 260
(Livestock)			
- Sheep and goats (head)	10 350	10 350	10 350
- Lambs and kids (head)	37 1,110	35 1,050	38 1,140
- Yorgoult (kg)	219 438	205 410	222 444
- Milk oil (kg)	88 440	82 410	89 445
- Wool (kg)	67 47	63 44	68 48
2) Non Farm Income	940	1,120	630
II. Gross Outgoings	5,376	5,712	5,043
1) Production Cost	2,466	2,572	2,473
(Crops)			
- Seed & seedlings	148	219	147
- Fertilizers	71	6	34
- Agro-chemicals	177	69	147
- Labor cost	245	428	317
- Farm machinery	169	494	311
- Animals	0	0	0
- Materials	238	99	143
- Transportation cost	159	66	100
- Miscellaneous	60	68	60
(Livestock)			
- Labor cost	493	462	499
- Feeds	576	539	583
- Vaccines	21	20	22
- Miscellaneous	109	102	110
2) Living Expenses	2,910	3,140	2,570
- Foods	1,370	1,670	1,120
- Others	1,540	1,470	1,450
III. Net Reserve	48	50	-8

*1 Lentils and chick peas

*2 Grape, apricot, peach, apple, etc.

*3 Tomatoes, water melon, cauliflower, etc.

表 4.1 土地利用ガイドライン

Slope (%)	0 - 8		8 - 12		12 - 30		30 <	
	0-50	50-100	0-50	50-100	0-50	50-100	0-50	50-100
Soil Depth (cm)								
Annual Rainfall 300 - 200 mm	Pasture	Field Crops (Mechanized Farming)	Pasture	Field Crops by Stone Walls or Contour Furrow	Pasture	Fruit Trees by Stone Walls or Earth Banks	Barley Forage Legume (Fodder Shrub) by Stone Walls or Contour Furrow	Fruit Trees by Stone Walls or Earth Banks
200 - 100 mm	Natural Pasture	Fodder Shrubs by Micro-Catchment	Natural Pasture	Fodder Shrubs by Contour Furrow or Stone Walls	Natural Pasture	Natural Pasture	Natural Pasture	Forest

表 4.2 ガイドラインによるダイバンの開発可能面積

Slope (%)	(Unit: ha)											
	0 - 8			8 - 12			12 - 30			30 <		
	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<	0-50	50-100	100<
Soil Depth (cm)												
Annual Rainfall												
300 - 200 mm	25 6 19 17	3,225 3,069 156 141		150 119 31 25	0 0 0 0	875 594 281 254	175 32 144 36	0 0 0 0	600 250 350 315		50 12 38 34	
200 - 100 mm	3,650 1,795 1,857 1,654	75 56 19 17	16,150 9,639 6,513 5,861	2,250 719 1,532 1,346	3,075 1,513 1,562 1,407				5,975 820 5,157 3,390			
100 - 50 mm												
Total (ha)												

Remark: Four (4) figures in each class indicate (i) Total Area, (ii) Extent of Farmland, (iii) Extent of Non-Farmland and (iv) Expansable Area from top to bottom in order.

表 4.4 ガイドラインによるタフイーラの開発可能性面積

Slope (%)	(Unit: ha)															
	0 - 8				8 - 12				12 - 30				30 <			
	0-50	50-100	100<	100<	0-50	50-100	100<	100<	0-50	50-100	100<	100<	0-50	50-100	100<	100<
Soil Depth (cm)																
Annual Rainfall																
300 - 200 mm	75	1,550			1,150	3,250	175		13,325	9,325	25				1,650	
	57	1,339			487	2,319	144		3,338	4,519	19				426	
	19	213			663	932	31		9,989	4,808	6				1,226	
	14	186			479	795	28		6,995	3,645	6				683	
200 - 100 mm	100	175	400		600	825					15,450					
	75	125	326		225	487					1,862					
	25	50	76		375	338					13,590					
	19	45	67		281	304					6,555					
100 - 50 mm																
Total (ha)																
	0				0				0				0			

Remark: Four (4) figures in each class indicate (i) Total Area, (ii) Extent of Farmland, (iii) Extent of Non-Farmland and (iv) Expansibility Area from top to bottom in order.

表 4.5 土地利用計画

Area	Rainfall (mm)	Objectives
Dhiban		
Phase-I	300-200 mm	<ol style="list-style-type: none"> 1. Yield maximization in existing wheat field with 3,100 ha on 0-8% slope 2. Wheat expansion to 140 ha on 0-8% slope 3. Tree crops expansion to 250 ha on 8-12% slope and 12-30% slope by introducing earth banks and stone walls
Phase-II	200-100 mm	<ol style="list-style-type: none"> 1. Diversification from wheat to tree crops in a part of 9,600 ha of wheat field covered by deep soils on 0-8% slope 2. Expansion of tree crops to 5,900 ha of deep soils on 0-8% slope 3. Expansion of fodder crops to 1,400 ha of deep to moderately deep soils on 8-12% slopes
Abyad		
Phase-I	300-200 mm	<ol style="list-style-type: none"> 1. Yield improvement in existing wheat field with 160 ha on 0-30% slope 2. Expansion of wheat to 190 ha on 0-12% slope
Phase-II	200-100 mm	<ol style="list-style-type: none"> 1. Improvement of productivity of existing field of 5,100 ha 2. Expansion of tree crops to 3,200 ha of deep soils on 0-8% slopes 3. Expansion of fodder shrubs to 3,900 ha on 0-8% and 1,800 ha on 8-12%
Tafila		
Phase-I	300-200 mm	<ol style="list-style-type: none"> 1. Yield maximization in existing wheat field with 4,200 ha on 0-12% slope 2. Diversification from wheat to tree crops with 160 ha on 8-30% slopes 3. Diversification from wheat to fodder shrubs with 4,500 ha on 12-30% slopes 4. Expansion of wheat with 990 ha on 0-12% slopes 5. Expansion of tree crops with 30 ha 6. Expansion of fodder shrubs with 3,600 ha on 12-30%
Phase-II	300-200 mm	<ol style="list-style-type: none"> 1. Expansion of fodder shrubs with 2,600 ha on 12-30%
	200-100 mm	<ol style="list-style-type: none"> 2. Improvement of productivity of existing field of 1,200 ha 3. Expansion of tree crops with 70 ha 4. Expansion of fodder shrubs with 300 ha on 12-30%

表 4.6 農業生産物需要供給予測

(Unit: 1,000 t)

	Demand			Supply			Balance			Marketability
	1995	2000	2005	1995	2000	2005	1995	2000	2005	
FIELD CROPS										
1 Wheat (grain)	456	552	648	81	81	81	-375	-471	-567	A
2 Lentils	4.9	5.5	5.9	3.1	3.1	3.1	-1.8	-2.4	-2.8	A
3 Vetch	3.0	3.0	3.0	1.3	1.2	1.1	-1.7	-1.8	-1.9	A
4 Chick pea	17	22	27	1	1	1	-16	-21	-26	A
5 Rice	90	110	140	-	-	-	-90	-110	-140	A
TREE CROPS										
6 Olive (green)	76	92	108	74	88	100	-2	-4	-8	A
7 Grape	80	97	113	72	81	87	-8	-16	-26	A
8 Fig	2.6	2.8	3.0	2.3	2.3	2.2	-0.3	-0.5	-0.8	B
9 Almond	4.9	6.0	7.0	1.0	1.0	0.9	-3.9	-5.0	-6.1	A
10 Peach	3.0	4.7	4.3	4.9	6.3	7.6	1.9	1.6	3.3	C
11 Plum and Prune	2.1	0.8	0.0	4.8	4.8	4.7	2.7	4.0	4.7	C
12 Apricot	2.7	3.2	3.8	0.6	0.5	0.5	-2.1	-2.7	-3.3	A
13 Pomegranate	1.3	1.4	1.5	2.4	2.0	1.9	1.1	0.6	0.4	B
14 Apple	42	51	59	5	5	6	-37	-46	-53	A
15 Pear	2.9	3.5	4.1	0.3	0.3	0.3	-2.6	-3.2	-3.8	A
16 Banana	46	58	70	55	74	88	9	16	18	C
17 Citrus	103	92	70	285	315	346	182	223	276	C
18 Quince	0.10	0.12	0.14	0.07	0.07	0.07	-0.03	-0.05	-0.07	B
VEGETABLES										
19 Tomato	277	336	394	459	520	586	182	184	192	C
20 Squash	57	74	92	83	95	107	26	21	15	C
21 Eggplant	80	97	113	127	144	160	47	47	47	C
22 Cucumber	87	110	135	176	212	260	89	102	125	C
23 Potato	61	74	86	74	97	120	13	23	34	C
24 Cabbage	24	29	34	30	34	36	6	5	2	C
25 Cauliflower	33	40	46	30	30	30	-3	-10	-16	A
26 Sweet Pepper	9	11	12	50	67	76	41	56	64	C
27 Okra	3.4	4.1	4.9	3.8	4.0	4.1	0.4	-0.1	-0.8	B
28 Lettuce	14	17	19	18	18	18	4	1	-1	A
29 Water Melon	99	120	140	118	131	146	19	11	6	C
30 Onion (green & dry)	65	92	124	52	69	88	-13	-23	-36	A
31 Snake Cuc.	8	10	12	5	5	5	-3	-5	-7	A
32 Carrot	4.2	5.1	5.9	0.7	0.7	0.7	-3.5	-4.4	-5.2	A
33 Sweet Melon	46	60	70	65	80	95	19	20	25	C
34 Peas	9	12	15	5	5	5	-4	-7	-10	A
35 Mulukhiye	37	47	58	36	42	49	-1	-5	-9	A
36 Garlic	3.0	4.0	4.0	1.3	1.5	1.7	-1.7	-2.5	-2.3	A
LIVESTOCK PRODUCTS										
37 Red Meat	74	95	117	8	8	8	-66	-87	-109	A
38 Broiler	87	110	135	87	105	122	0	-5	-13	A
39 Eggs (million eggs)	650	830	1,030	550	580	610	-100	-250	-420	A

Remarks: A: High B: Moderate C: Low

表 4.7 栽植密度

(Planting Density)	Olives			Grapes			Apples			
	100-150	150-200	200-250	100-150	150-200	200-250	100-150	150-200	200-250	250-300
Crop water requirement(mm)	125	175	225	125	175	225	125	175	225	275
Common planting density(plants/ha)	35	35	35	35	35	35	35	35	35	35
Crop water requirement(ton/plant)	437.5	612.5	787.5	437.5	612.5	787.5	437.5	612.5	787.5	962.5
Annual rainfall(mm)	5	6	8	10	10	10	96	96	96	96
average rainfall(mm)										
Runoff coefficient(%)										
Available water(ton/ha)										
Optimum planting density(plants/ha)										

(Irrigable Area by Winter Irrigation)

Site	J1	E1	D2	Abiad
Water Supply(return period of 2 year of low water*0.3), tons	45000	30000	102000	370000
Crop Water Requirement, tons	780	227*0.85	219*0.85	172*0.85
Effective Rainfall, mm	204*0.85	11740	11880	12680
Irrigation Water Requirement, ton/ha	12130	2	8	20
Irrigable Area with 5 % Allowance, ha	4			

表 4.8 作物収益性 (将来) (集水栽培によるオリーブ)

Olives

	Unit	Year																																						
		1	2	3	4	5	6	7	8	9	10	11	12	13-70																										
I. Income/plant	Q'ty (kg)	0	0.0	0.0	0.0	0.0	2.30	3.4	3.1	4.7	5.5	9.8	8.5	12.8	12.2	18.3	13	19.5	18	27.0	20.8	31.2																		
II. Production Cost	Unit Price (JD)	0.3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																		
1) Seedlings	(piece)	0.50	5	2.5																																				
2) Fertilizers/plant																																								
- N	(kg)	0.24	0.18	0.2	0.23	0.3	0.27	0.3	0.27	0.3	0.31	0.4	0.35	0.4	0.39	0.5	0.42	0.5	0.46	0.6	0.49	0.5	0.53	0.6	0.53	0.6	0.53	0.6	0.53	0.6	0.53	0.6	0.53	0.6	0.53	0.6	0.53	0.6		
- P2O5	(kg)	0.24	0.09	0.1	0.12	0.1	0.15	0.2	0.18	0.2	0.2	0.2	0.2	0.2	0.25	0.3	0.3	0.4	0.35	0.4	0.4	0.5	0.45	0.5	0.45	0.5	0.45	0.5	0.45	0.5	0.45	0.5	0.45	0.5	0.45	0.5	0.45	0.5		
- K2O	(kg)	0.40	0.19	0.4	0.24	0.5	0.29	0.6	0.34	0.7	0.38	0.8	0.45	0.9	0.53	1.1	0.6	1.2	0.68	1.4	0.75	1.5	0.75	1.5	0.75	1.5	0.75	1.5	0.75	1.5	0.75	1.5	0.75	1.5	0.75	1.5	0.75	1.5		
3) Plowing	(hrs)	2.4	1	2.4																																				
4) Labour (man-day)																																								
- Harvesting		5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.12	0.6	0.161	0.8	0.338	1.7	0.442	2.2	0.635	3.2	0.677	3.4	0.937	4.7	1.083	5.4	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	
- Hoing&planting		5.00	2	10.0	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	1.3	0.25	
5) Materials																																								
- Fence	(m)	1.5	40	60.0																																				
- Bags(40kg)		0.25	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0.10	0.0	0.1	0.0	0.2	0.1	0.2	0.1	0.3	0.1	0.3	0.1	0.3	0.1	0.3	0.1	0.3	0.1	0.3	0.1	0.3	0.1	0.3	0.1		
- Boxes		0.25	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
- Water	(ton)	0.1	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	0.2	2.4	
6) Transportation(kg)		0.01	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.50	0.1	15.5	0.2	32.5	0.3	42.5	0.4	61	0.6	55	0.7	90	0.9	104	1.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
Sub-total			75.9	2.4	2.4	2.4	2.4	2.5	2.5	2.7	3.7	3.7	4.2	4.2	5.5	6.4	6.4	7.8	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0		
7) Misc. cost, 5% of the above			3.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4		
Total			79.6	2.5	2.5	2.4	2.4	2.6	2.6	2.8	3.8	3.8	4.4	4.4	5.8	6.7	6.7	8.2	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4		
III. Net Income	(JD/ha.)		-80.0	-3.0	-3.0	-2.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0		

表 4.9 作物収益性 (将来) (集水栽培によるブドウ)

Grapes

	Unit	Year																							
		1	2	3	4	5	6	7	8	9	10	11	12	13-15											
I. Income/plant	(kg)	0.5	0	0.0	0.0	2.1	46.2	3.1	68.2	3.5	77.0	3.7	81.4	3.8	83.5	4	88.0	4.3	94.5	4.6	101.2	4.7	103.4		
II. Production Cost																									
1) Seedlings	(piece)	44	22.0																						
2) Fertilizers/plant																									
- N	(kg)	0.24	0.01	0.1	0.03	0.3	0.04	0.4	0.08	0.8	0.12	1.3	0.13	1.4	0.14	1.5	0.14	1.5	0.15	1.6	0.16	1.7	0.16	1.7	0.16
- P205	(kg)	0.24	0.02	0.2	0.03	0.3	0.04	0.4	0.07	0.7	0.09	1.0	0.1	1.1	0.11	1.2	0.12	1.3	0.13	1.4	0.14	1.5	0.14	1.5	0.14
3) Plowing	(hrs)	2.4	7	16.8																					
4) Labor (man-day/ha)																									
- Hoeing&planting	5.00	18	90.0	2.2	11.0	2.2	11.0	2.2	11.0	2.2	11.0	2.2	11.0	2.2	11.0	2.2	11.0	2.2	11.0	2.2	11.0	2.2	11.0	2.2	11.0
- Harvesting	5	0	0.0	0	0.0	0	0.0	0.0	0.252	1.3	0.481	2.4	0.710	3.6	0.802	4.0	0.847	4.2	0.870	4.4	0.916	4.6	0.985	4.9	1.054
5) Materials																									
- Chemicals (litre)	10	0.01	0.1	0.01	0.1	0.01	0.1	0.02	0.2	0.02	0.2	0.02	0.2	0.03	0.3	0.03	0.3	0.03	0.3	0.03	0.3	0.04	0.4	0.04	0.4
- Fence (m)	1.5	352	528.0																						
- Box(12kg) (no.)	0.25	0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Water (ton)	0.1	21.12	2.1	21.12	2.1																				
6) Transportation(kg)	0.01	0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Sub-total		659.3	13.9	11.9	15.5	18.7	21.4	21.4	21.4	18.7	21.4	21.4	22.7	23.3	23.8	23.8	24.6	24.6	25.3	25.3	26.1	26.1	26.3	26.3	
7) Misc. cost,5% of the above		33.0	0.7	0.6	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.3	
Total		692.29	14.54	12.53	16.3	19.6	22.4	22.4	22.4	19.6	22.4	22.4	23.8	24.4	24.9	24.9	25.8	25.8	26.5	26.5	27.38	27.38	27.65	27.65	
III. Net Income (JD/ha.)		-692.0	-15.0	-13.0	8.0	27.0	46.0	46.0	46.0	27.0	46.0	46.0	53.0	57.0	59.0	59.0	62.0	62.0	68.0	68.0	74.0	74.0	76.0	76.0	

表 4.10 作物収益性 (将来) (集水栽培によるアズ)

Apricots

Year

1 2 3 4 5 6 7 8 9 10 11 12 13-20

Unit

Unit Price		Q'ty Amt.		Q'ty Amt.		Q'ty Amt.		Q'ty Amt.		Q'ty Amt.		Q'ty Amt.		Q'ty Amt.												
(JD)		(JD/ha)		(JD/ha)		(JD/ha)		(JD/ha)		(JD/ha)		(JD/ha)		(JD/ha)												
I. Income/plant		(kg)	0.33	0	0.0	0.0	6.8	6.7	11.9	11.8	15.2	15.0	18.6	18.4	22.3	22.1	26.2	25.9	29.2	28.9	31.5	31.2	32.4	32.1		
II. Production Cost																										
1) Seedlings		(piece)	0.50	3	1.5																					
2) Fertilizers/plant																										
- N	(kg)	0.24	0.16	0.1	0.24	0.2	0.4	0.3	0.5	0.4	0.53	0.4	0.57	0.4	0.6	0.4	0.63	0.5	0.53	0.4	0.63	0.5	0.63	0.5	0.63	0.5
- P205	(kg)	0.24	0.09	0.1	0.14	0.1	0.24	0.2	0.3	0.2	0.32	0.2	0.34	0.2	0.36	0.3	0.38	0.3	0.38	0.3	0.38	0.3	0.38	0.3	0.38	0.3
- K20	(kg)	0.40	0.13	0.2	0.19	0.2	0.32	0.4	0.38	0.5	0.4	0.5	0.45	0.5	0.48	0.6	0.5	0.6	0.5	0.6	0.5	0.6	0.5	0.6	0.5	0.6
3) Plowing	(hrs)	2.4	1	2.4																						
4) Labour (man-day/ha)																										
- Harvesting	5	0	0.0	0	0.0	0	0.0	0.040	0.2	0.071	0.4	0.091	0.5	0.111	0.6	0.133	0.7	0.157	0.8	0.175	0.9	0.189	0.9	0.194	1.0	
- Hoing&planting	5.00	2	10.0	0.15	0.8	0.15	0.8	0.15	0.8	0.15	0.8	0.15	0.8	0.15	0.8	0.15	0.8	0.15	0.8	0.15	0.8	0.15	0.8	0.15	0.8	
5) Materials																										
- Chemicals	(litre)	10	0.005	0.1	0.005	0.1	0.005	0.1	0.005	0.1	0.005	0.1	0.005	0.1	0.005	0.1	0.005	0.1	0.005	0.1	0.005	0.1	0.005	0.1	0.005	0.1
- Fence	(m)	1.5	24	36.0																						
- Boxes(12kg)	(no)	0.25	0	0.0	0	0.0	0	0.0	1.7	0.4	2.975	0.7	3.8	1.0	4.65	1.2	5.575	1.4	6.55	1.6	7.3	1.8	7.875	2.0	8.1	2.0
- Water	(ton)	0.1	1.44	0.1	1.44	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
6) Transportation(kg)	0.01	0	0.0	0	0.0	0	0.0	20.4	0.2	35.7	0.4	45.6	0.5	55.8	0.6	66.9	0.7	78.6	0.8	87.6	0.9	94.5	0.9	97.2	1.0	
Sub-total			50.4	1.4	1.5	1.6	2.6	3.3	3.8	3.8	4.3	4.8	5.3	5.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	
7) Misc. cost, 5% of the above			2.5	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	
Total			52.951	1.512	1.543	1.72	2.76	3.47	3.98	3.98	4.47	5.03	5.59	5.91	6.279	6.398	6.398	6.398	6.398	6.398	6.398	6.398	6.398	6.398	6.398	
III. Net Income	(JD/ha.)		-53.0	-2.0	-2.0	-2.0	4.0	8.0	11.0	11.0	14.0	17.0	20.0	23.0	25.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	26.0	

表 4.11 作物収益性 (将来) (集水栽培によるアトリプレックス)

Atriplex

	Year												
	1	2	3	4	5	6	7	8	9	10	11	12	13-30
I. Income/ha	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
II. Production Cost													
1) Seedlings (piece)	313	156.5											
2) Fertilizers/plant													
- N (kg)	0.24												
- P205 (kg)	0.24												
- K20 (kg)	0.40												
3) Labour (man-day)													
- Pitting	5.00	15.7	78.5										
- Planting	5	6.3	31.5										
Sub-total			267.7										
4) Misc. cost, 5% of the above			13.4										
Total			281.08										
III. Net Income (JD/ha.)			-281.0										

表 4.12 小麦收益性

		Irrigated		Rainfed	
I. Gross Income					
- Unit yield	(t/ha)		3.50		1.8
- Unit price	(JD/t)		140.0		140
- Gross income	(JD/ha)		490.00		252
II. Production Cost					
	Unit Price (JD)	Q'ty	Amount (JD/ha)	Q'ty	Amount (JD/ha)
1) Seeds (kg)	0.14	80	11.2	80	11.2
2) Fertilizers					
- Compound, DAP (kg)	0.11	420	46.2	90	9.9
3) Agro-chemicals					
- Herbicides (lit.)	2.75	1	2.75	1	2.75
5) Farm machinery					
- Plowing (ha)	10.00	1.0	10	1	10
- Drilling (ha)	9.00	1.0	9	1	9
- Spraying (ha)	7.50	1.0	7.5	1	7.5
- Harvesting (ha)	12.50	1.0	12.5	1	12.5
7) Materials			0		0
- Bags (100kg, piece)	0.25	35	8.75	18	4.5
8) Transportation (kg)	0.01	3500	35	1800	18
Sub-total			142.9		85.35
9) Misc. 5% of the above			7.145		4.2675
Total			150.05		89.62
III. Net Income (JD/ha)			339.96		162.38

表 4.13 作物収益性 (将来) (チャエックダムによるオリーブ)

		Olives																										
		Year																										
		1	2	3	4	5	6	7	8	9	10	11	12	13-20														
Unit	Q'ty	Q'ty Amt. (JD/ha)																										
	Price (JD)	Q'ty Amt. (JD/ha)																										
I. Income/plant	(kg)	0.3	0	0	0	0	2.3	197	3.1	266	6.5	558	8.5	729	12.2	1047	13	1115	18	1544	20.8	1785						
II. Production Cost																												
1) Seedlings	(piece)	0.50	286	143																								
2) Fertilizers/plant																												
- N	(kg)	0.24	0.18	12	0.23	16	0.27	19	0.31	21	0.35	24	0.39	27	0.42	29	0.46	32	0.49	34	0.53	36	0.53	36	0.53	36		
- P205	(kg)	0.24	0.09	6	0.12	8	0.15	10	0.18	12	0.2	14	0.25	17	0.3	21	0.35	24	0.4	27	0.45	31	0.45	31	0.45	31		
- K20	(kg)	0.40	0.19	22	0.24	27	0.29	33	0.34	39	0.38	43	0.45	51	0.53	61	0.6	69	0.68	78	0.75	86	0.75	86	0.75	86		
3) Plowing	(ha)	10	1	10																								
4) Labour (man-day)																												
- Harvesting		5	0	0	0	0	0	0	0	0	0	0	6.852	34	9.235	46	19.36	97	25.32	127	36.34	182	38.72	194	53.62	268	61.96	310
- Hoeing&planting		5.00	5.72	29	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100
5) Materials																												
- Fence	(m)	1.5	1040	1560																								
- Bags(40kg)		0.25	0	0	0	0	0	0	0	0	0	0	16.4	4	22.2	6	46.5	12	60.8	15	87.2	22	93	23	128.7	32	148.7	37
- Boxes		0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- Water	(ton)	0.1	137.2	14	137.28	14																						
6) Transportation(kg)		0.01	0	0	0	0	0	0	0	0	0	0	657.8	7	886.6	9	1859	19	2431	24	3489.	35	3718	37	5148	51	5948.	59
Sub-total			1796	165	162	173	181	241	271	352	405	492	507	604	659													
7) Misc. cost.5% of the above			90	8	8	9	9	12	14	18	20	25	25	30	33													
Total			1886	173	170	181	190	253	284	369	425	516	532	635	682													
III. Net Income	(JD/ha.)		-1886	-173	-170	-181	-190	-55	-18	188	304	531	583	910	1093													

表 4.14 作物収益性 (将来) (チャエックダムよるブドウ)

		Year																										
		1	2	3	4	5	6	7	8	9	10	11	12	13-15														
I. Income/plant		0	0	0	0	1.1	1375	2.1	2625	3.1	3875	3.5	4375	3.7	4625	3.8	4750	4	5000	4.3	5375	4.6	5750	4.7	5875			
II. Production Cost																												
1) Seedlings (piece)		2500	1250																									
2) Fertilizers/plant																												
- N (kg)	0.24	0.01	6	0.03	18	0.04	24	0.08	48	0.12	72	0.13	78	0.14	84	0.15	90	0.16	96	0.16	96	0.16	96	0.16	96	0.16	96	
- P2O5 (kg)	0.24	0.02	12	0.03	18	0.04	24	0.07	42	0.09	54	0.1	60	0.11	66	0.12	72	0.13	78	0.14	84	0.14	84	0.14	84	0.14	84	
3) Plowing (hrs)	10	1	10																									
4) Labor (man-day)	5.00	5.72	29	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	
- Hoeing&planting	5	0	0	0	0	0	0	14.3	72	27.34	137	40.36	202	45.57	228	48.17	241	49.47	247	52.08	260	55.98	280	59.89	299	61.19	306	
- Harvesting																												
5) Materials																												
- Chemicals (litre)	10	0.3	3	0.3	3	0.3	3	0.5	5	0.5	5	0.5	5	0.8	8	0.8	8	0.8	8	1	10	1	10	1	10	1	10	
- Fence (m)	1.5	1040	1550																									
- Box(12kg)	0.25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
- Water (ton)	0.1	1200	120	1200	120	1200	120	1200	120	1200	120	1200	120	1200	120	1200	120	1200	120	1200	120	1200	120	1200	120	1200	120	
6) Transportation(kg)	0.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Sub-total		2990	259	151	351	530	684	756	884	950	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	
7) Misc. cost,5% of the above		149	13	8	18	26	34	38	41	43	45	47	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
Total		3139	272	159	369	556	718	793	809	857	902	946	991	1006	1006	1006	1006	1006	1006	1006	1006	1006	1006	1006	1006	1006	1006	
III. Net Income (JD/ha.)		-3139	-272	-159	1006	2069	3157	3562	3815	3893	4096	4429	4759	4869	4869	4869	4869	4869	4869	4869	4869	4869	4869	4869	4869	4869	4869	

表 4.15 作物収益性 (将来) (チェックダムによるアンズ)

		Apricots																										
		Year																										
Unit		1	2	3	4	5	6	7	8	9	10	11	12	13-20														
Unit Price (JD)	Q'ty (JD/ha)	Amt. (JD/ha)	Q'ty (JD/ha)	Amt. (JD/ha)	Q'ty (JD/ha)	Amt. (JD/ha)	Q'ty (JD/ha)	Amt. (JD/ha)	Q'ty (JD/ha)	Amt. (JD/ha)	Q'ty (JD/ha)	Amt. (JD/ha)	Q'ty (JD/ha)	Amt. (JD/ha)														
I. Income/plant	(kg)	0.33	0	0	0	6.8	642	11.9	1123	15.2	1435	18.6	1755	22.3	2105	26.2	2473	29.2	2756	31.5	2973	32.4	3058					
II. Production Cost	(piece)	0.50	286	143																								
1) Seedlings	(kg)	0.24	0.16	11	0.24	16	0.32	22	0.4	27	0.47	32	0.5	34	0.53	36	0.57	39	0.6	41	0.63	43	0.53	36	0.63	43	0.63	43
2) Fertilizers/plant	(kg)	0.24	0.09	6	0.14	10	0.19	13	0.24	16	0.28	19	0.3	21	0.32	22	0.34	23	0.35	25	0.38	26	0.38	26	0.38	26	0.38	26
	(kg)	0.40	0.13	15	0.19	22	0.25	29	0.32	37	0.38	43	0.4	46	0.43	49	0.45	51	0.48	55	0.5	57	0.5	57	0.5	57	0.5	57
3) Plowing	(hrs)	10	1	10																								
4) Labour (man-day)																												
- Harvesting		5	0	0	0	0	0	0	0	3.889	19	6.806	34	8.694	43	10.63	53	12.75	64	14.98	75	16.70	84	18.01	90	18.53	93	
- Hoeing&planting		5.00	5.72	29	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100	20	100
5) Materials		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- Chemicals (litre)		10	0.25	3	0.38	4	0.5	5	0.63	6	0.75	8	0.79	8	0.84	8	0.9	9	0.95	10	1	10	1	10	1	10	1	10
- Fence (m)		1.5	1040	1560																								
- Boxes(12kg) (no)		0.25	0	0	0	0	0	0	0	162.0	41	283.6	71	362.2	91	443.3	111	531.4	133	624.4	156	695.9	174	750.7	188	772.2	193	
- Water (ton)		0.1	137.2	14	137.28	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6) Transportation(kg)		0.01	0	0	0	0	0	0	0	1944.	19	3403.	34	4347.	43	5319.	53	6377.	64	7493.	75	8351.	84	9009	90	9266.	93	
Sub-total			1790	165	169	187	282	348	393	440	491	542	571	615	650	695	740	785	830	875	920	965	1010	1055	1100	1145	1190	
7) Misc. cost, 5% of the above			89	8	8	9	14	17	20	22	25	27	29	31	33	35	38	41	44	47	50	53	56	59	62	65	68	
Total			1879	174	177	196	296	365	413	462	515	570	599	635	670	705	740	775	810	845	880	915	950	985	1020	1055	1090	
III. Net Income (JD/ha.)			-1879	-174	-177	-196	-346	-413	-462	-515	-570	-625	-680	-735	-790	-845	-900	-955	-1010	-1065	-1120	-1175	-1230	-1285	-1340	-1395	-1450	

表 4.16 建設費用

No. Work		Q'ty	Unit Price	Amount
(1) D-2	Weir			
I.	Weir			
	1. Excavation (m3)	290	3	870
	2. Masonry (m3)	190	60	11,400
II.	Apron			
	1. Excavation (m3)	240	3	720
	2. Concrete (m3)	75	70	5,250
III.	Intake			
	1. Excavation (m3)	300	3	900
	2. Concrete (m3)	70	70	4,900
IV.	Miscellaneous L.S.			4,810
	Total			28,850
(2) E-1	Weir			
I.	Weir			
	1. Excavation (m3)	180	3	540
	2. Masonry (m3)	115	60	6,900
II.	Apron			
	1. Excavation (m3)	130	3	390
	2. Concrete (m3)	72	70	5,040
III.	Intake			
	1. Excavation (m3)	260	3	780
	2. Concrete (m3)	50	70	3,500
IV.	Miscellaneous L.S.			3,430
	Total			20,580
(3) J-1	Weir			
I.	Weir			
	1. Excavation (m3)	300	3	900
	2. Masonry (m3)	155	60	9,300
	3. Embankment (m3)	170	5	850
II.	Apron			
	1. Excavation (m3)	180	3	540
	2. Concrete (m3)	70	70	4,900
III.	Intake			
	1. Excavation (m3)	180	3	540
	2. Concrete (m3)	50	70	3,500
IV.	Miscellaneous L.S.			4,110
	Total			24,640
(4) Abyad	Weir			
I.	Weir			
	1. Excavation (m3)	480	3	1,440
	2. Masonry (m3)	250	60	15,000
II.	Apron			
	1. Excavation (m3)	450	3	1,350
	2. Concrete (m3)	256	70	17,920
III.	Intake			
	1. Excavation (m3)	730	3	2,190
	2. Concrete (m3)	126	70	8,820
IV.	Miscellaneous L.S.			9,340
	Total			56,060

表 4.17 年別開發面積

(Unit: ha)

	Annual Development Area																							
	First Phase					Second Phase					Ground Total													
	Field Crop (ha)	Fruit Mixture (ha)	Fodder (ha)	Shrubs (ha)	Total (ha)	Fruit Crops (ha)	Fodder (ha)	Shrubs (ha)	Total (ha)	Ground Total														
1	2	3	4	5	6	7	8	9	10															
Development by Individual Farmers	780	465.9	2,190	-	3,435.9	5,450	-	5,450	-	5,450	8,886	708.3	674.4	674.4	674.4	684.4	694.4	1,090	1,090	1,090	1,090	1,090	1,090	
1) Water Harvesting Measures	-	150	-	-	150	5,450	-	5,450	-	5,450	5,600	30	30	30	30	30	30	30	1,090	1,090	1,090	1,090	1,090	1,090
- Micro-catchment	-	210	-	-	210	-	-	-	-	-	210	40	40	40	40	40	40	40	-	-	-	-	-	-
- Stone Walls/Earth Bank	-	-	-	-	-	-	-	-	-	-	2,700	540	540	540	540	540	540	540	-	-	-	-	-	-
- Stone Walls/C. Furrow	510	-	2,190	-	2,700	-	-	-	-	-	2,700	540	540	540	540	540	540	540	-	-	-	-	-	-
2) Mechanized Farming	270	-	-	-	270	-	-	-	-	-	270	50	50	50	50	50	50	50	-	-	-	-	-	-
3) Check Dam	-	72	-	-	72	-	-	-	-	-	72	14.4	14.4	14.4	14.4	14.4	14.4	14.4	-	-	-	-	-	-
4) Winter Irrigation	(33.9)*	33.9	-	-	33.9	-	-	-	-	-	33.9	33.9	-	-	-	-	-	-	-	-	-	-	-	-
Development by the Government	-	-	-	-	2,240	2,240	-	2,240	2,240	4,480	4,480	450	450	450	450	450	450	450	450	450	450	450	450	440
1) Water Harvesting Measures	-	-	-	-	1,190	1,190	-	1,190	1,190	2,380	2,380	240	240	240	240	240	240	240	240	240	240	240	240	230
- Micro-catchment	-	-	-	-	1,050	1,050	-	1,050	1,050	2,100	2,100	210	210	210	210	210	210	210	210	210	210	210	210	210
- Stone Walls/C. Furrow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Whole Area	780	465.9	2,190	2,240	4,625.9	5,450	2,240	7,690	13,365.9	1,158.3	1,124.4	1,124.4	1,134.4	1,134.4	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,540	1,530	
1) Water Harvesting Measures	-	150	-	1,190	1,340	5,450	1,190	6,640	7,980	270	270	270	270	270	260	260	260	260	1,330	1,330	1,330	1,330	1,320	
- Micro-catchment	-	210	-	-	210	-	-	-	210	40	40	40	40	40	50	50	50	50	-	-	-	-	-	
- Stone Walls/Earth Bank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
- Stone Walls/C. Furrow	510	-	2,190	1,050	2,700	-	1,050	1,050	4,800	750	750	750	750	750	750	750	750	750	210	210	210	210	210	
2) Mechanized Farming	270	-	-	-	270	-	-	-	270	50	50	50	50	50	60	60	60	60	-	-	-	-	-	
3) Check Dam	-	72	-	-	72	-	-	-	72	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	14.4	-	-	-	-	-	
4) Winter Irrigation	(33.9)*	33.9	-	-	33.9	-	-	-	33.9	33.9	-	-	-	-	-	-	-	-	-	-	-	-	-	

* Inter cropping

表 5.1 年別利益及び費用 (作物生産)

(Unit: JD 1,000)

Year*1	Water Harvesting			Check Dam			Winter Irrigation			Farm Mechanization*3			Whole Area		
	Cost	O&M	Benefit	Cost	O&M	Benefit	Cost	O&M	Benefit	Cost	O&M	Benefit	Cost	O&M	Benefit
4	-	-	-	-	-	-	199.4	-	-78.5	-	-	-	199.4	-	-78.5
5	-	-	-	-	-	-	-	0.7	3.9	-	-	-	-	0.7	3.9
6	226.6	-	-19.8	194.1	-	-43.0	-	0.7	6.7	-	-	(10.8)	420.7	0.7	-56.1
7	226.6	-	96.2	194.1	-	-48.4	-	0.7	18.9	-	-	(21.6)	420.7	0.7	66.7
8	226.6	-	212.5	194.1	-	-52.1	-	0.7	36.2	-	-	(32.4)	420.7	0.7	196.6
9	226.6	-	329.1	194.0	-	-49.1	-	0.7	53.9	-	-	(45.4)	420.6	0.7	333.9
10	226.6	-	446.3	194.0	-	-36.7	-	0.7	48.3	-	-	(58.3)	420.6	0.7	457.9
11	61.0	-	284.0	-	-	28.6	-	0.7	55.3	-	-	(58.3)	61.0	0.7	367.9
12	61.0	-	277.8	-	-	60.3	-	0.7	60.4	-	-	(58.3)	61.0	0.7	398.5
13	61.0	-	273.2	-	-	94.5	-	0.7	67.9	-	-	(58.3)	61.0	0.7	435.6
14	61.0	-	275.2	-	-	124.7	-	0.7	74.9	-	-	(58.3)	61.0	0.7	474.8
15	61.0	-	285.4	-	-	149.5	-	0.7	83.5	-	-	(58.3)	61.0	0.7	518.4
16	-	-	604.0	-	-	168.4	-	0.7	87.1	-	-	(58.3)	-	0.7	859.5
17	-	-	634.8	-	-	187.7	-	0.7	87.1	-	-	(58.3)	-	0.7	909.6
18	-	-	667.3	-	-	205.1	-	0.7	87.1	-	-	(58.3)	-	0.7	959.5
19	-	-	694.7	-	-	219.8	-	0.7	34.7	-	-	(58.3)	-	0.7	949.2
20	-	-	717.1	-	-	230.3	-	0.7	34.7	-	-	(58.3)	-	0.7	982.1
21	-	-	731.8	-	-	208.2	-	0.7	34.7	-	-	(58.3)	-	0.7	974.7
22	-	-	746.8	-	-	181.4	-	0.7	34.7	-	-	(58.3)	-	0.7	962.9
23	-	-	760.2	-	-	152.7	-	0.7	34.7	-	-	(58.3)	-	0.7	947.6
24	-	-	771.6	-	-	123.9	-	-	-	-	-	(58.3)	-	-	895.5
25	-	-	779.5	-	-	95.1	-	-	-	-	-	(58.3)	-	-	874.6
26	-	-	759.1	-	-	80.7	-	-	-	-	-	(58.3)	-	-	839.8
27	-	-	734.3	-	-	66.3	-	-	-	-	-	(58.3)	-	-	800.6
28	-	-	707.5	-	-	51.9	-	-	-	-	-	(58.3)	-	-	759.4
29	-	-	680.8	-	-	37.5	-	-	-	-	-	(58.3)	-	-	718.3
30	-	-	654.0	-	-	23.1	-	-	-	-	-	(58.3)	-	-	677.1
31	-	-	645.1	-	-	23.1	-	-	-	-	-	(58.3)	-	-	668.2
32	-	-	636.2	-	-	23.1	-	-	-	-	-	(58.3)	-	-	659.3
33	-	-	627.2	-	-	23.1	-	-	-	-	-	(58.3)	-	-	650.3
34	-	-	618.3	-	-	23.1	-	-	-	-	-	(58.3)	-	-	641.4
35	-	-	609.3	-	-	23.1	-	-	-	-	-	(58.3)	-	-	632.4
36	-	-	609.3	-	-	23.1	-	-	-	-	-	(58.3)	-	-	632.4
:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
75	-	-	609.3	-	-	23.1	-	-	-	-	-	(58.3)	-	-	632.4
IRR			36.56			7.32			13.10						20.24
B/C *2			3.98			0.70			1.41						2.45

*1 1st year = initial year in Phase-I stage

*2 Discount Rate: 10%

*3 Farm mechanization scheme was excluded from the evaluation because of no investment.

表 5.2 内部收益率 (樹葉飼料生産)

(Unit: JD 1,000)

Year*1	Micro-catchment			Stone Walls/C. Furrow			Total Area		
	Area	Cost	Benefit	Area	Cost	Benefit	Area	Cost	Benefit
6	240	13.4	-67.9	210	25.2	-59.4	450	38.6	-127.3
7	240	13.4	-75.3	210	25.2	-65.9	450	38.6	-141.2
8	240	13.4	-72.5	210	25.2	-63.5	450	38.6	-136.0
9	240	13.4	-69.8	210	25.2	-61.1	450	38.6	-130.9
10	240	13.4	-67.1	210	25.2	-58.7	450	38.6	-125.8
11	240	13.4	-64.3	210	25.2	-56.3	450	38.6	-120.6
12	240	13.4	-61.6	210	25.2	-53.9	450	38.6	-115.5
13	240	13.4	-58.8	210	25.2	-51.5	450	38.6	-110.3
14	240	13.4	-56.1	210	25.2	-49.1	450	38.6	-105.2
15	240	13.4	-53.4	210	25.2	-46.7	450	38.6	-100.1
16	-	-	17.2	-	-	15.1	-	-	32.3
17	-	-	27.4	-	-	23.9	-	-	51.3
18	-	-	27.4	-	-	23.9	-	-	51.3
19	-	-	27.4	-	-	23.9	-	-	51.3
20	-	-	27.4	-	-	23.9	-	-	51.3
21	-	-	27.4	-	-	23.9	-	-	51.3
22	-	-	27.4	-	-	23.9	-	-	51.3
23	-	-	27.4	-	-	23.9	-	-	51.3
24	-	-	27.4	-	-	23.9	-	-	51.3
25	-	-	27.4	-	-	23.9	-	-	51.3
26	-	-	27.4	-	-	23.9	-	-	51.3
27	-	-	27.4	-	-	23.9	-	-	51.3
28	-	-	27.4	-	-	23.9	-	-	51.3
29	-	-	27.4	-	-	23.9	-	-	51.3
30	-	-	27.4	-	-	23.9	-	-	51.3
31	-	-	27.4	-	-	23.9	-	-	51.3
32	-	-	27.4	-	-	23.9	-	-	51.3
33	-	-	27.4	-	-	23.9	-	-	51.3
34	-	-	27.4	-	-	23.9	-	-	51.3
35	-	-	27.4	-	-	23.9	-	-	51.3
36	-	-	24.6	-	-	21.5	-	-	46.1
37	-	-	21.9	-	-	19.2	-	-	41.1
38	-	-	19.2	-	-	16.8	-	-	36.0
39	-	-	16.4	-	-	14.4	-	-	30.8
40	-	-	13.7	-	-	12.0	-	-	25.7
41	-	-	10.9	-	-	9.6	-	-	20.5
42	-	-	8.2	-	-	7.2	-	-	15.4
43	-	-	5.5	-	-	4.8	-	-	10.3
44	-	-	2.7	-	-	2.4	-	-	5.1
IRR (%)									-1.40
B/C *2									-2.50

*1 1st year = initial year in Phase-I stage

*2 Discount Rate: 10%

表 5.3 全計画に対する内部収益率

(Unit: JD 1,000)

Year*1	Food Crop Development by Individual Farmers			Fodder Shrub Development by Government			Whole Area		
	Cost	O&M	Benefit	Cost	O&M	Benefit	Cost	O&M	Benefit
4	199.4	-	-78.5	-	-	-	199.4	0.0	-78.5
5	-	0.7	3.9	-	-	-	0.0	0.7	3.9
6	420.7	0.7	-56.1	38.6	-	-127.3	459.3	0.7	-183.4
7	420.7	0.7	66.7	38.6	-	-141.2	459.3	0.7	-74.5
8	420.7	0.7	196.6	38.6	-	-136.0	459.3	0.7	60.6
9	420.6	0.7	333.9	38.6	-	-130.9	459.2	0.7	203.0
10	420.6	0.7	457.9	38.6	-	-125.8	459.2	0.7	332.1
11	61.0	0.7	367.9	38.6	-	-120.6	99.6	0.7	247.3
12	61.0	0.7	398.5	38.6	-	-115.5	99.6	0.7	283.0
13	61.0	0.7	435.6	38.6	-	-110.3	99.6	0.7	325.3
14	61.0	0.7	474.8	38.6	-	-105.2	99.6	0.7	369.6
15	61.0	0.7	518.4	38.6	-	-100.1	99.6	0.7	418.3
16	-	0.7	859.5	-	-	32.3	-	0.7	891.8
17	-	0.7	909.6	-	-	51.3	-	0.7	960.9
18	-	0.7	959.5	-	-	51.3	-	0.7	1,010.8
19	-	0.7	949.2	-	-	51.3	-	0.7	1,000.5
20	-	0.7	982.1	-	-	51.3	-	0.7	1,033.4
21	-	0.7	974.7	-	-	51.3	-	0.7	1,026.0
22	-	0.7	962.9	-	-	51.3	-	0.7	1,014.2
23	-	0.7	947.6	-	-	51.3	-	0.7	998.9
24	-	-	895.5	-	-	51.3	-	-	946.8
25	-	-	874.6	-	-	51.3	-	-	925.9
26	-	-	839.8	-	-	51.3	-	-	891.1
27	-	-	800.6	-	-	51.3	-	-	851.9
28	-	-	759.4	-	-	51.3	-	-	810.7
29	-	-	718.3	-	-	51.3	-	-	769.6
30	-	-	677.1	-	-	51.3	-	-	728.4
31	-	-	668.2	-	-	51.3	-	-	719.5
32	-	-	659.3	-	-	51.3	-	-	710.6
33	-	-	650.3	-	-	51.3	-	-	701.6
34	-	-	641.4	-	-	51.3	-	-	692.7
35	-	-	632.4	-	-	51.3	-	-	683.7
36	-	-	632.4	-	-	46.1	-	-	678.5
37	-	-	632.4	-	-	41.1	-	-	673.5
38	-	-	632.4	-	-	36.0	-	-	668.4
39	-	-	632.4	-	-	30.8	-	-	663.2
40	-	-	632.4	-	-	25.7	-	-	658.1
41	-	-	632.4	-	-	20.5	-	-	652.9
42	-	-	632.4	-	-	15.4	-	-	647.8
43	-	-	632.4	-	-	10.3	-	-	642.7
44	-	-	632.4	-	-	5.1	-	-	637.5
45	-	-	632.4	-	-	-	-	-	632.4
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:
75	-	-	632.4	-	-	-	-	-	632.4
IRR			20.24			-1.40			15.58
B/C *2			2.45			-2.50			1.92

*1 1st year = initial year in Phase-I stage

*2 Discount Rate: 10%

表 5.4 資金操表 (集水栽培試驗)

AREA:	10.0 ha (Micro-catchment)															
	Construction Cost (JD/ha):															(Unit: JD)
Year*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16-70
I. GROSS INCOME																
1) Fruits	-	-	-	-	-	12	16	33	43	61	65	90	104	104	104	104
Olives	-	-	-	-	-	227	257	272	278	293	315	337	345	345	345	0
Grapes	-	-	-	-	-	39	50	61	74	86	96	104	107	107	107	107
Apricots	-	-	-	-	-	832	962	1,106	593	783	590	394	206	26	-	-
2) Loan	3,233	62	745	691	771	946	1,110	1,285	1,472	988	1,223	1,066	925	762	582	211
Total	3,233	62	745	771	946	1,110	1,285	1,472	988	1,223	1,066	925	762	582	556	211
II. GROSS OUTGOING																
A. Construction Cost	560.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. Production Cost	86.7	9.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1) Seedlings	1.3	2.7	3.0	5.0	6.7	7.7	8.0	8.3	8.7	9.3	9.3	9.3	9.3	9.3	9.3	3.7
2) Fertilizers	1.3	1.7	2.3	3.7	4.7	5.3	6.0	6.3	7.3	7.7	7.7	7.7	7.7	7.7	7.7	2.7
- N	2.0	2.3	3.0	3.7	4.3	4.7	5.3	5.7	6.7	7.0	7.0	7.0	7.0	7.0	7.0	7.0
- P205	72.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- K20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3) Plowing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4) Labour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Harvesting	-	-	-	3.3	7.0	12.0	14.3	17.3	19.3	23.0	24.3	29.3	31.3	31.3	31.3	17.0
- Hoeing	293.3	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	5.3
5) Materials	2,080.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Fence	0.7	0.7	0.7	1.0	1.0	1.0	1.3	1.3	1.3	1.7	1.7	1.7	1.7	1.7	1.7	0.3
- Chemicals	-	-	-	-	-	0.3	0.3	0.7	1.0	1.3	1.3	2.0	2.3	2.3	2.3	2.3
- Bags (40kg)	-	-	-	-	-	11.7	14.0	15.3	16.3	17.7	19.0	20.7	21.0	21.0	21.0	6.7
- Boxes	-	-	-	3.3	7.7	11.7	14.0	15.3	16.3	17.7	19.0	20.7	21.0	21.0	21.0	6.7
- Water	8.0	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6) Transportation	-	-	-	1.7	3.7	6.3	7.3	8.3	9.3	10.7	11.7	12.7	13.7	13.7	13.7	6.7
7) Miscellaneous	127.3	3.0	2.2	2.8	3.5	4.2	4.6	4.9	5.2	5.7	5.8	6.3	6.4	6.4	6.4	2.6
C. Loan Repayment	-	-	699	712	873	1,022	1,189	1,369	878	1,104	943	794	627	447	239	-
Total	3,233	62	745	771	946	1,110	1,285	1,472	988	1,223	1,066	925	762	582	374	54
III. NET INCOME																
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	182	157

* Year after planting

表 5.4 資金操表 (集水栽培試驗)

Year*	Construction Cost (JD/ha): 120															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16-70
I. GROSS INCOME																
1) Fruits																
- Olives	-	-	-	-	-	12	16	33	43	61	65	90	104	104	104	104
- Grapes	-	-	-	80	153	227	257	272	278	293	315	337	345	345	345	0
- Apricots	-	-	-	-	22	39	50	61	74	86	96	104	107	107	107	107
2) Loan	3,873	62	884	830	940	1,032	1,198	1,385	784	1,035	812	585	361	138	-	-
Total	3,873	62	884	910	1,115	1,310	1,521	1,751	1,179	1,475	1,288	1,116	917	694	556	211
II. GROSS OUTGOING																
A. Construction Cost																
B. Production Cost																
1) Seedlings																
2) Fertilizers																
- N	1.3	2.7	3.0	5.0	6.7	7.7	8.0	8.3	8.7	9.3	9.3	9.3	9.3	9.3	9.3	3.7
- P205	1.3	1.7	2.3	3.7	4.7	5.3	6.0	6.3	7.3	7.7	7.7	7.7	7.7	7.7	7.7	2.7
- K20	2.0	2.3	3.0	3.7	4.3	4.7	5.3	5.7	6.7	7.0	7.0	7.0	7.0	7.0	7.0	7.0
3) Plowing	72.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4) Labour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Harvesting	-	-	-	3.3	7.0	12.0	14.3	17.3	19.3	23.0	24.3	29.3	31.3	31.3	31.3	17.0
- Hoeing	293.3	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	5.3
5) Materials	2,080.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Fence	0.7	0.7	0.7	1.0	1.0	1.0	1.3	1.3	1.3	1.7	1.7	1.7	1.7	1.7	1.7	0.3
- Chemicals	-	-	-	-	-	0.3	0.3	0.7	1.0	1.3	1.3	2.0	2.3	2.3	2.3	2.3
- Bags (40kg)	-	-	-	3.3	7.7	11.7	14.0	15.3	16.3	17.7	19.0	20.7	21.0	21.0	21.0	6.7
- Boxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Water	8.0	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6) Transportation	-	-	-	1.7	3.7	6.3	7.3	8.3	9.3	10.7	11.7	12.7	13.7	13.7	13.7	6.7
7) Miscellaneous	127.3	3.0	2.2	2.8	3.5	4.2	4.6	4.9	5.2	5.7	5.8	6.3	6.4	6.4	6.4	2.6
C. Loan Repayment	-	-	838	851	1,042	1,222	1,425	1,648	1,069	1,356	1,165	985	782	559	300	-
Total	3,873	62	884	910	1,115	1,310	1,521	1,751	1,179	1,475	1,288	1,116	917	694	435	54
III. NET INCOME																
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	121	157

* Year after planting

表 5.4 資金操表 (集水栽培試驗)

AREA:	10.0 ha (Stone Walls/Earth Bank/Contour Farrow)										Construction Cost (JD/ha): 120					(Unit: JD)	
Year*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16-70	
I. GROSS INCOME																	
1) Field Crops/Mixtur	-	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	
2) Loan	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	1,200	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	
II. GROSS OUTGOING																	
A. Construction Cost	1,200.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
B. Production Cost	-	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	
1) Seedlings	-	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	
2) Fertilizers	-	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	
3) Agro-chemicals	-	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
4) Farm Machinery	-	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	
- Plowing	-	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	
- Drilling	-	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	
- Spraying	-	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	
- Harvesting	-	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	
5) Materials	-	43.0	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	
Bags	-	-	260	260	260	260	260	260	260	260	260	260	260	260	260	260	
6) Transportation	-	897	1,157	1,157	1,157	1,157	1,157	1,157	897	897	897	897	897	897	897	897	
7) Miscellaneous	-	1,623	1,363	1,363	1,363	1,363	1,363	1,363	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	
C. Loan Repayment	-	-	260	260	260	260	260	260	0	0	0	0	0	0	0	0	
Total	1,200	897	1,157	1,157	1,157	1,157	1,157	1,157	897	897	897	897	897	897	897	897	
III. NET INCOME	0	1,623	1,363	1,363	1,363	1,363	1,363	1,363	1,623	1,623	1,623	1,623	1,623	1,623	1,623	1,623	

* Year after planting

表 5.5 資金繰表 (チャックダム)

AREA:	0.3 ha (Area of one site)																(Unit: JD)
	Year*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
I. GROSS INCOME																	
1) Fruits	-	-	-	-	-	20	27	56	73	105	112	155	179	179	179	179	179
Olives	-	-	-	-	-	388	438	463	475	500	538	575	588	588	588	588	588
Grapes	-	-	-	138	263	312	144	176	211	247	276	297	306	306	306	306	306
Apricots	-	-	-	-	64	112	144	176	211	247	276	297	306	306	306	306	306
2) Loan	3,810	74	868	770	797	797	895	996	315	437	185	-	-	-	-	-	-
Total	3,810	74	868	908	1,124	1,317	1,504	1,691	1,074	1,289	1,111	1,027	1,073	1,073	1,073	1,073	485
II. GROSS OUTGOING																	
A. Construction Cost	3,120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. Production Cost	154	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1) Seedlings	3	5	6	10	13	14	15	16	17	18	18	18	18	18	18	18	8
2) Fertilizers	-	2	4	7	9	10	11	12	13	14	14	14	14	14	14	14	6
- N	-	4	5	8	9	10	11	12	13	14	14	14	14	14	14	14	14
- P205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- K20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3) Plowing	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4) Labour	-	24	24	24	24	24	25	31	35	41	45	53	57	57	57	57	32
- Harvesting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Hoeing	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
5) Materials	468	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Fence	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Chemicals	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1
- Bags (40kg)	-	-	-	-	-	0	1	1	2	2	2	3	4	4	4	4	4
- Boxes	-	-	-	6	15	23	27	30	33	36	40	43	44	44	44	44	19
- Water	15	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Transportation	-	-	-	3	7	12	14	17	18	21	23	26	27	27	27	27	15
- Miscellaneous	33	4	2	3	5	6	7	7	8	9	9	10	10	10	10	10	6
C. Loan Repayment	-	-	824	840	1,028	1,195	1,367	1,539	909	1,108	920	753	581	409	215	-	-
Total	3,810	74	868	908	1,124	1,317	1,504	1,691	1,074	1,289	1,111	960	795	623	429	121	485
III. NET INCOME	0	0	0	0	0	0	0	0	0	0	0	67	278	450	644	354	354

* Year after planting

表 5.6 資金操表 (冬季灌溉)

AREA:	33.9 ha (Whole Area)																(Unit: JD)
	Year*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
I. GROSS INCOME																	
1) Fruits																	
Olives	-	-	-	-	-	2,237	3,017	6,305	8,238	11,831	12,511	17,459	20,171	20,171	20,171	20,171	20,171
Grapes	-	-	15,538	29,663	43,788	43,788	49,438	52,263	53,675	56,500	60,738	64,975	66,388	66,388	66,388	66,388	66,388
Apricots	-	-	-	7,232	12,679	12,679	16,227	19,843	23,787	27,934	31,143	33,595	34,567	34,567	34,567	34,567	34,567
2) Field Crops	-	11,519	11,519	11,519	11,519	11,519	-	-	-	-	-	-	-	-	-	-	-
3) Loan	277,223	0	50,076	40,456	33,112	23,103	33,433	30,459	-	-	-	-	-	-	-	-	-
Total	277,223	11,519	61,595	67,513	81,526	93,326	102,115	108,870	85,700	96,265	104,492	116,029	121,126	121,126	121,126	121,126	54,738
II. GROSS OUTGOING																	
A. Construction Cost	199,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. Production Cost																	
1) Seedlings	17,357	1,752	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2) Fertilizers																	
- N	328	576	723	1,085	1,446	1,571	1,684	1,752	1,865	1,978	1,978	1,978	1,978	1,978	1,978	1,978	893
- P2O5	271	407	531	802	983	1,107	1,232	1,345	1,469	1,593	1,593	1,593	1,593	1,593	1,593	1,593	644
- K2O	418	565	701	859	994	1,107	1,243	1,367	1,503	1,616	1,616	1,616	1,616	1,616	1,616	1,616	1,616
3) Plowing	339	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4) Labour	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Harvesting	-	-	-	644	1,413	2,452	2,870	3,537	3,955	4,678	5,040	5,944	6,396	6,396	6,396	6,396	3,639
- Hoeing	780	2,712	2,712	2,712	2,712	2,712	2,712	2,712	2,712	2,712	2,712	2,712	2,712	2,712	2,712	2,712	1,808
5) Materials																	
- Fence	52,884	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Chemicals	68	79	90	124	147	147	181	192	203	226	226	226	226	226	226	226	113
- Bags (40kg)	-	-	-	-	45	45	68	136	170	249	260	362	418	418	418	418	418
- Boxes	-	-	-	644	1,706	2,633	3,085	3,435	3,740	4,113	4,497	4,836	4,949	4,949	4,949	4,949	2,181
- Water	1,672	1,672	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6) Transportation	-	-	-	316	814	1,345	1,593	1,865	2,068	2,373	2,588	2,904	3,062	3,062	3,062	3,062	1,729
7) Miscellaneous	3706	388	238	359	511	656	733	817	884	977	1026	1109	1148	1148	1148	1148	652
8) O&M Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Loan Repayment	-	-	59,968	59,968	70,800	79,551	86,714	91,712	38,976	45,565	34,733	25,982	18,819	13,821	6,589	-	-
Total	277,223	8,151	64,963	67,513	81,526	93,326	102,115	108,870	57,545	66,080	56,269	49,262	42,917	37,919	30,687	13,693	
III. NET INCOME	0	3,368	-3,368	0	0	0	0	0	28,155	30,185	48,223	66,757	78,209	83,207	90,439	41,045	

* Year after planting

表 5.7 资金操表 (樹架飼料生產)

AREA:	10.0 ha (Stone Walls/Earth Bank/Contour Furrow)										Construction Cost (JD/ha): 120					(Unit: JD)				
	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16-30			
I. GROSS INCOME																				
1) Fodder Shrubs	-	-	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143			
2) Government Budget*	3,780	268	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Total	3,780	268	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143			
II. GROSS OUTGOING																				
A. Construction Cost	1,200.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
B. Production Cost																				
1) Seedlings	1,565	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
2) Fertilizers																				
- N	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12			
- P205	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
- K20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
3) Labour																				
- Pitting	628	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
- Planting	252	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
7) Miscellaneous	123	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
Total	3,780	268	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13			
III. NET INCOME	0	0	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130			

* Initial investment costs including construction, seedling, hired labour, etc. are invested from the government budget under the condition of no interest and no repayment.

表 5.8 損益計算表 (集水栽培)

AREA:	10.0 ha (Micro-catchment) Construction Cost (JD/ha): 56 (Unit: JD)																
	Year ¹	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16-70
I. GROSS INCOME																	
1) Fruits																	
Olives	-	-	-	-	-	12	16	33	43	61	65	90	104	104	104	104	104
Grapes	-	-	-	80	153	227	257	272	278	293	315	337	345	345	345	345	345
Apricots	-	-	-	-	22	39	50	61	74	86	96	104	107	107	107	107	107
Total	0	0	0	80	175	278	323	366	395	440	476	531	556	556	556	556	211
II. GROSS OUTGOING																	
A. Depreciation Cost*2	-	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
B. Production Cost																	
1) Seedlings	86.7	9.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2) Fertilizers																	
- N	1.3	2.7	3.0	5.0	6.7	7.7	8.0	8.3	8.7	9.3	9.3	9.3	9.3	9.3	9.3	9.3	3.7
- P205	1.3	1.7	2.3	3.7	4.7	5.3	6.0	6.3	7.3	7.7	7.7	7.7	7.7	7.7	7.7	7.7	2.7
- K20	2.0	2.3	3.0	3.7	4.3	4.7	5.3	5.7	6.7	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
3) Plowing	72.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4) Labour																	
- Harvesting	-	-	-	3.3	7.0	12.0	14.3	17.3	19.3	23.0	24.3	29.3	31.3	31.3	31.3	31.3	17.0
- Hoeing	293.3	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	5.3
5) Materials																	
- Fence*3	-	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0
- Chemicals	0.7	0.7	0.7	1.0	1.0	1.0	1.3	1.3	1.3	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.3
- Bags (40kg)	-	-	-	-	0.3	0.3	0.3	0.7	1.0	1.3	1.3	2.0	2.3	2.3	2.3	2.3	2.3
- Boxes	-	-	-	3.3	7.7	11.7	14.0	15.3	16.3	17.7	19.0	20.7	21.0	21.0	21.0	21.0	6.7
- Water	8.0	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6) Transportation	-	-	-	1.7	3.7	6.3	7.3	8.3	9.3	10.7	11.7	12.7	13.7	13.7	13.7	13.7	6.7
7) Miscellaneous	127.3	3.0	2.2	2.8	3.5	4.2	4.6	4.9	5.2	5.7	5.8	6.3	6.4	6.4	6.4	6.4	2.6
C. Repayment of Interest	-	-	259	228	249	255	255	247	234	270	251	248	228	193	149	99	-
Total	593	278	521	503	538	559	567	566	560	605	590	387	371	336	292	161	-
III. NET INCOME																	
- Annual Income	-593	-278	-521	-423	-363	-281	-244	-200	-165	-165	-114	144	185	220	264	50	-
- Reserve carried forward	-593	-871	-1,392	-1,815	-2,178	-2,459	-2,703	-2,903	-3,068	-3,233	-3,347	-3,203	-3,018	-2,798	-2,534	-2,484	-

*1 Year after planting
 *2 Useful Life: 70 years
 *3 Depreciation Cost (10 years)

表 5.8 損益計算表 (集水栽培)

AREA: 10.0 ha (Stone Walls/Earth Bank/Contour Furrow)		Construction Cost (JD/ha): 120										(Unit: JD)				
Year*1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16-70
I. GROSS INCOME																
1) Fruits	-	-	-	-	-	12	16	33	43	61	65	90	104	104	104	104
Olives	-	-	-	-	-	227	257	272	278	293	315	337	345	345	345	0
Grapes	-	-	-	-	22	39	50	61	74	86	96	104	107	107	107	107
Apricots	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	0	0	0	80	175	278	323	366	395	440	476	531	556	556	556	211
II. GROSS OUTGOING																
A. Depreciation Cost*2	-	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1
B. Production Cost	86.7	9.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1) Seedlings	1.3	2.7	3.0	5.0	6.7	7.7	8.0	8.3	8.7	9.3	9.3	9.3	9.3	9.3	9.3	3.7
2) Fertilizers	1.3	1.7	2.3	3.7	4.7	5.3	6.0	6.3	7.3	7.7	7.7	7.7	7.7	7.7	7.7	2.7
- P205	2.0	2.3	3.0	3.7	4.3	4.7	5.3	5.7	6.7	7.0	7.0	7.0	7.0	7.0	7.0	7.0
- K20	72.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3) Plowing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4) Labour	293.3	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	17.0
- Harvesting	-	-	-	3.3	7.0	12.0	14.3	17.3	19.3	23.0	24.3	29.3	31.3	31.3	31.3	17.0
- Hoeing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5) Materials	-	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0	208.0	-	-	-	-	-
- Fence*3	0.7	0.7	0.7	1.0	1.0	1.0	1.3	1.3	1.3	1.7	1.7	1.7	1.7	1.7	1.7	0.3
- Chemicals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Bags (40kg)	-	-	-	-	-	0.3	0.3	0.7	1.0	1.3	1.3	2.0	2.3	2.3	2.3	2.3
- Boxes	-	-	-	3.3	7.7	11.7	14.0	15.3	16.3	17.7	19.0	20.7	21.0	21.0	21.0	6.7
- Water	8.0	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6) Transportation	-	-	-	1.7	3.7	6.3	7.3	8.3	9.3	10.7	11.7	12.7	13.7	13.7	13.7	6.7
7) Miscellaneous	127.3	3.0	2.2	2.8	3.5	4.2	4.6	4.9	5.2	5.7	5.8	6.3	6.4	6.4	6.4	2.6
C. Repayment of Interest	-	-	310	273	297	304	306	299	287	335	315	317	297	259	208	150
Total	593	287	581	557	595	617	627	627	622	679	663	466	449	411	360	221
III. NET INCOME																
- Annual Income	-593	-287	-581	-477	-420	-339	-304	-261	-227	-239	-187	65	107	145	196	-10
- Reserve carried forward	-593	-880	-1,461	-1,938	-2,358	-2,697	-3,001	-3,262	-3,489	-3,728	-3,915	-3,850	-3,743	-3,598	-3,402	-3,412

*1 Year after planting

*2 Useful Life: 70 years

*3 Depreciation Cost (10 years)

表 5.8 損益計算表 (集水栽培)

AREA:	10.0 ha (Stone Walls/Earth Bank/Contour Furrow)										Construction Cost (JD/ha): 120					(Unit: JD)				
	Year*1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16-70			
I. GROSS INCOME																				
1) Field Crops/Mixtur	-	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520			
Total	-	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520	2,520			
II. GROSS OUTGOING																				
A. Depreciation Cost*2	-	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1			
B. Production Cost	-	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112			
1) Seedlings	-	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99			
2) Fertilizers	-	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28			
3) Agro-Chemicals	-	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100			
4) Farm Machinery	-	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90			
- Plowing	-	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75			
- Drilling	-	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125			
- Spraying	-	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45			
- Harvesting	-	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180			
5) Materials	-	43.0	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7	42.7			
Bags	-	-	96	83	69	53	37	19	0	0	0	0	0	0	0	0	0			
6) Transportation	-	914	1,010	997	983	967	951	933	914	914	914	914	914	914	914	914	914			
7) Miscellaneous	-	1,606	1,510	1,523	1,537	1,553	1,569	1,587	1,606	1,606	1,606	1,606	1,606	1,606	1,606	1,606	1,606			
C. Repayment of Interest	-	0	1,606	3,116	4,639	6,176	7,729	9,298	10,885	12,491	14,097	15,703	17,309	18,915	20,521	22,127	23,733			
Total	-	914	1,010	997	983	967	951	933	914	914	914	914	914	914	914	914	914			
III. NET INCOME																				
- Annual Income	-	1,606	1,510	1,523	1,537	1,553	1,569	1,587	1,606	1,606	1,606	1,606	1,606	1,606	1,606	1,606	1,606			
- Reserve carried forward	0	1,606	3,116	4,639	6,176	7,729	9,298	10,885	12,491	14,097	15,703	17,309	18,915	20,521	22,127	23,733	23,733			

*1 Year after planting
*2 Useful Life: 70 years

表 5.9 損益計算表 (チャエックダム)

AREA:	0.3 ha (Area of one site)																
	Year*1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16-70
(Unit: JD)																	
I. GROSS INCOME																	
1) Fruits	-	-	-	-	-	20	27	56	73	105	112	155	179	179	179	179	179
Olives	-	-	-	138	263	388	438	463	475	500	538	575	588	588	588	588	588
Grapes	-	-	-	-	64	112	144	176	211	247	276	297	306	306	306	306	306
Apricots	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	0	0	0	138	327	520	609	695	759	852	926	1,027	1,073	1,073	1,073	1,073	485
II. GROSS OUTGOING																	
A. Depreciation Cost*2	-	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6	44.6
B. Production Cost	154	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1) Seedlings	3	5	6	10	13	14	15	16	17	18	18	18	18	18	18	18	8
2) Fertilizers	2	4	5	7	9	10	11	12	13	14	14	14	14	14	14	14	6
- N	4	5	6	8	9	10	11	12	13	14	14	14	14	14	14	14	14
- P205	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- K20	7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	32
3) Plowing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16
4) Labour	-	-	-	6	13	22	25	31	35	41	45	53	57	57	57	57	32
- Harvesting	7	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	16
- Hoeing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5) Materials	-	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
- Fence*3	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1
- Chemicals	-	-	-	-	-	0	1	1	2	2	2	3	4	4	4	4	4
- Bags (40kg)	-	-	-	-	-	23	27	30	33	36	40	43	44	44	44	44	19
- Boxes	15	15	-	-	15	23	27	30	33	36	40	43	44	44	44	44	19
- Water	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6) Transportation	-	-	-	3	7	12	14	17	18	21	23	26	27	27	27	27	15
7) Miscellaneous	33	4	2	3	5	6	7	7	8	9	9	10	10	10	10	10	6
C. Repayment of Interest	-	-	305	269	293	296	288	265	235	260	218	191	148	97	56	27	27
Total	222	166	441	429	481	510	517	509	492	533	501	443	407	356	315	193	193
III. NET INCOME																	
- Annual Income	-222	-166	-441	-291	-154	10	92	186	267	319	425	584	666	717	758	758	292
- Reserve carried forward	-222	-388	-829	-1,120	-1,274	-1,264	-1,172	-986	-719	-400	25	609	1,275	1,992	2,750	3,042	3,042

*1 Year after planting

*2 Useful Life: 70 years

*3 Depreciation Cost (10 years)

表 5.10 損益計算表 (冬季灌溉)

AREA:	33.9 ha (Whole Area)															
	(Unit: JD)															
Year*1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	15-20
I. GROSS INCOME																
1) Fruits	-	-	-	-	-	2,237	3,017	6,305	8,238	11,831	12,611	17,459	20,171	20,171	20,171	20,171
- Olives	-	-	-	-	-	43,788	49,438	52,263	53,675	55,500	60,738	64,975	66,388	66,388	66,388	66,388
- Grapes	-	-	-	15,538	29,663	7,232	12,679	19,843	23,787	27,934	31,143	33,595	34,567	34,567	34,567	34,567
- Apricots	-	-	-	-	7,232	12,679	16,227	19,843	23,787	27,934	31,143	33,595	34,567	34,567	34,567	34,567
2) Field Crops	-	11,519	11,519	11,519	11,519	11,519	-	-	-	-	-	-	-	-	-	-
Total	0	11,519	11,519	27,057	48,414	70,223	68,682	78,411	85,700	96,265	104,492	116,029	121,126	121,126	121,126	54,738
II. GROSS OUTGOING																
A. Depreciation Cost*2	-	9,970	9,970	9,970	9,970	9,970	9,970	9,970	9,970	9,970	9,970	9,970	9,970	9,970	9,970	9,970
B. Production Cost	17,357	1,752	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1) Seedlings	328	576	723	1,085	1,445	1,571	1,684	1,752	1,865	1,978	1,978	1,978	1,978	1,978	1,978	893
- N	271	407	531	802	983	1,107	1,232	1,345	1,469	1,593	1,593	1,593	1,593	1,593	1,593	644
- P205	418	565	701	859	994	1,107	1,243	1,367	1,503	1,616	1,616	1,616	1,616	1,616	1,616	1,616
- K20	339	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2) Fertilizers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3) Plowing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4) Labour	780	2,712	2,712	2,712	2,712	2,452	2,870	3,537	3,955	4,678	5,040	5,944	6,396	6,396	6,396	3,639
- Harvesting	-	-	-	644	1,413	2,452	2,712	2,712	2,712	2,712	2,712	2,712	2,712	2,712	2,712	1,808
- Hoeing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5) Materials	-	5,288	5,288	5,288	5,288	5,288	5,288	5,288	5,288	5,288	5,288	5,288	5,288	5,288	5,288	5,288
- Fence*3	68	79	90	124	147	147	181	192	203	226	226	226	226	226	226	113
- Chemicals	-	-	-	-	-	45	68	136	170	249	260	362	418	418	418	418
- Bags (40kg)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Boxes	-	-	-	644	1,706	2,633	3,085	3,435	3,740	4,113	4,497	4,836	4,949	4,949	4,949	2,181
- Water	1,672	1,672	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6) Transportation	-	-	-	316	814	1,345	1,593	1,865	2,068	2,373	2,588	2,904	3,062	3,062	3,062	1,729
7) Miscellaneous	3706	388	238	359	511	656	733	817	884	977	1026	1109	1148	1148	1148	652
8) O&M Cost	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C. Repayment of Interest	-	-	22,178	19,155	19,896	19,060	16,869	13,130	9,518	9,599	6,721	4,480	2,760	1,476	488	0
Total	24,939	23,409	42,431	41,958	45,880	48,093	47,528	45,546	43,345	45,372	43,515	37,730	36,828	35,544	34,556	23,663
III. NET INCOME																
- Annual Income	-24,939	-11,890	-30,912	-14,901	2,534	22,130	21,154	32,865	42,355	50,893	60,977	78,299	84,298	85,582	86,570	31,075
- Reserve carried forward	-24,939	-36,829	-67,741	-82,642	-80,108	-57,978	-36,824	-3,959	38,396	89,289	150,266	228,565	312,863	398,445	485,015	516,090

*1 Year after planting
 *2 Useful Life: 20 years
 *3 Depreciation cost (10 years)

表 5.11 損益計算表 (樹藥飼料生產)

AREA:	10.0 ha (Stone Walls/Earth Bank/Contour Furrow) Construction Cost (JD/ha): 120 (Unit: JD)																
	Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16-30
I. GROSS INCOME																	
1) Fodder Shrubs	-	-	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
2) Government Budget*	3,780	268	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	3,780	268	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
II. GROSS OUTGOING																	
A. Construction Cost	1,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B. Production Cost																	
1) Seedlings	1,565	155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2) Fertilizers																	
- N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- P205	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
- K20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3) Labour																	
- Pitting	628	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- Planting	252	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7) Miscellaneous	123	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	3,780	268	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
III. NET INCOME																	
- Annual Income	0	0	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
- Reserve carried forward	0	0	130	260	390	520	650	780	910	1,040	1,170	1,300	1,430	1,560	1,690	1,820	

* Initial investment costs including construction, seedling, hired labour, etc. are invested from the government budget under the condition of no interest and no repayment.

表 5.12 資金繰表 (政府助成金を含む)

		(Unit: Jp 1,000)															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Year*		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WATER HARVESTING MEASURES																	
Micro-catchment (Fruits: 10 ha)																	
1) Gross income		0.59	0.06	0.17	0.20	0.25	0.29	0.32	0.37	0.40	0.44	0.48	0.53	0.56	0.56	0.56	0.21
2) Gross outgoing		0.59	0.06	0.17	0.20	0.25	0.29	0.32	0.33	0.21	0.20	0.17	0.15	0.14	0.14	0.14	0.05
3) Net income		0	0	0	0	0	0	0.01	0.04	0.19	0.24	0.31	0.38	0.42	0.42	0.42	0.16
Stone Walls/Earth Bank/Contour Furrow (Fruits: 10 ha)																	
1) Gross income		0.59	0.06	0.17	0.20	0.25	0.29	0.32	0.37	0.40	0.44	0.48	0.53	0.56	0.56	0.56	0.21
2) Gross outgoing		0.59	0.06	0.17	0.20	0.25	0.29	0.32	0.33	0.21	0.20	0.17	0.15	0.14	0.14	0.14	0.05
3) Net income		0	0	0	0	0	0	0.01	0.04	0.19	0.24	0.31	0.38	0.42	0.42	0.42	0.16
Stone Walls/Earth Bank/Contour Furrow (Field Crops/Mixture: 10 ha)																	
1) Gross income		0	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52
2) Gross outgoing		0	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
3) Net income		0	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
CHECK DAM (Fruits: 10ha)																	
1) Gross income		0.22	0.07	0.09	0.14	0.33	0.52	0.61	0.70	0.76	0.85	0.93	1.03	1.07	1.07	1.07	0.49
2) Gross outgoing		0.22	0.07	0.09	0.13	0.18	0.21	0.22	0.24	0.20	0.20	0.19	0.21	0.21	0.21	0.21	0.12
3) Net income		0	0	0	0.01	0.15	0.31	0.39	0.46	0.56	0.65	0.74	0.82	0.86	0.86	0.86	0.36
WINTER IRRIGATION																	
Site: J1 (Fruits + Field Crops: 3.4 ha)																	
1) Gross income		2.50	1.16	1.16	2.71	4.86	7.04	6.89	7.86	8.60	9.66	10.48	11.64	12.15	12.15	12.15	5.49
2) Gross outgoing		2.50	0.89	1.11	1.37	1.69	1.99	2.16	2.33	1.93	2.13	2.23	2.40	2.48	2.48	2.48	1.44
3) Net income		0	0.27	0.05	1.35	3.17	5.05	4.73	5.53	6.67	7.53	8.25	9.24	9.66	9.66	9.66	4.05
Site: E1 (Fruits + Field Crops: 2.3 ha)																	
1) Gross income		1.69	0.78	0.78	1.84	3.29	4.77	4.66	5.32	5.82	6.53	7.09	7.87	8.22	8.22	8.22	3.71
2) Gross outgoing		1.69	0.60	0.75	0.92	1.14	1.35	1.46	1.58	1.31	1.44	1.51	1.63	1.68	1.68	1.68	0.98
3) Net income		0	0.18	0.03	0.91	2.15	3.42	3.20	3.74	4.51	5.09	5.58	6.25	6.54	6.54	6.54	2.74
Site: D2 (Fruits + Field Crops: 7.7 ha)																	
1) Gross income		5.66	2.62	2.62	6.15	11.00	15.95	15.60	17.81	19.47	21.87	23.73	26.36	27.51	27.51	27.51	12.43
2) Gross outgoing		5.66	2.01	2.51	3.09	3.82	4.51	4.88	5.28	4.37	4.81	5.05	5.44	5.63	5.63	5.63	3.25
3) Net income		0	0.61	0.10	3.05	7.18	11.44	10.72	12.53	15.09	17.05	18.69	20.91	21.88	21.88	21.88	9.17
Site: Ahyad (Fruits + Field Crops: 20.5 ha)																	
1) Gross income		15.08	6.97	6.97	16.36	29.28	42.47	41.53	47.42	51.82	58.21	63.19	70.17	73.25	73.25	73.25	33.10
2) Gross outgoing		15.08	5.34	6.69	8.24	10.16	12.00	12.99	14.05	11.64	12.82	13.43	14.49	14.98	14.98	14.98	8.69
3) Net income		0	1.63	0.27	8.13	19.12	30.46	28.55	33.37	40.18	45.40	49.75	55.68	58.26	58.26	58.26	24.41
Whole Area (Fruits + Field Crops: 33.9 ha)																	
1) Gross income		24.94	11.52	11.52	27.06	48.41	70.22	68.68	78.41	85.70	96.27	104.49	116.03	121.13	121.13	121.13	54.74
2) Gross outgoing		24.94	8.15	10.39	12.94	16.12	19.17	20.80	22.55	18.57	20.52	21.54	23.28	24.10	24.10	24.10	13.69
3) Net income		0	3.37	1.13	14.12	32.29	51.05	47.89	55.86	67.13	75.75	82.96	92.75	97.03	97.03	97.03	41.05

* Year after planting

表 5.13 損益計算表 (政府助成金を含む)

(Unit: JD 1,000)

Year*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
WATER HARVESTING																
Micro-catchment (Fruits: 10 ha)	0	0	0	0.08	0.18	0.28	0.32	0.37	0.40	0.44	0.48	0.53	0.56	0.56	0.56	0.21
1) Gross income	0	0.06	0.09	0.11	0.13	0.14	0.14	0.14	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.05
2) Gross outgoing	0.59	(0.06)	(0.09)	(0.03)	0.05	0.14	0.18	0.23	0.27	0.31	0.35	0.40	0.42	0.42	0.42	0.16
3) Net income - A.I.	(0.59)	(0.56)	(0.75)	(0.77)	(0.72)	(0.59)	(0.40)	(0.17)	0.09	0.40	0.75	1.15	1.57	1.99	2.41	2.57
- R.C.F.	(0.59)	(0.66)	(0.75)	(0.77)	(0.72)	(0.59)	(0.40)	(0.17)	0.09	0.40	0.75	1.15	1.57	1.99	2.41	2.57
Stone Walls/Earth Bank/Contour Furrow (Fruits: 10 ha)	0	0	0	0.08	0.18	0.28	0.32	0.37	0.40	0.44	0.48	0.53	0.56	0.56	0.56	0.21
1) Gross income	0	0.06	0.09	0.11	0.13	0.14	0.14	0.14	0.13	0.13	0.13	0.13	0.14	0.14	0.14	0.05
2) Gross outgoing	0.59	(0.06)	(0.09)	(0.03)	0.05	0.14	0.18	0.23	0.27	0.31	0.35	0.40	0.42	0.42	0.42	0.16
3) Net income - A.I.	(0.59)	(0.56)	(0.75)	(0.77)	(0.72)	(0.59)	(0.40)	(0.17)	0.09	0.40	0.75	1.15	1.57	1.99	2.41	2.57
- R.C.F.	(0.59)	(0.66)	(0.75)	(0.77)	(0.72)	(0.59)	(0.40)	(0.17)	0.09	0.40	0.75	1.15	1.57	1.99	2.41	2.57
Stone Walls/Earth Bank/Contour Furrow (Field Crops/Mixture: 10 ha)	0	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52	2.52
1) Gross income	0	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
2) Gross outgoing	0	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62	1.62
3) Net income - A.I.	0	1.62	3.25	4.87	6.49	8.12	9.74	11.36	12.98	14.61	16.23	17.85	19.48	21.10	22.72	24.35
- R.C.F.	0	1.62	3.25	4.87	6.49	8.12	9.74	11.36	12.98	14.61	16.23	17.85	19.48	21.10	22.72	24.35
CHECK DAM (Fruits: 10ha)	0	0	0	0.14	0.33	0.52	0.61	0.70	0.76	0.85	0.93	1.03	1.07	1.07	1.07	0.49
1) Gross income	0	0.07	0.06	0.09	0.12	0.14	0.15	0.16	0.17	0.18	0.19	0.21	0.21	0.21	0.21	0.12
2) Gross outgoing	0.22	(0.07)	(0.06)	0.05	0.21	0.38	0.46	0.53	0.59	0.67	0.74	0.82	0.86	0.86	0.86	0.36
3) Net income - A.I.	(0.22)	(0.22)	(0.36)	(0.31)	(0.10)	0.28	0.73	1.27	1.86	2.53	3.26	4.08	4.94	5.80	6.66	7.02
- R.C.F.	(0.22)	(0.22)	(0.36)	(0.31)	(0.10)	0.28	0.73	1.27	1.86	2.53	3.26	4.08	4.94	5.80	6.66	7.02
WINTER IRRIGATION																
Site: J1 (Fruits + Field Crops: 3.4 ha)	0	0	1.16	2.71	4.86	7.04	6.89	7.86	8.60	9.66	10.48	11.64	12.15	12.15	12.15	5.49
1) Gross income	0	1.16	1.16	2.71	4.86	7.04	6.89	7.86	8.60	9.66	10.48	11.64	12.15	12.15	12.15	5.49
2) Gross outgoing	2.50	0.89	0.77	1.00	1.29	1.56	1.69	1.83	1.93	2.13	2.23	2.40	2.48	2.48	2.48	1.44
3) Net income - A.I.	(2.50)	0.27	0.39	1.72	3.57	5.48	5.20	6.03	6.67	7.53	8.25	9.24	9.66	9.66	9.66	4.05
- R.C.F.	(2.50)	0.27	0.39	1.72	3.57	5.48	5.20	6.03	6.67	7.53	8.25	9.24	9.66	9.66	9.66	4.05
Site: E1 (Fruits + Field Crops: 2.3 ha)	0	0.78	0.78	1.84	3.29	4.77	4.66	5.32	5.82	6.53	7.09	7.87	8.22	8.22	8.22	3.71
1) Gross income	0	0.78	0.78	1.84	3.29	4.77	4.66	5.32	5.82	6.53	7.09	7.87	8.22	8.22	8.22	3.71
2) Gross outgoing	1.69	0.60	0.52	0.67	0.87	1.06	1.14	1.24	1.31	1.44	1.51	1.63	1.68	1.68	1.68	0.98
3) Net income - A.I.	(1.69)	0.18	0.26	1.16	2.42	3.71	3.52	4.08	4.51	5.09	5.58	6.25	6.54	6.54	6.54	2.74
- R.C.F.	(1.69)	0.18	0.26	1.16	2.42	3.71	3.52	4.08	4.51	5.09	5.58	6.25	6.54	6.54	6.54	2.74
Site: D2 (Fruits + Field Crops: 7.7 ha)	0	2.62	2.62	6.15	11.00	15.95	15.60	17.81	19.47	21.87	23.73	26.36	27.51	27.51	27.51	12.43
1) Gross income	0	2.62	2.62	6.15	11.00	15.95	15.60	17.81	19.47	21.87	23.73	26.36	27.51	27.51	27.51	12.43
2) Gross outgoing	5.66	2.01	1.74	2.26	2.92	3.54	3.83	4.14	4.37	4.81	5.05	5.44	5.63	5.63	5.63	3.26
3) Net income - A.I.	(5.66)	0.61	0.87	3.89	8.08	12.41	11.77	13.67	15.09	17.05	18.69	20.91	21.88	21.88	21.88	9.17
- R.C.F.	(5.66)	0.61	0.87	3.89	8.08	12.41	11.77	13.67	15.09	17.05	18.69	20.91	21.88	21.88	21.88	9.17
Site: Ahyad (Fruits + Field Crops: 29.5 ha)	0	6.97	6.97	16.36	29.28	42.47	41.53	47.42	51.82	58.21	63.19	70.17	73.25	73.25	73.25	33.10
1) Gross income	0	6.97	6.97	16.36	29.28	42.47	41.53	47.42	51.82	58.21	63.19	70.17	73.25	73.25	73.25	33.10
2) Gross outgoing	15.08	5.34	4.64	6.02	7.76	9.41	10.19	11.03	11.64	12.82	13.43	14.49	14.98	14.98	14.98	8.69
3) Net income - A.I.	(15.08)	1.63	2.33	10.35	21.52	33.05	31.34	36.39	40.18	45.40	49.75	55.68	58.26	58.26	58.26	24.41
- R.C.F.	(15.08)	1.63	2.33	10.35	21.52	33.05	31.34	36.39	40.18	45.40	49.75	55.68	58.26	58.26	58.26	24.41
Whole Area (Fruits + Field Crops: 33.9 ha)	0	11.52	11.52	27.06	48.42	70.22	68.68	78.41	85.70	96.27	104.49	116.03	121.13	121.13	121.13	54.74
1) Gross income	0	11.52	11.52	27.06	48.42	70.22	68.68	78.41	85.70	96.27	104.49	116.03	121.13	121.13	121.13	54.74
2) Gross outgoing	24.94	8.15	6.99	9.27	12.16	14.89	16.17	17.56	18.57	20.52	21.54	23.28	24.10	24.10	24.10	13.69
3) Net income - A.I.	(24.94)	3.37	4.53	17.79	36.26	55.33	52.51	60.85	67.13	75.75	82.96	92.75	97.03	97.03	97.03	41.05
- R.C.F.	(24.94)	3.37	4.53	17.79	36.26	55.33	52.51	60.85	67.13	75.75	82.96	92.75	97.03	97.03	97.03	41.05
- R.C.F.	(24.94)	(21.57)	(17.04)	0.75	37.01	92.34	144.85	205.70	272.83	348.58	431.54	524.29	621.31	718.34	815.37	856.42

* Year after planting

R.C.F. = Reserve carried forward

A.I. = Annual income