ZBEIDAT

The Social Impact of Agricultural Technology on the Life of a Peasant Community in the Jordan Valley

Salim Tamari and Rita Giacaman

Second Edition, 1997

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Preface to the Second Edition

This second edition of Zbeidat is basically a reissue of the first edition, which first appeared in 1981, with an additional section by Rita Giacaman, titled 'Zbeidat: three years later.'

We were urged to reissue this book as a result of requests from many institutions and social scientists, here and abroad, since it is the only monograph that deals with the transformation of a Palestinian village community in the Jordan Valley. The first edition of Zbeidat was a limited print, mimeographed monograph which we hoped to update ten years later. As it happened this did not materialize, except for the small essay that appears at the end "Zbeidat Three Years Later". Our hope is that this edition will encourage the research community to use it as a baseline data for follow-up research.

Since the study was first published three important developments have contributed to the life of the community under study:

The first one (touched on at the end of the study, and in Giacaman's sequel) is the transformation of the housing conditions from mud-bricks characteristic of Jordan community semi-nomadic groups to concrete housing, made possible by the increased income generated by the new agricultural technology.

The second development was the severe restrictions imposed on the community during the five years of intifada (1987 - 1992) when the Marj Na'jeh-Zbeidat area was declared a restricted security zone and farmers were often unable to reach their fields dur-

ing the winter harvest. The rationale was usually that both Marj Na'jeh and Zbeidat were crossing areas for armed infiltrators from Jordan, across the river.

The third development was the signing of the second protocol of the Oslo Agreement (Oslo II) in 1995 which brought about the expansion of Palestinian Autonomy into the rest of the West Bank. In these accords both Zbeidat and Marj Na'jeh fell into areas 'B' --meaning that they are today administratively under Palestinian civilian control, but fall under Israeli security control. It took the Palestinian negotiators a substantial amount of haggling to wrest these two isolated communities (together with Fasail in south) from Israeli control, since the Israelis regarded all Arab communities in the Jordan Valley (with the exception of Jericho) as part of Israel's security corridor during the transitional period (1994 - 1999). The result for Zbeidat and Marj Na'jeh is a mixed blessing: while benefiting from being relieved of Israeli military control in their daily life, they now face major obstacles in marketing their products both to Palestinian markets as well as across the river to the Arab markets. While improved trade relations between Palestine and Jordan (as well as between Israel and Jordan) is likely to facilitate the movement of Zbeidat's people to the Arab world, and hence reduce their historical isolation from their kinsman in tranjordan*--the isolation of Zbeidat from their natural connection with Nablus and Jericho is likely to continue as the terms of the Oslo Agreements constitute a vision lacking in concrete applications.

We hope that this monograph will shed some light on the plight of Palestinian peasants in the Jordan Valley--agriculturally the riches and most abused area of Palestine today, and will spur the research

public to address these urgent issues facing the farming community in the post-Oslo period.

The authors wish to thank all of those who contributed to the publication of this second edition. In particular to Ghada al-Baba for reprinting the monograph; to Ranya Baramki and Ruba Keileh for scanning and correcting it; Hassan Ju'beh for overseeing the typesetting and printing of the document; to Julie Hawkins for prost reading the finished draft; and to Natashah Al-M'ani for the cover design and general layout of the book.

Rita Giacaman
Salim Tamari

Birzeit, October 1996

* A substantial section of the Zbeidat tribe settled in the Irbid area in 1948, and others joined them in the after neath of the 1967 war.

ACKNOWLEDGEMENTS

This essay owes a particular debt to two outstanding persons: Hussein Ibrahim Salameh, teacher and record keeper for the village of Zbeidat and Ibrahim Matar, supervisor of agricultural development projects for the Mennonite Central Committee. Both spent long hours over a period of ten months helping us to clarify basic issues raised in this study. In addition, Ibrahim Matar accompanied us on most of our visits to the Jordan Valley. Without these two people, the study would not have acquired its present form.

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Our gratitude goes to Mr. Muhammed as-Silmi, the Mukhtar of Zbeidat, and to his son Sa'd, who opened their homes and those of the village to our research team. We also thank the many farmers in Zbeidat and Marj Na'je who let us into the "secrets" of their trade particularly to Mr. Salameh Abu Dabus and Mr. Abdulla Muhammed Hasan. To Um Muhammed (Mrs. Hussein Ibrahim) and Khadra (the village midwife) we extend our deep thanks for the fruitful discussions on traditional health practices in Zbeidat.

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Mr. Yehuda Litani of Ha'aretz newspaper (Jerusalem) interviewed farmers from the settlement of Argaman for this study, and was kind enough to open the archives of Ha'aretz for our use. Dr. Charles Kamin (of the Israeli Central Bureau of Statistics, Jerusalem) gave us helpful advice on methodology. Miss Lisa Blum is responsible for all translations from the Hebrew.

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Mr. Mark Siemens first conveived the idea for this report and, together with Dr. Paul Quering, provided many helpful suggestions. To them and to the Mennonite Central Committee, which financed the study, our thanks. The authors also wish to thank Birzeit University and the staff of its Research and Documentation Centre for their aid.

PART ONE

THE AGRARIAN SYSTEM IN ZBEIDAT

1. Introduction

The village of Zbeidat is the youngest Palestinian community in the Jordan Valley. It evolved from a tribal settlement which formally established itself as a village as recently as 1961. From that period until 1977, when the technology of "drip irrigation" was introduced into the village, Zbeidat farmers cultivated their land-grant farms and neighbouring share-cropped plots employing the primitive agricultural technique of furrow irrigation.

While the widespread shift from the traditional furrow method to drip irrigation was an ostensible development, it also exposed a number of strains within the social fabric of the community and challenged the ability of the old communal leadership to resolve them. Notable among these strains were fraught relations between Zbeidat' s farmers and a constellation of absentee landlords, their agents, and brokers for the urban vegetable markets. Also at stake was the ability of Zbeidat to survive as a peasant community while encircled by neighbouring Israeli settlements. Furthermore, the local population was faced with the need to enrich its water and land resources while so encircled and to compete for such resources with a more technologically advanced agricultural outfit.

In addition to examining the above issues which connect Zbeidat to broader national interests, this study has specific objectives which can be summarised as follows:

1. To assess the impact of the introduction of drip irrigation as a form of intermediate technology on the lives of peasant sharecroppers.

2. To establish baseline data on the social, economic, demographic, health and agricultural conditions of the Zbeidat population in order to accurately monitor changes in the future, as well as to compare their status with other farmers in the Jordan Valley and neighbouring hilly villages.

3. To make recommendations for the improvement of living conditions in Zbeidat, in light of the above assessments.

The study is divided accordingly into two main sections: a socio-economic survey written by S. Tamari and a health survey written by R. Giacaman. Since the two parts of the study will likely be read separately for reference purposes, a certain amount of duplication will be found.

2. Methodology

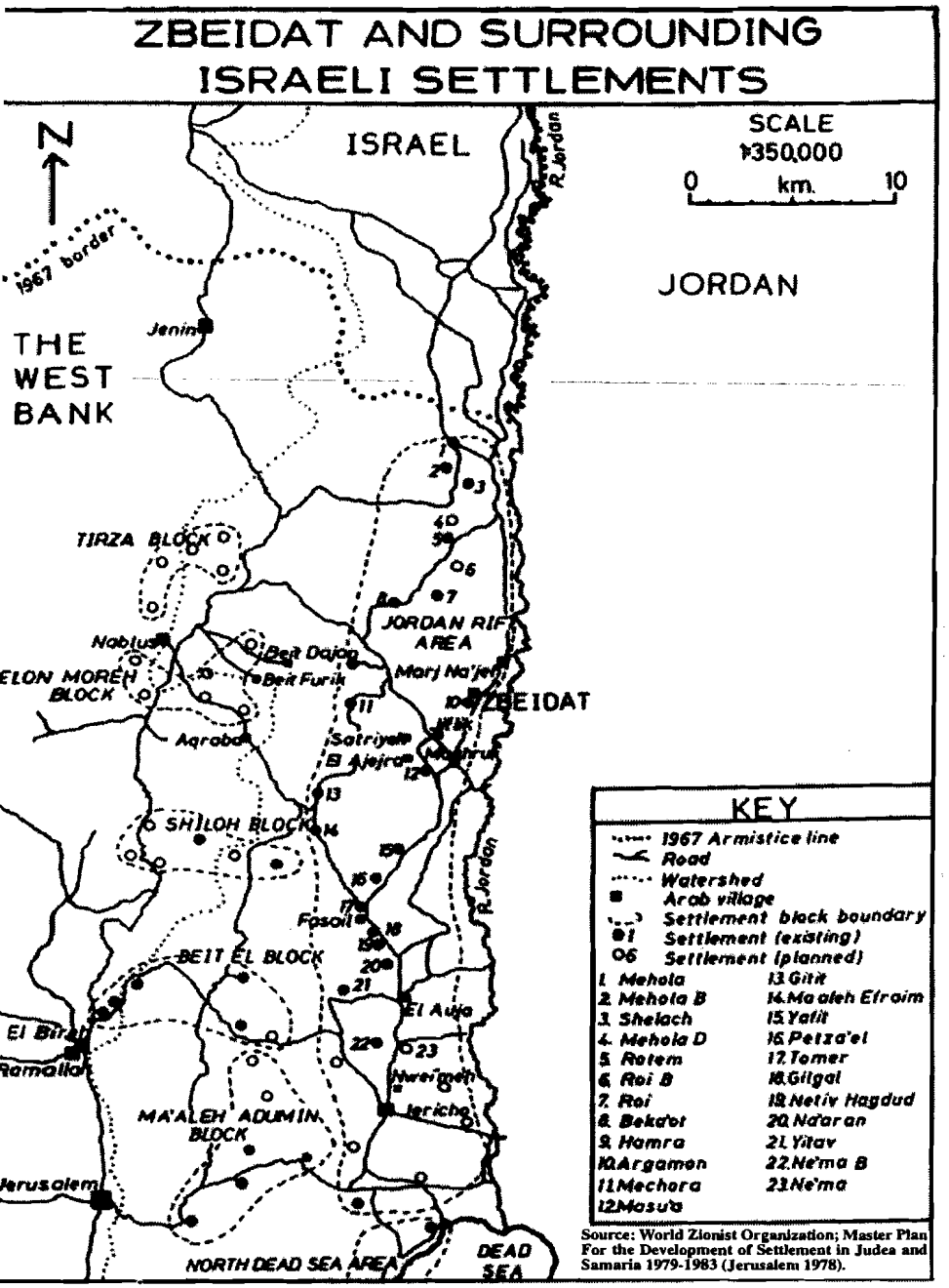
A complete household survey was conducted between the months of December 1979 and April 1980. The data acquired was based on a questionnaire administered to heads of households in whose names land was registered. In addition to sharing information about their own households and activities, these informants supplied further information on their sons' - and brothers'- activities. The questionnaire was initially tested on three households and then modified during the month of December 1979. The tabulated results of the questionnaires were then reviewed and checked with the village teacher and record keeper, and with two other informants. A separate questionnaire was administered by female interviewers to all the wives of heads of households; the procedure used in these interviews is fully described in the introduction to the second part of this study.

In addition to the structured questionnaires, the author held extensive interviews with the three main landlords in the area. These interviews provided an opportunity for these landlords to discuss their relationships with individual farmers. Detailed budget studies for the agricultural cycle of 1979/1980 were prepared with the co-operation of two Zbeidat farmers. These budget studies were later reviewed and revised in conversations with agricultural experts from the Jericho and Ramallah agricultural bureaus.

Data on the social history of Zbeidat was acquired in conversations with the Mukhtar of Zbeidat as well as with several other village elders. During the agricultural cycle of 1979/1980, the researchers made repeated visits to Zbeidat which allowed for numerous informal conversations with farmers, their wives, and children. These unstructured conversations added valuable depth to the information acquired from the questionnaires and scheduled interviews.

3. Zbeidat: Historical Background

Zbeidat is the name of both the village and the tribal grouping populating that village. Originally a semi-nomadic clan from the Beer-Sheba region, the Zbeidat were long engaged in seasonal agriculture (wheat and barley) and animal husbandry. But as a result of the 1948 war, the Zbeidat were dispossessed of the lands they relied on for sustenance, and they were forced to find refuge in the central Jordan Valley, an area with similar climatic conditions to Beer-Sheba. The majority of Zbeidat farmers became share-croppers on the lands of absentee landlords from Tubas and Nablus in the Ghor al-Far'a area. They planted potatoes, wheat and vegetables in the winter and moved to Irbid (north Jordan), where a section of their clan had re-settled, during the hot summer months.



Source: World Zionist Organization; Master Plan For the Development of Settlement in Judea and Samaria 1979-1983 (Jerusalem 1978).

In the early 1960s, the Jordanian government began to consider the agricultural potential of the East and West Ghors in the Jordan Valley. The re-settlement of Palestinian refugees and the transfer of public lands to farmer-landlords were part of an agricultural development scheme. Between 1961 and 1962, Zbeidat farmers were given 500 dunums of fertile land in the southern tip of the Marj Na'je area (36 km. north of Jericho; see map 1) along with the government' s promise that title deeds would be conferred upon the farmers contingent on proof of five years of continued cultivation. The people of Zbeidat were to become the legal owners of their land in the summer of 1967!

Each of the four main sub-clans of the Zbeidat —Shahabat, al-Mahameed, Salaymeh, and Ebeidat, also known as Abu Sabbah— then divided these portions into parcels whose size was determined by the number of able-bodied males within each sub-clan.[1] In addition, the farmers of Zbeidat continued to share-crop lands leased from absentee landowners in Marj Na'je. By 1965, the collection of mud brick and straw homes began to alter towards the form of a stable agricultural community. Mud houses were constructed with occasional zinc and asbestos roofing; a bus began to make scheduled daily trips which carried them to Nablus for shopping, medical treatment and the marketing of their produce. Two local schools in Mari Na'je, three kilometres north of the village centre, were used by Zbeidat's boys and girls. An artesian well in the village centre irrigated small plots by means of traditional furrow canals (dulab).

The Ghor al-Far'a region, in which Zbeidat and Marj Na'je are located, was until 1967 a thriving agricultural area. Before 1948, these lands had been used mainly for winter pasture, but an agricultural revival began in 1948, largely due to the influx of

refugees from areas occupied by Israel, share-cropping and, to a lesser extent, tillage by semi-nomadic owner-cultivators. However, the crucial factor in the area's revival was the drilling of artesian wells by local landlords in the 1960s. By the mid-sixties, thirty wells were being used in the Ghor al-Far' a alone, irrigating a total cultivated area of 35,000 dunums.[2] The western valley accommodated 18,000 share-cropping peasant families, with a total population of over 100,000.[3]

The 1967 war dealt a devastating blow to the hopes of the Zbeidat community as well as to thousands of valley farmers. Aerial bombardments forced many of the 1948 refugees to leave their homes once again. The two camps of Ain as-Sultan and Aqbat Jaber, in the southern base of the valley surrounding Jericho, lost their total population of between fifty and sixty thousand residents. These residents fled eastward and were re-settled in the Zizya camp in Transjordan. The villages of Jiftlek and Makhrouq, located to the immediate south of Zbeidat, were completely demolished by the Israeli army and its residents were spirited across the river. In Zbeidat itself, about 800 residents left and joined their kin in Irbid in North Jordan. Several families did manage eventually to return and regain control over their land.

Land confiscation, for the purpose of building Jewish settlements and for presumed security reasons, soon followed Israeli occupation. Suleiman al-Salih, the main landlord in the Marj Na'je region whose land was sharecropped in part by Zbeidat and Marj Na' je peasants, lost 5000 dunums of his land to the Israelis, a substantial part of which was fenced off for "security reasons" along the River Jordan. In 1968, all the dwellings and institutions which formerly served the farmers residing in the lands of Suleiman al-Salih were demolished by Israeli armed forces. Those included

27 artesian water pumps, a school, a clinic, a post office and 600 farmers' dwellings. A hundred dunums of orange groves were defoliated.

The purpose of this destruction was apparently to prevent the Ghor farmers from re-settling on their land, and thus to create a land base for Israeli settlements along the Western Jordan Valley. The scheme was later known as the Allon Plan. The incidents described here formed a pattern which recurred in al-Auja, Ghor al-Far' a, Diuk, Fasail, al-Hamra, and within the vicinity of Jericho itself. To the east and south of Zbeidat, 2,000 dunums were confiscated to build the settlement of Argaman.[5] Of these, 600 dunums belonged to one landlord, Muhammad Abdullah, who was from Tubas.[6] The remaining 1,400 dunums belonged to a number of small farmers.

Between 1962 and 1980, largely as result of the 1967 war, the villagers of Zbeidat lost 248.14 dunums, nearly half (49.6%) of the original 500 dunum land-grant they received from the Jordanian government (See Figure 1). Most of their losses are accounted for by the confiscation of 179.31 dunums, composed of rich soil by the river basin, which were fenced off by the army for "security" reasons. The remaining 68.83 dunums were granted to three farmers in compensation for 550 nearby dunums of land seized for the benefit of Argaman settlers. All three farmers are absentee landlords whose land is currently share-cropped by Zbeidat peasants

The Israeli government refused to recognise the agreement concluded between the Zbeidat community and the Jordanian government whereby the 500 dunums were to be registered in the names of Zbeidat farmers in the summer of 1967. However, their

de facto possession of the land was granted by the military government against the continued payment of rent for the use of the artesian well, the houses, and the remaining dunums under their control. Since land was considered "Miri" (i.e. government) by the military authorities, no new dwellings or even repairs of existing dilapidated structures were allowed. As the population increased in the years following 1967, newly married couples and their children were accommodated by the addition of new shacks-made of bushes, plastic sheaths and wood and attached to already existing rooms. The result has been the indescribable squalor which typifies the present state of Zbeidat village

In January 1980, the military government reversed the order against the building of new dwellings and the fixing of existing ones. Thus, when the fieldwork for the present study was concluded in June 1980, the people of Zbeidat were preparing to build new brick dwellings to replace their dilapidated and faltering ones.

4. The Land Tenure System in Zbeidat

Possession without ownership, share-cropping and land confiscation are the three basic aspects of land tenure in Zbeidat. All of these factors contribute to the instability of the peasants' relationship to their land. From the government's point of view, they are seen as tenants on Miri (state) land; from the absentee-landlords' point of view, they are shuraka (share-croppers); the Israeli settlers view them with hostility, fear, and, at best, with undisguised paternalism.

The Zbeidat farmers themselves are most worried about their shrinking cultivable area (nearly half of which is already fenced off) and about potential changes in their precarious status on share-

cropped land. The following table illustrates changes in the cultivated area possessed by each sub-clan which occurred after the war of 1967:

Figure 1: Cultivated Area Possessed by Zbeidat Farmers, Indicated by Sub-Clan, Loss of Land and Number of Households Supported : 1962-1980

Name of Sub-Clan	Land Possessed (Dunums) 1962	Land Possessed (Dunums) 1980	% Loss	Cultivating Households (1980)
1.Shahabat	125	103.84	17	15
2.Salaymeh	125	66.69	47	14
3.Abu Sabbah	125	64.33	49	14
4.al-Mahameed	125	17.76	84	5
Totals	**500**	**251.86**	**49.6**	**48**

Sources:(1) 1980 Zbeidat household survey, (2) 1978 Zbeidat land survey. Shahabat possessions include 10 dunums which are outside the surveyed areas.

Israel' s fencing off of border land led to the redistribution of land in Zbeidat and to a process of internal discrepancies not only between sub-clans but also within each sub-clan. Since the land loss affected some farmers and spared others, those families who remained in the valley cultivated their own land and collectively tilled the parcels of relatives who had migrated across the river, sending them half the cash yield in the usual share-cropping fashion. However, by the second year (1968-69) it became evident to Zbeidatis that this sacrifice could not go on, especially when the remaining 68 dunums of "absentee" families were also seized. The elders of each hamula (clan) met and decided to redistribute

the parcels over the remaining households taking into account the altered membership of the sub-clans. Thus, the al-Mahameed sub-clan lost 84% of their land (with only five households remaining in the village) as opposed to Shahabat who retained most of their land, taking only a 17% loss.

These decisions were based on three factors which had been crucial in determining the original distribution of plots: (a) the size of each household; (b) the "social weight" of certain leading families—e.g. the Mukhtar and other sub-clan elders; and (c) "just distribution" (Adalat al-tawzi). The latter is a process which prevailed in Ottoman Palestine under the Musha system. It requires that each cultivator receive his allotted property in several parcels (usually redistributed periodically every few years) so as to control for the uneven fertility of village land. In Zbeidat this unevenness is caused by the following factors which are accounted for in the Musha system: (a) distance from the main road and the village centre, (b) distance from the pool and motor which increases the time that furrows must wait before water can trickle down to them and (c) presence or absence of patches of accumulated salinity. Map 2 shows the pattern of parcel fragmentation resulting from this system as it affected three typical farmers. The implications of this fragmentation for the inefficient utilisation of limited land has been discussed at length elsewhere (See, for example, Grannot, The Land System in Palestine, London 1951).

The prevelant system of cultivation in Zbeidat is the shared tillage of land by all members of the extended family while under the control and guidance of their patriarchal head. In cases where the land parcels are too small for shared cultivation, elder brothers enter into share-cropping arrangements with neighbouring landlords and set up separate and independent households. When

the father dies, the land is parcelled among the sons, but brothers continue to share the task of tillage.

5. Share-Cropping

It would be misleading to regard land possession as the only (or even primary) source of income for Zbeidat farmers since a substantial number of the villagers have had, and continue to have, semi-feudal relations with absentee and resident landlords in the area. The most typical form of this relationship is share-cropping, an arrangement whereby the landlord provides land, water, and credit advances for the purchase of seeds, seedlings, ploughing, fertilisers, and insecticides. In return, the farmer provides his labour and half the net income from the crop yield after expenses are deducted and shared between landlord and farmer. All extra labour costs during the picking season are born by the farmer.[8]

The following table indicates the extent of share-cropping arrangements in relationship to owned lands in Zbeidat:

Since the average area under de facto possession by an average peasant household in Zbeidat is so small (5.2 dunums), a crucial determinant of the farmer's ability to remain on his farm and survive would be his access to surplus land to share-crop. Before the introduction of drip irrigation a family of eight members would have needed a plot of twelve to fifteen dunums to survive, but this figure presumes the cultivator has control of his total yield, which is obviously not the case with share-croppers.The average figure of 14.2 dunums per Zbeidat household, which appears in Figure 2 above, contains both owned and share-cropped categories. It would seem that the extra seven dunums which are supplemented by share-cropping is what has guaranteed the continued existence of Zbeidat peasants as farmers—the alternative being their transformation into wage workers for nearby Jewish settlements.

Figure 2: Share-cropped & Rented Land in Zbeidat in Relation to Owned Land & Average Land Cultivated, according to Sub-Clan, 1980

Name of Sub-Clan	Area Owned	Area Share-cropped	Area Rented	Total Cultivated	Percent Owned	Avg. area owned/ household	Avg. area cultivated/ household
Shahabat	103.7	131.1	-	234.8	44%	6.9	15.7
Salaymeh	66.4	131.0	-	197.4	34%	4.7	14.1
Abu Sabbah	64.1	72.0	47.0	183.1	35%	4.6	13.1
al-Mahameed	17.7	55.7	-	73.4	24%	3.5	14.7
Totals	**251.9**	**389.8**	**47.0**	**688.7**	**37%**	**5.2**	**14.3**

Sources: 1980 Zbeidat Survey & Interviews with Landlords.

However not every Zbeidat farmer is a share-cropper. Of those heads of households in our survey who have lands registered to their names, eight farmers (or 30% of the total) do not have access to surplus land for share-cropping, and it is within this category that we presume alternative sources of income (wage labour, leasing of tractors, etc.) to have developed.

6. Leasing

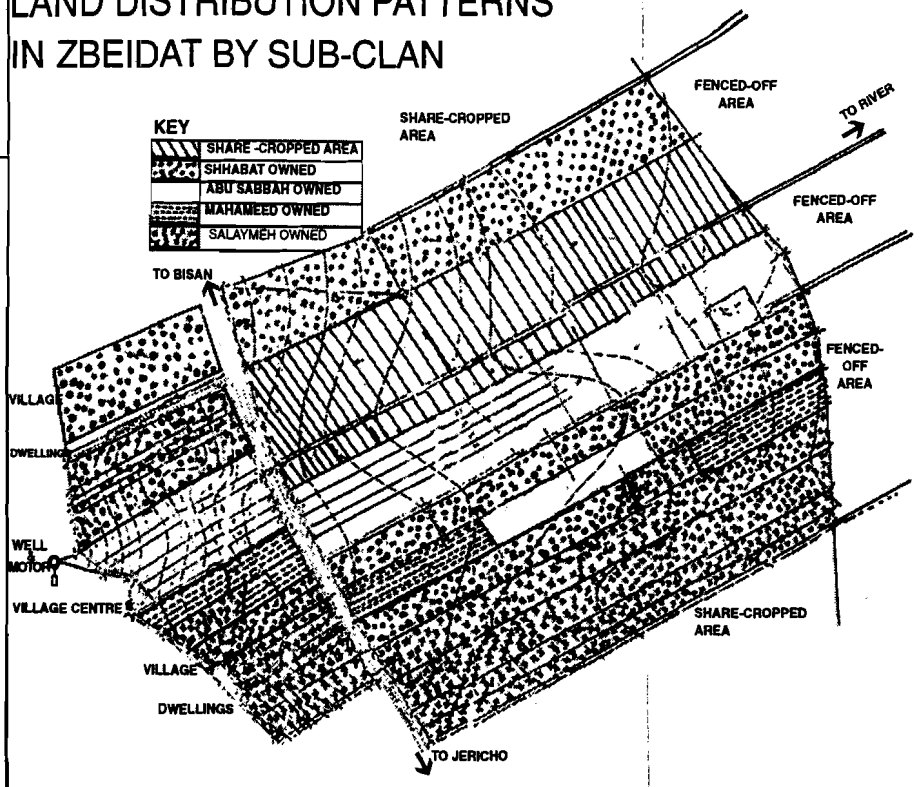
Cash renting of land is relatively infrequent but not altogether uncommon in Zbeidat. There are currently three farmers in Zbeidat (all from the Abu Sabbah sub-clan) who rent land from Marj Na' je landlords, the total area of which is 47 dunums (approximately 10% of all land held under co-cultivation). Cash renting is, of course, more advantageous to the successful farmer than to the landlord since the crop yields are not shared. However, it entails a substantial investment on the part of the peasant-renter, and any losses are born solely by him. In Marj Na' je, Zbeidat farmers pay an average of JD 15 Jordanian dinars per dunum per annum, compared to an average of 45-50 dinars in the Tulkarem region for irrigated land. In addition to the cash rent, the peasant-renter undertakes all the fuel costs of running the water pump as well as any expenses incurred for repairing the pump (a substantial cost in the isolated Ghor region). The landlord provides only land and water, and the farmer is free to dispose of the crop as he wishes unless he is under contract to commission agents, in which case share-cropping conditions prevail.

Before we discuss the conditions that generate surplus land (for share-cropping) or surplus labour (for non-agricultural employment), let us examine the features of landlordism in the Zbeidat area.

MAP 2: LAND DISTRIBUTION PATTERNS IN ZBEIDAT BY SUB-CLAN

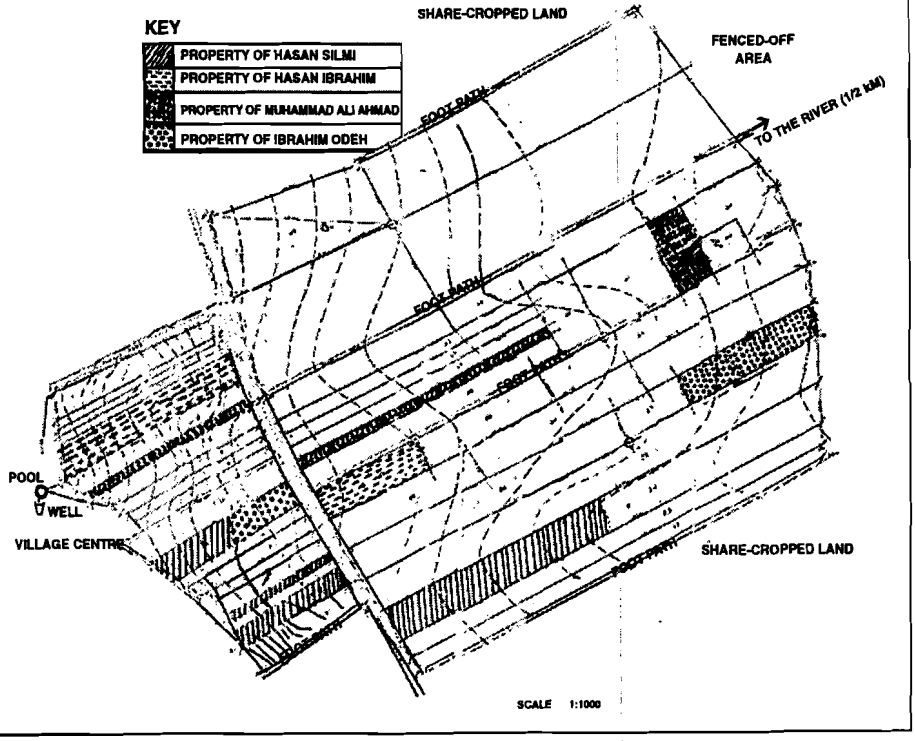
Note: Map does not include cultivated plots held under share-cropping or cash rent arrangement.

No. of Parcel	Area in Dunums
1	4.039
2	1.391
3	1.282
4	1.374
5	6.067
6	3.024
7	1.683
8	3.468
9	2.044
10	1.727
11	1.785
12	5.158
13	4.342
14	1.765
15	2.170
16	1.363
17	2.083
18	0.979
19	1.146
20	2.507
21	3.593
22	7.088
23	9.469
24	18.022
25	18.227



MAP 3 FRAGMENTATION OF CULTIVATED PARCELS IN ZBEIDAT

No. of Parcel	Area in Dunums
26	10.135
27	2.309
28	4.854
29	5.577
30	6.637
31	7.335
32	3.907
33	4.793
34	10.031
35	7.635
36	2.969
37	4.024
38	3.845
39	4.468
40	3.435
41	6.750
42	2.838
43	5.924
44	1.439
45	15.696
46	19.025
47	34.109
48	24.048
49	13.000
Total	511.312



7. Landlords: Absentee and Present

Absentee ownership of land became widespread in the 1950s, when the Jordanian government began a reclamation program in the Jordan Valley to enhance the region's agricultural potential. Farmers from the Nablus and Jericho areas were allotted state lands in the valley upon proof of reclamation and extension of water pipelines, and continued exploitation for three years. The farmer would then receive a title deed against the payment of JD 3 per dunum.[10] A similar arrangement was undertaken by UNRWA for refugee farmers. Scores of merchants and big farmers made use of these offers and acquired thousands of dunums in the Jordan Valley. Absentee landlordism was born.

The first of the two factors providing the major impetus for the exploitation of the Ghor lands was the influx of dispossessed peasant-refugees from the pre-1948 boundaries of Palestine. This influx swelled the ranks of agricultural workers and potential share-croppers. The second factor was the drilling of artesian wells by landlords who were aided by government and UNRWA experts.

Prior to the arrival of absentee landlordism and refugee share-croppers, the area had already been home to a resident population of tribal, semi-nomadic cultivators. In the Ghor al-Farla region in the vicinity of Zbeidat, the main tribal gathering was the Masa'eed tribe which succeeded in registering 15,000 dunums in the name of their farmers as private property in 1932 during the British Mandate (land settlement).[11] Much of this land was later sold to Nablus merchants during the 1932-1948 period. The remaining land, about 8,000 dunums, was exploited directly by owner-cultivators, or share-cropped with farmers from Beit-Foreek and Beit Dajan.

The influx of dispossessed refugees radically changed forms of land tenure relations in the valley. In the southern valley, around Jericho and the Auja areas, capitalist relations in agriculture became prevalent in citrus plantations, with the refugee camps of Ain al-Sultan and Aqbat Jaber acting as a reservoir for cheap labour. The proximity of the city of Jericho facilitated the development of citrus cultivation by providing an infrastructure for irrigation and marketing as well as a centre for labour recruitment.

The following table indicates the refugee population as numerically contrasted with non-refugees in the western valley for that early period:

Figure 3: Western Ghor Population, by Refugee Status, 1953

	Refugees	Non-Refugees	Total	by Percentage
Number	59,290	25,316	84.606	70%
Families	11,661	3,778	15,439	75.5%

Source: Adapted from Jordan Valley Agricultural Economic Survey, (UNRWA 1953) p.17.

In the central and northern valley, share-cropping of the Muhasasa variety prevailed on both sides of the river. In the most common form of Muhasasa, the landlord leased the land and water facilities to the peasant, while the latter provided his household labour and any extra hired labour needed during harvest. All other expenses (for ploughing, fertilisers, etc.) were shared, and the landlord would get one half of the net marketed yield. By contrast, in the Jenin and Tulkarem areas peasant share-croppers had to give the landlord two-thirds of the net yield from irrigated land.[12] Three factors

might explain the different shares accrued to peasants and share-croppers in the two regions. One factor was the higher pressure on land in the more settled and stable communities of Jenin and Tulkarem; a second was the harsh climatic conditions in the Jordan Valley which made it difficult for absentee landlords to attract a permanent, year-round, agricultural workforce. The third factor was the relations of mutual dependence, almost feudal, between the tribal landlords in the Jordan valley (such as al-Masa'eed) and their refugee tenants.

These relations set the pace and form of contracts between other share-croppers and landlords. Since agricultural settlement involved a major expense on the part of the landlord who had to build dwelling units and provide other services for his tenants, share-cropping leases were of a longer duration in the central and northern valley villages than in the southern valley (Jericho) or in Tulkarem-Jenin. Saleh Suleiman, the major landlord in the area under consideration, estimated that during the sixties, the duration of the lease was five years on average in the North, compared to two years in the South.

The influx of refugee peasants also had a different impact on agriculture in the northern valley, where citrus cultivation was scarce, than on the south. Instead of creating a rural proletariat, it merely reduced the average size of share-cropped land from 50 dunums to 20 dunums per household.[13] It must be added that share-cropping and wage-labour tend to be complementary in the Jordan Valley. Although thousands of refugee families do not have access to any land (leased or owned), those who are share croppers release some of their household members to work for citrus and banana plantation owners after the end of the labour-intensive winter vegetable picking season.

In Zbeidat itself, land scarcity and the presence of absentee landlords with surplus land allowed for all four forms of labour utilisation discussed—owner-cultivation, share-cropping, muhasasa cash tenancy, and wage labour— to co-exist. The following list of landlords indicates the sources of surplus land:

The pattern of share-cropping involving Zbeidat farmers and the landlords listed above (with the exception of the Argaman settlers) is similar to the pattern described above for Ghor al-Far'. In addition, the first four landlords listed own substantially more land (even after confiscation and fencing) which they lease to other farmers in Marj Na'je and the Jiftlek area. Suleiman Saleh, moreover, has land north of Marj Na'je which he has difficulty leasing as "daman" (share-cropping) lands because of security restrictions placed by the Israeli army on Arab farmers outside the immediate zones of their villages.[14]

Contracts between landlords and tenants tend to be, on the whole, oral agreements based on trust between the two parties. (This is not the case with commission-agents as will be discussed below). We do not have figures to substantiate this point for Zbeidat, but a 1974 study conducted across the river in the central Ghor region, where similar leasing arrangements prevail, revealed that only 17% of the tenants had written leases, while the vast majority (83%) relied on oral understandings with the landlord.[15]

The relation between Zbeidat and the Israeli settlers in Argaman is more complex and has undergone several changes which will be described in a separate section below.

Figure 4: Landlords in Zbeidat: 1980

Landlord Name	Total Owned in Zbeidat	Share-croppers	Origin	Current Status
Suleiman Saleh	284	20	Tubas	Absentee Landlord
Jamil Abdul Fattah and Brother	67	4	Beit Natif	Resident Landlord Cultivator
Adel Mfadi	34	1	Tubas	Absentee Landlord
Hasan Al-Fahd	19	1	Tammoun	Absentee Landlord
Abu Shammat	15	1	Tammoun	Absentee Landlord
Badie Yunis	70	1	Nablus	Absentee Landlord
Mashav Argaman	400	Seasonal Wage Workers	Land owned by Marj Na'je, Nablus and Makhrouq	Israeli Co-operative Settlement

Source: (1) 1980 Zbeidat survey, (2) Interviews with Messrs. Saleh and Khamis, (3) Ibrahim Matar.

8. Commission Agents

Commission agents are large-scale merchants who advance credit to small farmers and share-croppers at the beginning of the season in order to cover seed and cultivation expenses. They do this for a return of 7% "commission" on the net yield of marketed produce. Commission agents usually control sections of the "hisbah" (central vegetable market), and have a monopoly over the marketing of the yield of farmers who are indebted to them. Quite often the commission agent is himself the absentee landlord, as is the case with several landlords in Zbeidat, but this need not be the case. In the Jordan Valley, commission agents perform four important functions:

a. They grant the farmer his needs in seed, seedlings, chemicals, fertilisers, and insecticides.

b. They grant the farmer cash credit when his money supply is low (usually at the end of the summer season) and when he has no savings with which to start the new season.

c. They supply the farmer with the standard (18 kg) boxes which are needed to ship and market the produce.

d. They act as intermediaries between the farmer and the retail merchant in the hisbeh by auctioning the produce to the highest bidder.

Since the commission agent acquires 7% of the net marketed price, he has an interest in getting the best price for the farmer. Unlike the absentee landlord (if he is a separate person) agreements between the commission agent and the farmer are recorded in

detail, stipulating the duties and responsibilities of each person. However, despite the services provided to the credit-hungry peasant by the commission agents, the structure of their relationship is essentially exploitative. Against the provision of supplies and credit, the commission agent (1) sets his own, usually inflated, price for seeds and fertilisers and (2) controls the marketing avenue of the farmer. In Zbeidat this means that the share-cropper cannot make full use of the Jordanian market demand for winter vegetables when the prices across the river are higher than those determined by the Israeli market.

In the southern Ghor region similar disadvantages can be seen in this arrangement, especially when the commission agent is himself the landlord. In a study made by Dajani in 1979, he found that: "The contract is typically signed with two witnesses and a guarantor. It stipulates that if the subsistence advance is not repaid by the end of the season, the owner will confiscate any other property that the farmer has, unless the farmer renews the contract another year. Should the farmer default on the provision of labour, the owner will farm the land at the farmer's expense. The farmer will also have to pay for any labour which he may have to hire at harvesting time.[16]

In cases where the landowner and the commission agent are not the same person, the net yield in the southern Ghor region is divided into three equal shares between owner, commission agent and the peasant-farmer. This is not the case in Zbeidat where the commissioner receives only his 7%, plus whatever interest is due on delinquent payment. The latter could be as high as 30% on the principal loan per annum.[17]

However, the consequences of this relation are similar in both cases. The farmer is rendered completely dependent on the landlord/ commission agent for the supply of equipment and marketing of produce. Peasants owning plots smaller than 30 dunums per household (the absolute majority) and using traditional furrow irrigation methods could hardly break even at the end of the season. Dajani, for example, calculated that in the southern Ghor of the Jordan Valley, farmers owning less than 40 dunums and producing less than one ton per dunum of vegetables receive a net yield of JD 400 per annum ($1,300), which is the bare subsistence level for a family of eight.[18]

Our estimates for Zbeidat, based on the farmers' memories and on estimates provided by agricultural experts for productivity in furrow irrigation, are, at best, a 1.5 ton yield of vegetables per dunum. Since the average plot controlled by a Zbeidat household is less than half the area estimated above, and the average cultivating household is 9.7 members per household, the income of a Zbeidat peasant household would have been substantially lower than JD 400 per annum had the family relied exclusively on its farm income.

In fact, interviews with Zbeidat farmers and landlords show that the incidence of wage labour has been on the increase since the early 1970s, together with farmers' wide-spread negligence of their own farms. This trend was later confirmed by the secretary of the nearby Jewish settlement of Argaman, which employed Zbeidat workers.[19] Only the introduction of drip irrigation methods helps to reverse this trend.

9. The Problem of Water Resources in Zbeidat

Israeli occupation of the Jordan Valley in 1967 deprived the people of Zbeidat of nearly half their agricultural land. Two hundred dunums towards the river (see Map 1) were fenced off by the army. As stated earlier, another 68 dunums were confiscated by the military authorities and used as "compensation" for three farmers whose nearby lands had been taken over by the Jewish settlement of Argaman which was established in 1968. Of this land, 15.5 dunums is now farmed by a resident refugee-farmer, and 53 dunums are leased to the Zbeidat farmers who, ironically, formerly owned the land that is now in the possession of the present absentee landlords.

More damaging has been the confiscation of water resources and the strict controls exercised over existing wells by the military authorities. Israeli settlements in the valley are served by artesian wells of up to 600 meters in depth while most Arab farmers are allowed to drill no more than 100 meters in depth. Between the Makhrouq area and Zbeidat in the Far'a Valley, a stretch of about 15kms, the Israelis seized and destroyed six wells serving the Arab farmers of Makhrouq, Jiftlek and Zbeidat.[20] In their place, new tube wells were drilled to serve the two settlements of Argaman and Masu'a. The Zbeidat community was forbidden to drill for new water resources and limitations were placed on their use of their own well which serves for both domestic and agricultural uses. The current capacity of the Zbeidat well is 200-300,000 m^3, serving 311 dunums.[21]

Altogether there exist today seven artesian wells in the Zbeidat/ Marj Na'je area. Their distribution is detailed in the following figure:

Figure 5: Artesian Wells in the Zbeidat/Marj Na'je Area By Owner and Cultivated Area Covered, 1980

Owner	Wells	Dunums Irrigated	Under drip	%under drip
Suleiman Saleh	1	284	184	65%
Zbeidat Farmers	1	311	295	94%
Jamil Abdul Fattah	1.5*	67	50	74%
Badie Yunis	1	60	c40	67%
Abu Jarrar	1.5	100	c60	60%
Marj Na'je Landlords	2	400	125	31%
Totals	**8**	**1,222d.**	**754d.**	**62%**

Sources:(1) Sameer Hleileh, (2) Jericho Bureau of Agriculture, (3) 1980 Zbeidat survey.* Abdul-Fattah owns a well in partnership with Abu Jarrar.

Until a few years ago, the dominant form of irrigation in the Jordan Valley was the primitive system of furrow canals. Richer farmers to the south used sprinkler systems which, under conditions of limited water resources, could be quite wasteful. The following irrigation situation prevailed in Zbeidat during the mid-seventies:

Irrigation water was supplied by a commonly-owned well with a diesel pump which is situated in the center of the village. Water was discharged from the well and distributed to the individual plots via unlined dirt canals. Some farmers irrigated their crops with conventional open furrows and others attempted to economise on water by excavating small earthen pools in which they stored their weekly allocation. This water was then pumped to their fields with small booster pumps and then distributed to their plants by annually-disposable plastic tubes.[22]

Several problems were associated with this system: (a) it led to substantial waste, either through evaporation or through seepage from the dirt canals, (b) it resulted in low productivity because of inefficient plant exposure to the water, (c) it led to uneven distribution since parcels within the immediate proximity of the pump received their water supply more quickly and more generously than distant parcels; (d) it caused inefficient use of labour resources. Years after Zbeidat farmers stopped using furrow irrigation, they still recall with bitterness the exhausting process of clearing and servicing the primitive canals during irrigation times.

Problems of primitive technology were compounded in Zbeidat by two other factors common to the Jordan Valley: limited rainfall (150-200 ml. annum) and relatively high saline content in the soil. The latter problem was reinforced through furrow irrigation which leads to the accumulation of a saline soil surface around the cultivated area. The proper method of dealing with salinity is periodic leaching of the surface area through sprinklers a method too costly for Zbeidat farmers.

10. Drip Irrigation Comes to Zbeidat

The use of drip technology was not completely alien to Zbeidat farmers. With the increased salinity in their land many of the parcels had become unproductive, and a few farmers began to neglect their farms in favour of working as daily labourers in neighbouring Israeli settlements which widely used both sprinklers and drip irrigation. Thus, lack of capital rather than lack of familiarity prevented the adoption of the method.

The advantages of drip irrigation are discussed in detail in a study by a leading authority in irrigation technology, Kobe Shoje.[23] Some of these advantages are summarised below:

1. Drip irrigation supplies crops with the optimum amount of water needed, thus eliminating the fluctuations in soil moisture content associated with open furrow and sprinkler irrigation. As a result, an early crop can be obtained, thus ensuring the farmer higher income because of market demand.

2. Water resources are saved in areas of water shortage. Plants in the drip system utilise 80-95 % of the water dispensed, against 50% utilisation in furrow irrigation and 70-80% in sprinkler irrigation.[24]

3. The drip system works effectively with saline water and in soils with relatively high salinity. The accumulations of salt in the soil are effectively overcome by drip as a result of the method's "continuous leaching." Water emitted from the porous holes of the tubes is pushed away from the plant roots.

4. Crop yields are higher and plant growth is more uniform. The process facilitates mechanical harvesting when applicable.

5. Drip enhances the effective use of fertilisers since soluble chemicals are simply added to the irrigation water. This method eliminates the loss and danger (e.g. "burning") arising from excessive use of fertilisers. In addition, because water use is restricted to the immediate plant area, the growth of weeds and fungi is restricted.

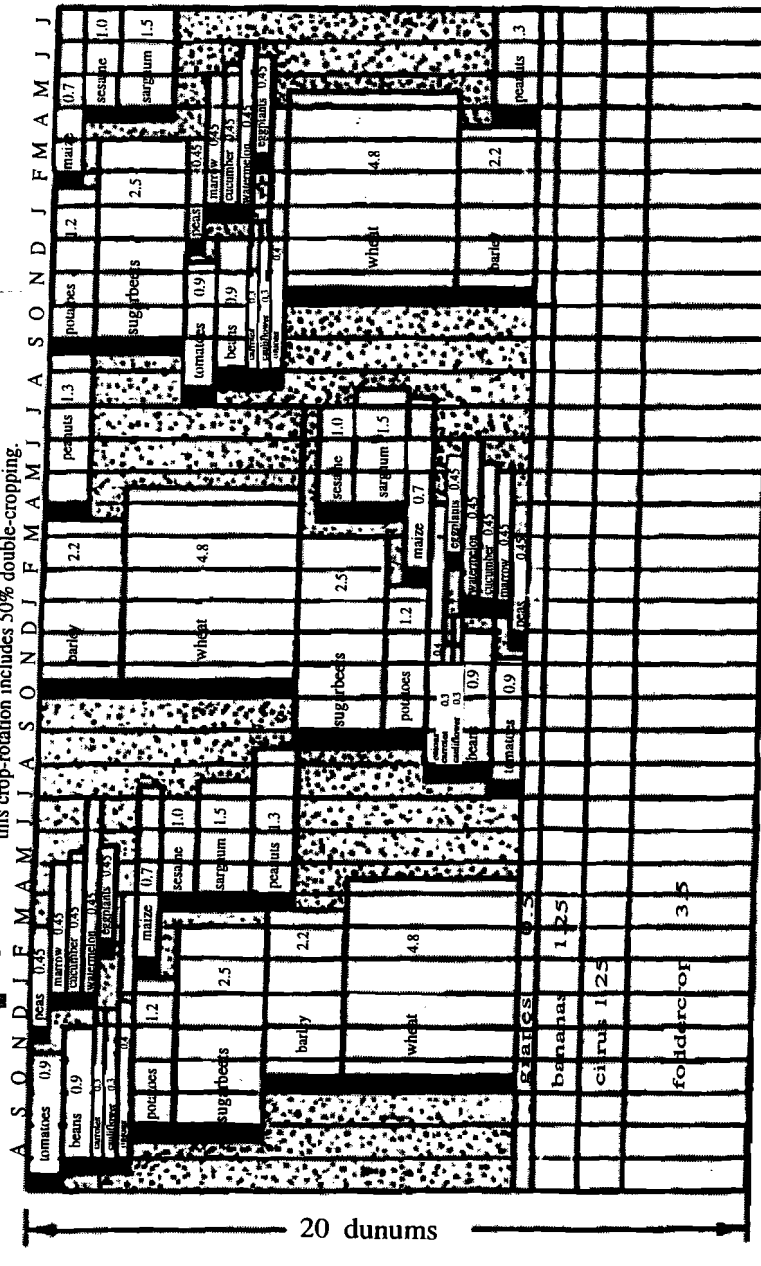


Fig. 14: Crop-rotation Scheme for a Twenty-Dunum Farm, Central Ghor 1953

N.B. On the farm-area, not allocated to fruitrees and foddercrop, this crop-rotation includes 50% double-cropping.

Source: Jordan Valley Agricultural Economic Survey (UNRWA, Beirut: Oct. 1954), App. C.

6. Finally, the use of drip irrigation significantly cuts down the costs of the equipment and power needed under sprinkler and furrow methods,less water pressure is needed to carry water to outlying fields.

All the above advantages (with the partial exception of the fourth point concerning mechanical harvesting) apply to agricultural production in Zbeidat. High salinity, scarce water resources, the increasing costs of diesel fuel, the dangers of fertiliser use and low productivity were the main problems facing Zbeidat farmers in the 1970s. In addition, because of the declining productivity of their farms, many residents availed themselves of the opportunities for work in neighbouring Jewish settlements. The maintenance of furrow canals demanded their attention for most of the year unless, of course, they neglected their land completely an option which some residents began to contemplate and act on.

It was the innovating spirit of two Zbeidat farmers together with the technical and financial help of the Mennonite Central Committee, which finally brought the drip system to Zbeidat and which contributed to the radical transformation of Zbeidatis' lives.

In October of 1976, Abdullah Muhammad Hasan, who owned 9.5 dunums in Zbeidat and share-cropped 20 dunums from the property of Jamil Abdul Fattah (Abu Anwar), installed, on an experimental basis, drip pipelines on three dunums of the land he sharecropped. The Mennonite Central Committee, Abu Anwar, and Abdullah shared the costs of the pilot project which amounted to IL.18,000 in current prices, then US$600, Stlg.300. The result was dramatic: a five-fold increase in tomato yield: from 1.5 tons in open-furrow fields to eight tons per dunum under drip irrigation.[25]

The success of the experimental project encouraged the whole village to adopt the new technology. Since the drip system involves a substantial amount of capital investment, it was beyond the financial capacity of the villagers to introduce it on their own. Initial investments were made for the more substantial lands of large land owners. In 1978, with the help of the Mennonite Central Committee, the infrastructure of the drip system was introduced to the 311 dunum plots of the Zbeidat community. It involved the construction of a network of pressurised distribution pipes (PVC) equipped with "control heads" and fertiliser tanks which were necessary for filtering and carrying the soluble chemicals into the drip lines. These structures, together with pressure gauges and timer valves, ensured the even flow of water to individual plants. It was left for each individual farmer then to connect the PVC lines with the drip lines. A total of 200 dunums of drip were connected in 1978, and a further 67 dunums were covered in 1979.

The initial cost of the infrastructure was about half a million Israeli pounds (US$30,000/Stlg.15,000). In addition, the cost of installing individual drip lines came to another million pounds (US$60,000/ Stlg.30,000) of which the Zbeidat farmers were subsidised with 30% of the cost. (In 1979 the subsidy was reduced to 25%). The Mennonite Central Committee, through an Oxfam grant, bore the initial costs, receiving the farmers' contributions in instalments once their yield was marketed. The cost of laying the drip lines amounted, therefore, to an average of US$100 (Stlg.50) per dunum. The inclusive infrastructure costs would add up to a total of US$400 (Stlg.200) per dunum.

Thus, the Zbeidat community, perhaps one of the most underdeveloped in the Middle East —lacking health services, electricity, running water, or schools—acquired one of the most

developed agricultural technologies in the world.

It should be noted that throughout the valley it has been landlords, and not individual owner-cultivators, who have taken the initiative to introduce drip technology. (An exception, of course, is provided by voluntary agencies who have subsidised small farmers). The reasons for this should be obvious. It is not economical to introduce drip irrigation to plots smaller than 20 dunums; and the initial capital investment, although not extremely high, is beyond the saving capacity of small farmers. The latter thus find themselves initially even more dependent than before in their contractual relationship with their landlords/commission agents. Only the intervention of external crediting institutions, such as voluntary agencies, has helped to break this cycle of dependency.

11. The Impact of Drip Irrigation

From the perspective of this evaluation, the main impact of drip irrigation on the agricultural conditions of the Zbeidat community, both current and potential, can be summarised as follows:

1. A substantial crop yield increase of between five and eight times more tonnage per dunum.

2. An earlier harvest of vegetables allowing Zbeidat farmers to start marketing such crops as eggplants and squash by December, and cauliflower and tomatoes (their main crop) by January. Early harvest means higher prices during a period of limited supply in the vegetable markets of the West Bank, Israel, and East Jordan. This is a crucial factor in the increased income of the Zbeidat community.

3. The increased income allowed Zbeidat farmers, for the first time during their residence in the Jordan Valley, to be freed from the exploitative relations they have been compelled to engage in with commission agents and merchants of the Nablus vegetable market. This new flexibility was caused by the creation of a disposable surplus which allowed the small farmers to finance new agricultural cycles (i.e. double cropping) without resort to high-interest linked credit.

4. Drip irrigation has led to the reorganisation of the labour process in Zbeidat. Because the drip system is an intermediate technology, it is not labour displacing. Its net effect has been (a) to relieve the work of household members from the heavy work associated with the maintenance and repair of furrow canals and (b) to increase the work load during the planting season, and especially during the picking and harvesting season (January to April). During the peak harvest, almost every household in Zbeidat employs external wage labour to help with the picking. One recent alternative to this has been a form of crop-leasing, "daman mahsul", to Israeli vegetable merchants.

5. Increased productivity per labour unit might also contribute to increased bargaining power for share-croppers in relation to their landlords on their leased plots. This is especially likely in situations where the farmers contribute to the installation cost of the drip. This trend, however, is only hypothetical and tentative as it was too early to observe at the time of the study.

6. On the negative side, drip irrigation has created conditions of further dependency on Israeli technology and on a new complex set of marketing arrangements. While the maintenance and replacement of the drip lines is itself not a very complicated process

and is within the mastery of Zbeidat farmers, their integration into a competitive market compels them to adapt to new varieties of seeds, salinity resistant seedlings, and insecticides, whose prices and development are out of reach for the small farmer.

7. The accumulation of capital as a result of the increased crop yield is an uneven process. It will affect medium sized farms differently from small farms, and sharecroppers differently from owner-cultivators. So far there have been almost no tangible differences in the conditions of share- croppers versus owner-cultivators within the same tribe. However, our observation leads us to speculate that in the coming years such issues as inheritance of property rights, plot consolidation, and differences in life style and consumption patterns are likely to create new divisions in the Zbeidat community, divisions which so far have been dormant or non-existent.

8. Along the same lines, demographic pressures on the land (indicated by the absence of surplus land within the reach of farmers) are likely to compel a stratum of the smallest land holders, or at least members of their households, to seek wage employment outside the village.

12. Productivity

Crop yield in the central Jordan Valley is dependent on a variety of factors including: the degree of salinity in the soil, the amount of fertilisers and water used, the nature of irrigation (sprinkler, furrow or drip) the time of cultivation, the use of insecticides and the weather. Other relevant factors are: plot size, number of parcels per holder, and (in terms of actual crop yielded) market prices.

The peculiarity of Zbeidat is that the nature of the soil and the saline content for most of the cultivated parcels is homogeneous. This is due to the fact that all village plots are irrigated from the same well and that the only land with a substantially different soil structure and mode of irrigation (the Zor area by the river), has been fenced off by the army. Furthermore, despite some differentials in the size of land owned and share-cropped, the social composition of the village population allows for a uniform cycle of ploughing, cultivation, and cropping. Hence, there is a relatively even crop yield per unit of cultivation.

Our investigation shows that the introduction of drip irrigation to most village plots in 1977/78 was followed uniformly by the use of the most sophisticated factors of scientific farming now utilised in Israel. Those factors include: double, plastic sheaths (for weed control, frost protection, and preservation of uniform temperature), optimum combination of liquid fertilisers, insecticides, weed-killers, and the use of hybrid saline-resistant seeds and seedlings. Zbeidat farmers do not at this time practice periodic leaching of the land surface area to reduce salinity (every four to five years), or the sterilisation of soil.

However, two crucial factors still account for differential yield per unit cultivated in Zbeidat. These are: the use or non-use of drip, and the combination of crops planted for each agricultural cycle. Since we are not dealing with subsistence agriculture, it should be pointed out that net productivity is based on the calculation of marketed yield, and not on the actual productivity of the holding. Marketed yield is itself subject to fluctuations in market demand and to the acquisition of permits to send their produce to Jordan.

The following figures indicate crop yield for the main vegetable in Zbeidat, the tomato, compared with yields under different forms of irrigation in the region.

Notably, yield fluctuations such as those observed in Figure 6 do not occur with the use of hot houses (hammamat). Hot houses have not, so far, been introduced to Zbeidat because of the high capital expenses required. Yield fluctuations are primarily due to the susceptibility of crops planted under plastics and drip to frost attacks, which were particularly severe in the winter of 1979/1980. However, even during that frost the increase in productivity under drip irrigation was between six and ten times higher than under open furrow.

Figure 6: Tomato Crop Yield (Tons per Dunum) in Zbeidat and Selected Neighbouring Regions by Method of Irrigation (1979/1980)

Cultivated Area	Furrow	Drip**	Hot Houses**
Zbeidat, 1977	1.5	8.1	—
Zbeidat, 1980	0.5	6.0	—
Central E. Ghor,1978	1.52	4.5	10
Ateel, Tulkarem,1980	—	1.5-8*	10-11
Deir al-Ghusun,1980	0.75	7-8.5	10-12

Sources:(1) Zbeidat, 1977: Y. Azzeh & I. Matar "Farm Budgets"; (2) Zbeidat 1980: Average of 3 farms surveyed by author; (3) Central East Ghor: A Steitieh, et al, Dirasat (University of Jordan) May 1979, p. 126; (4)'Ateel and Deir al-Ghusun: data collected from 5 farms by the author. (*) Low yield due to frost conditions in winter of 1979. (**) First cycle only.

13. Income and Farm Budgets

The net income of Zbeidat farmers, though considerably higher than it was before 1977, is affected today by (1) capital investment for the installation of drip irrigation and its accessories, (2) the increased costs of fertilisers and insecticides and other farm inputs, and (3) the increased dependence on hybrid seeds and saline-resistant seedlings.

A farm budget prepared in 1978 for an area of 20 dunum cultivated under drip irrigation in Zbeidat estimated a total net income of US$ 36,244 for owner and cultivators together. Based on the assumption that the land has three tenants (share-croppers), each tenant's share would have been US$ 6,040. Productivity per dunum of tomatoes was 8.1 tons with a productive value of US$ 1,812 per dunum.[27] This should be contrasted with productivity in a 39 dunum farm utilising open furrow irrigation (1977) which netted US$ 198 per dunum, producing an estimated 1.5 tons/dunum of tomatoes.[28]

Figure 7: Farm Budgets in Zbeidat Utilising Open Furrow and Drip Irrigation, 1977-1978.

	Furrow Irrigation (1977)	Drip Irrigation (1978)
A. Farm Size	35 dunums	20 dunums
B. Crops	43% tomatoes 23% eggplants 34% squash, beans, onions	60% tomatoes 10% eggplants 30% squash, cucumbers
C. Expenditures		
1. Ploughing		US$ 250
2. Fertilisers		US$1,380
3. Seeds and Plant Stock	US$2,000	US$ 805
4. Pesticides		US$1,000
5. Hired Labour		US$1,070
6. Plastics		US$2,030
7. Drip Depreciation		US$1,290
8. Commission Agents	US$1,386	US$5,141
9. Transport	US$2,500	US$8,000
Total Costs	**US$5,886**	**US$20,966**
Cost per dunum	US$ 168	US$ 1,048
D. Yield/dunums	1.5 tons (tomatoes)	8.1 tons (tomatoes)
E. Income		
1. Sales to Amman	US$ 7,097	US$53,000
2. Local Sales	US$ 6,289	US$ 4,210
Gross Income	US$13,386	US$57,210
Less total costs	US$ 5,886	US$20,996
Net Income	**US$ 7,500**	**US$36,244**
Net Income per Dunum	**US$ 198**	**US$ 1, 812**

Source: Ibrehim Matar & Yusef al-Azzeh, "Typical Farm Budgets for the years 1977, 1978".

Under the two alternative systems of irrigation illustrated above, three share-croppers were presumed for each farm. Their income would be distributed along the following lines, assuming the 50% share for the landowner in expenses and returns, which is the system prevailing in Zbeidat:

Figure 8: Share-Cropper and Landowner Shares, According to the System of Irrigation, 1977-1978

	Furrow Irrigation (1977)	Drip Irrigation (1979)
Farm Size	35 dunums	20 dunums
Number of Share croppers	3 (11.7d. each)	3 (6.7d. each)
Owner's Share of Income	US$3,750	US$18,122
Share-croppers	US$1,250	US$ 6,040

Source: Matar and Azzeh Income"Farm Budgets" (1978) (adapted)

Although one should approach these figures with caution (since 1978 was an exceptionally good year for Jordan Valley vegetables, and because Jordan followed a liberal policy towards importing West Bank crops), they nevertheless indicate the substantial income increases brought about by the introduction of drip. The ten-fold increase in cash productivity per dunum observed in Figure 7, however, does not take into account the capital investments necessary for the installation of drip. It merely assumes 10% depreciation costs after the installation.

Since 1978 was the first year of drip yields (after the pilot projects of Salameh Abu Dabbus and Abdallah Hassan proved successful) such dramatic results were crucial for giving the Zbeidat community the confidence to begin the process of shifting from open canal irrigation to the new system. This shift was greatly facilitated by the presence of peasants willing to invest their total savings in an unfamiliar form of agricultural technology. The example of Salem Abu Dabbus is even more daring than that of Abdallah Hassan since he installed the drip on his own land rather on leased land held in partnership. In 1978, Salem installed the drip on 10 dunums of his 23 dunum plot, with MCC paying 30% of the initial cost. The difference in crop yield can be seen in the following table:

Figure 9: First Crop Yield in Zbeidat From Drip Irrigation-10 Dunums Plot (1978)

Crop	No. of Dunums Under Cultivation	Dunum Productivity Under (1978)	Dunum Productivity Drip Under Furrow Method
Tomatoes	6	10	1.5
Eggplants	2	1.5	0.5
Pepper	2	1.0	0.25

Source: Interview with Salem Abu Dabbus and Zbeidat Household Survey

From his ten dunum plot alone, Salem Abu Dabbus earned a gross income of JD 4,000 (US$12,000) in 1978. In 1979 his dunums of tomatoes produced eight tons only, a drop of two tons from the previous year, but by then most of Zbeidat was covered by drip.

Important consequences of drip technology include the intensification of Zbeidat's integration into the West Bank export market and the peasant's increased awareness of budget calculations. The use of hybrid seeds, expensive fertilisers, and a variety of drip lines entails a substantial investment of income, or potential income, and careful calculation of the cropping arrangement. In fact, the only difference between the peasant's and the capitalist peasant's approach to these calculations is the former's dependence on household labour for field work. This

Figure 10: Farm Budget for Salameh Abu Dabbus, an Owner-Cultivator/Share-Cropper (40.6 dunums) Zbeidat 1979/1980

I. Preharvest Expenditures	Owned Area	Share-cropped Area (farmer's share only)
1. Drip Depreciation	IL. 45, 150	IL. 11,280
2. Ploughing	IL. 22,656	IL. 8,160
3. Plastic Sheaths	IL. 13,340	IL. 4,600
4. Fertilisers	IL. 17,500	IL. 4, 500
5. Pesticides	IL. 23, 600	IL. 6,000
6. Hormones	IL. 1,750	IL. 450
7. Seeds & Plant Stock (incl. grape seedlings)	IL. 35,550	IL. 3,263
8. Land Rent (Gov't)	IL. 19,888	—
9. Water (rent share, pump maintenance, fuel)	IL. 2,309	paid by landlord
10. Iron structures for vineyard	IL. 70,000	—
Total costs before harvest	**IL. 233,743**	**IL. 38,253**
Total costs in USdollars	**US$9,350**	**US$1,530**

(calculated at autumn rates for 1979; US$1 = IL. .25)

II. Harvest & Crop Marketing Expenditures	Owned Area	Share-Cropped Area
1. Hired Labour (picking and packing of 14.6 dunums)	IL. 25, 550	IL. 17,500
2. Transport and Crates	IL. 32,704	IL. 22,400
3. Commission on Sales 10%	IL. 51,000	IL. 49,000
Total costs for Harvesting & Marketing	**IL.109,254**	**IL. 88,900**
Total cost in USdollars	**US$2,731**	**US$2,223**

III. Gross Income from Crop Sales (Marketable yield only)	Owned Area	Share-cropped Area
1. Tomatoes (32 Tons)	IL. 540,000	IL. 337,000 (20 tons)
2. Peppers (6.75)	IL. 168,750	—
3. Cucumbers	—	IL. 150,000 (10 tons)
4. Eggplants (11 tons)	IL. 220,000	—
5. Grapes	No yield 1st year	
6. Wheat	Subsistence Crop	Subsistence Crop
Total Gross Sales	**IL.928,750**	**IL. 487,000**
Total in USDollars	**US$23,218**	**US$12,175**

IV. Income	Owned Area		Share-cropped Area
1. Pre-Harvest Exp.	$9,350	1. Gross Sales	$12,175
2. Harvest & Marketing	$2,731	2. Less Harvest & Mark.	$ 2,223
3. Total Expenditure	$12,081	3. Net Sales Income	$ 9,952
4. Net Income	$11,137	4. Farmer's Share (50%)	$ 4,976
		5. Less Pre-Harvest Expenditure	$1,530
		6. Farmer's Net Income	$3, 446
Net Income Per Dunum	**$ 598**	**Net Income Per Dunum**	**$ 202**

Note: The total net income from both Owned and Share-cropped land is $14,583

differentiation is less so during the harvesting season when the Zbeidat peasant is compelled to hire extra help.

The farm budget of Salameh Abu Dabbus for the year 1979/1980 (Figure 10) clearly shows the magnitude of income increase after the introduction of drip irrigation. The budget accounts for 40.6 total dunums, 23.6 of which he owns (20 farmed under drip irrigation) and 17 of which he share-crops (ten farmed under drip) from the land of Abu Hashem. His 1979/80 crops on his own land break down as follows: 8d. tomatoes, 4.5d. peppers, 2.0d. eggplants, 5.0d. grapes and 4.0d. wheat. His 1979/80 crops on his share-cropped land break down as follows: 5d. tomatoes, 5d. cucumbers, and 7d. wheat. His net income per dunum of cultivated land (without counting an experimental plot in which he erected a vineyard) was US$598. From the 17 dunums he share-cropped from Abu Hashem, he netted US$202 per dunum. Abu Dabbus' total net income from both farms was US$14,583.

14. Family Income and Differentiation

Since land is the main source of livelihood for the vast majority of Zbeidaties, it is possible to measure household income on the basis of estimated cash return from the marketing of crops, while accounting for additional income accrued from ownership of capital goods (e.g., trucks, tractors), from wage labour, and from salaries. The basis of computation used can be summarised as follows:

a. Yield from marketed crops: The following distribution of cropping for an average farm was based on sample responses from 11 farmers: 71.5% tomatoes, 11% squash and cauliflower, 7% eggplants, 8% wheat and barley (for home use and fodder only),

5 do pepper. The return on marketed crop was calculated on the sis of Abu Dabbus' farm budget, outlined in Figure 10. lculations were made in dollars on the basis of two exchange es (US$1 = IL.25 for the pre-harvest prices (autumn 1979) and S$1 = IL.40 for the harvest and marketing prices (February 80)). Income from share-cropped land was calculated as a 33.8% rtion for each dunum of owned land, which is the net income e to the farmer after all expenses are paid to the landlord. Income om rented land was considered under the same terms, but as wned land minus the cash rental.

Capital goods: The ownership of a tractor (or a truck) was nsidered as contributing to the farm income based on the ssumption that a tractor is used fully for four months a year, inging its owner(s) a net rental of IL.800 a day.

Wages: were calculated on the basis of 10 months' work (at 21 ays per month), minus these two months for the harvest season nd estimated payment of IL.300 per day. The teacher's salary as assumed to be IL.8000 monthly. Since most households have hildren and since women occasionally work at Argaman, it was ifficult to establish their exact number. It was decided that their ncome should be left unaccounted for, especially since children's ages rarely contribute to the household income. It should be ssumed, therefore, that per capita figures below are slightly nderestimated because of this factor.

. Per capita Income: Per capita figures, rather than household ncome figures, were used for ranking income groups because of ne wide variation in household size - ranging from three persons o 30, with an average of 13 members per joint household.
igure 11 reveals several features of income distribution in Zbeidat.

Figure 11: By Per Capita Income, Average Household Income, and Average Cultivated Area, Zbeidat 1979/1980

Per Capita Income (USdollars)	Number of joint households	Average No. members/ household	Average household income (USdollars)	Average Cultivated area (dunums)
1,000-2,500	5	10.6	US$15,161	31.7
700-999	6	14.7	11,074	31.2
500-699	8	12.4	7,409	21.4
300-499	8	12.5	4,616	16.9
200-299	2	19.0	4,704	6.9
US$748 (avg)	**29 (total)**	**13.0 (avg)**	**US$8,547 (avg)**	**22.3d. (avg)**

First, the figures confirm our initial hypothesis that there is a higher degree of homogeneity in Zbeidat social conditions than elsewhere in the West Bank. The 3:1 ratio in average household income between the highest and the lowest income group is hardly an indication of extreme distribution of "wealth" (if the word may be used). Furthermore, several disguised sources of additional income have been neglected here because of their marginal nature — these include wages for seasonal work by women and children and income from animal husbandry and carpet weaving. If anything, these items are likely to further decrease the gap between the lower income groups and the higher ones since the small size of the average plot in the lowest group (6.9 dunums) tends to encourage higher wage labour participation.

Second, there is a definite relationship between the average area cultivated and the income group. This is not self-evident since the total average area cultivated includes a combination of owned, share-cropped and rented land. Since the owned area is fixed, the two variables which determine the farmer's ability to rent/share-crop are the excess number of household members not needed for working the possessed land, and the surplus money he can invest in share-cropping/rentals. It is this latter point which may explain the correlation between income and total average cultivated area.

Third, there is an interesting absence of any correlation between income groups—for all categories—and membership in any of the four sub-clans. If we take land ownership alone, we notice such a differentiation based on clan membership. For example, the Shahabat sub-clan, which constitutes 32% of the village population, owns 41% of all village cultivated land (excluding leased land), while the al-Mahameed sub-clan (10.1% of the population) owns only 7% of village land. This "levelling" effect

Figure 12: Illiteracy and Education Levels in Zbeidat by Sex for Households Owning Land

	Total	Males	Females
Illiterates	69	20	49
Total Schooled	97	68	29
Primary Level	57	32	25
Intermediate Level	27	24	3
Secondary Level	10	9	1
Post-Secondary	3	3	-

of sub-clan membership can be explained by the fact that Zbeidatis from clans with smaller land-holdings have access to surplus land from absentee landlords for share-cropping.

15. Occupational Structure and Demographic Characteristics

The occupational distribution of Zbeidatis does not cover a wide range as peasant farming is, overwhelmingly, the chief occupation. The number of households which are mainly dependent on wage labour employment is only marginal. The following occupational categories have been enumerated in Zbeidat: 32 farming households, including, more specifically, eleven owner-cultivator households, ten owner/share-croppers, eight share-croppers only, two owner/tenants and one tenant farmer. There are four owners of tractors, one truck owner, four full-time wage workers, one shopkeeper, and one salaried employee (government teacher). These categories do not include a number of male seasonal wage workers who obtain employment during agricultural lulls, nor the numerous women and children who seek daily work seasonally in neighbouring settlements and in Marj Na'je.

In the above listing, the farm labour of household members (brothers, sons, wives, unmarried daughters) has been accounted for under the category of the single joint farming household. On average, about one third of the household members in Zbeidat should be considered active on the family farm (i.e. those aged between 15 and 60 years, excluding male students and part-time wage workers). For the age-sex composition of households, and for a more detailed breakdown of demographic characteristics, see the second part of this report which focuses on health conditions in Zbeidat.

It should be noted that dependence on female farm labour lends a positive incentive for Zbeidaties to keep their daughters illiterate, a tendency which is reinforced by the traditional low status females hold in a semi-nomadic community. The data acquired from 23 households in whose names the land is registered (231 members) show two and half times as many illiterate females as males over 15 years old. Most girls left school after finishing six years while a third of those males who have received any education continued to at least the intermediate level (9 years). The reader is cautioned that figures for schooling years appearing in Figure 12 tend to upgrade the level of education in Zbeidat, since the households concerned contain a demographically older population than the rest of the village. Hence, both illiteracy rates and years spent in school would be higher than those for the village as a whole.

16. The Agricultural Cycle and the Work Process

The introduction of drip irrigation drastically altered agricultural labour allocation as well as the division of labour among men, women and children. The change can be summarised in the following points:

a. Drip and its associated technology (plastic sheaths, built in fertilisation, mechanical irrigation) alleviated the farmer of the burdensome tasks of preparing the field and clearing the furrow canals before, during, and after the planting season. Drip is labour - saving during irrigation periods, and the tractor performs tasks (in addition to ploughing) which used to be performed by hand. These tasks include: harrowing of earth lumps after ploughing, manuring with organic zibl, and mixing manure with the soil before transplants. All these tasks were performed by men.

b. With the exception of hormones and insecticides, which men spray using portable sprayers and which women follow with liquid fillers, fertilisation now is a completely mechanised process.

c. Increased productivity led to a higher demand for labour, including hired labour, during the harvest season. All family members pick and harvest vegetables, but women bear the main brunt of the workload during the season. Packing vegetables, on the other hand, requires the participation of men who grade the different qualities of the produce to be marketed and who carry the wooden containers to the trucks.
This division of labour, and changes in the work process in general, are determined by the annual agricultural cycle on the peasant's farm and the cropping arrangement for that year. Figure 13 below delineates work patterns and crop arrangements according to each month of the year.

One of the main benefits of drip irrigation in Zbeidat has been the farmers ability to market their produce to West Bank and Jordanian markets between three weeks and a month before the winter vegetables, produced elsewhere, reach the market. In a period when frost damage to vegetables is extensive (1979/1980 for

example), shortages hike the wholesale and retail prices considerably. This is to the benefit of Zbeidat farmers, even when their own crops are affected by frost.

As can be seen from Figure 13, the cropping arrangement is such that most household labour is occupied throughout the year, with a brief lull in activity towards the end of June and during July. By early August, ground preparation for the autumn cycle begins. The present cropping arrangement depicted in Figure 13 contrasts with the previous method which is represented in Figure 14 on the next page.

Comparing the present cropping scheme with the previous method (outlined above) one can see a number of important changes. To begin, with the substantial increase in cash crops, significantly less area is devoted towards subsistence crops today than in 1953. Furthermore, fallowing has decreased as an agricultural practice to the point of extinction. In 1953, 25-30% of a plot was left to fallow over the two - year cycle. The impact of intensive use of chemicals on the soil is beyond the scope of this report, but it should be considered in forthcoming studies.

Another difference is that the area allotted to foddercrop in 1953 was considerably more than it is today. The reason lies in the decline of cattle raising as a result of the contraction of grazing land — due to fencing, security zones, etc... — and the reported shooting of cattle by Israeli soldiers who use the livestock for "target practising."

The extensive utilisation of tractors, plastic coverings, drip and fertilisers led to the transformation of work tasks associated with each one of these agricultural practices. A summary of the division of labour and related tasks can be seen in Figure 15 below.

Figure 13: Annual Cycle of Work and Rest in Zbeidat

A. First Six Months of Agricultural Cycle

Nature of Activity	Aug.	Sept.	Oct.	Nov.	Dec.	Jan
Ploughing & Harrowing						
Farrowing & Manuring	X[2]					
Laying of Drip Lines	X[2]					
Spreading of Plastic Sheaths	X					
Sowing & Transplanting		T, Ca, E, S, P	T, Ca, S, Fa	Wh, B, P2	Cu, Wh	Wh, B, Wa
Spraying Insecticides			X	X		
Spraying of Hormones					X	
Weeding	X			X		
Picking & Harvesting				E	E,S	T, Ca, Fa, S, P1

Note: for key of symbols see next page

Nature of Activity	Aug.	Sept.	Oct.	Nov.	Dec.	Jan
Hiring Extra Labour				X		X
School Vacation	X					
No Crops Available for Home Consumption	X	X	X			
Rest from Ag. Work						
Visiting Relative in Jordan						
Cash Available						
Marriages						
Rain				X	X	X
Weather	Very Hot	Very Hot	Hot	Warm	Mod-erate	Mod/Cold
Ramadan Fast (1980-1990)	1/2					
Peak Work Periods	men	men	men & women	men & women		

KEY: T: tomatoes; Ca: cauliflower, E: eggplants, Fa: fava beans; S: squash; $P^{1,2}$: Pepper (1st and 2nd planting); Wh: wheat; B: barley; Cu: cucumber; Wa: watermelon.

B. Last Six Months of Agricultural Cycle

Nature of Activity	Feb	Mar.	Apr.	May	June	July
Ploughing & Harrowing				X	X	
Farrowing & Manuring					X^1	
Laying of Drip Lines					X^1	X
Spreading of Plastic Sheaths						
Sowing & Transplanting	Corn	Corn				
Spraying Insecticides			X	X		
Spraying of Hormones					X	
Weeding						
Picking & Harvesting	T, Cu Ca, Fa, E	T, Cu, E, P^2	T, Wh, B, Wa, E	Wh, B, Wa, E	Wh, B, Corn	Corn
Hiring Extra Labour School Vacation	X	X			X	X

B. Agricultural Cycle (Continued)

Nature of Activity	Feb	Mar.	Apr.	May	June	July
No Crops Available for						X
Home Consumption						
Rest from Ag. Work					X(1/2)	X
Visiting Relative in Jordan						X
Cash Available		X	X	X	X	X
Marriages					X	X
Rain	X	X				
Weather	Mod/ Cold	Mod.	Warm	Warm	Hot	Very Hot
Ramadan Fast (1980-1990)						X (3/4)
Peak Work Periods	men & women	men, women, child.	men & women, child.	men	men	

KEY: T: tomatoes; Ca: cauliflower, E: eggplants, Fa: fava beans; S: squash; $P^{1,2}$: Pepper (1st and 2nd planting); Wh: wheat; B: barley; Cu: cucumber; Wa: watermelon.

Figure 15: Division of Labour and Related Work Tasks, Before and After Drip Irrigation

A. Before Drip Irrigation

Work Task	machine	men	women	children
Ploughing	X	X		
Harrowing		X		
Farrowing		X		
Manuring		X		
Covering Manure		X		
Irrigation & Cleaning Furrows		X		
Plastics & Driplines	N.A.	N.A.		
Sowing & Transplanting		X	X	
Weeding			X	X
Spraying	X	X	X	
Fertilization		X	X	
Harvesting		X	X	X
Packing		X	X	
Hauling		X	X	
Peddling by Road	N.A.	? N.A.	N.A.	X
Clearing Driplines & Plastic Sheaths				

B. After Drip Irrigation					
Work Task	machine	men	women	children	change
Ploughing	X				X
Harrowing	X				X
Farrowing	X				X
Manuring	X	X			
Covering Manure	X		X		
Irrigation &	X				X
Cleaning Furrows					
Plastics & Driplines	X	X	X		X
Sowing & Transplanting		X	X		
Weeding			X	X	
Spraying	X	X	X		
Fertilization	X				X
Harvesting		X	X	X	
Packing		X	X		
Hauling		X	X		
Peddling by Road				X	
Clearing Driplines & Plastic Sheaths			X	X	X

Thus, of the 16 main work tasks associated with the agricultural cycle, eight have been substantially altered. Some of the change has been labour displacing, primarily due to the expanded functions of the tractor in harrowing., furrowing and manuring, and to the built-in fertilisation process in the drip system. Others have been labour demanding, especially the extra work during the harvest season and the related tasks of packing, hauling and clearing. The net effect has been:

a. An increased workload for women and children.

b. A decrease in the exhausting burdens of men, especially work associated in the past with furrow irrigation, but also a corresponding increase in technical and marketing tasks.

c. An increased demand for hired labour during the harvest season.

The peak demand for hired labour in Zbeidat takes place during the tomato picking season in March and April. The most common pattern of hiring places gangs of women workers (usually a team of four to five women) under supervision by a man. Those women are recruited through a labour contractor (usually a truck owner who provides their transport from and to their homes) who deals directly with the farmer. The contractor charges the farmer for the gang, which in the spring season of 1980) was at the rate of IL.200 (US$5) per woman per day. In turn, the contractor pays them half of the earnings at IL.100 (US$2.5) per day, pocketing half, ostensibly in payment for transport and "protection". The women also receive a basket of the pick (amounting to about 20 kg) and one meal. The work day is seven hours, beginning at 6 a.m. (the sun is too hot for work in the valley after 1 p.m.). Men receive, on average, IL.250 (US$6) net for the same work.

The women of Zbeidat are preferred as hired workers to those recruited gangs, since they work longer for only a marginally higher wage (from which, of course, no deductions are made). But they happen to be in short supply precisely when the demand for labour is high; at those times they work their own family farms. During the later periods of harvest, when their own household needs are met, they occasionally hire themselves and their children to the Jewish settlements nearby, picking flowers and vegetables.

During the sowing period, the pressure for hired labour is much lower and the custom in Zbeidat (as well as in Marj Na'je) is for farmers to mutually help each other at no cost, when they finish sowing their own fields.

One major consequence of this increased demand for family labour is the negative impact it has had on the education of male and especially female children. While the gender gap in education has been tending toward closure in West Bank rural areas, most Zbeidati women remain illiterate. (See Figure 12, above). The villagers themselves explain this by referring to the long walk along the major highway (2.5 km. north) to Marj Na'je to attend school. However, it is obvious to us that childrens' participation in the farm workforce has been a crucial impediment to female education.

The marriage pattern in Zbeidat also reflects this high demand for women's work. Zbeidati women marry late by West Bank standards, at 19 years on average. In the majority of cases they marry their first cousin or other close kin. Figure 16 reveals that of the 33 known cases, 19 men (58%) married their immediate cousins (generally their maternal cousins, the rest "banat am"); 10 of them (30%) married other relatives within Zbeidat; and only four (12%) married "strangers" (i.e. non-Zbeidatis). In Zbeidat,

Fig. 16: Degrees of Endogamy in Zbeidati Marriages; Relation of Wife to Husband

	Number of Marriages	% of Marriages
First Cousin	9	58%
From same Sub-clan	5	15%
From different Sub-clan	5	15%
Stranger	4	12%
Total Known	33	100%
Total Marriages	63	-

the "strange" mostly refugee women from neighbouring Marj Na'je are known as "fellaheen" (peasants) in distinction to the Bedouin origins of the Zbeidat tribe. Late marriages can be explained by the need for a woman's work in her father's and brother's joint farm.

Cousin marriage, in part, serves a similar function, since the woman remains within reach of her father's household—and they within hers in case of disputes with her husband. After marriage, however, a woman's labour is primarily for the benefit of her husband's farm. Another important reason for cousin marriage is the low (or even nominal) sum which is paid as brideprice "mahr". In cases of marriages outside the sub-clan, this sum amounts to JD 500-1000 (about US$1500-US$3000), with even higher sums for "stranger" brides. Zbeidatis, it must be added, never give their women in marriage to outsiders, except to their co-tribe members in Trans-Jordan, and (in one case) in Beer-Sheba.

17. The Marketing Network

In Zbeidat there are four main systems of marketing the yield, all of which apply to field crops:

a. Sales to wholesalers via the commission-agent: The disadvantageous relationship between the farmer and the intermediary, especially when the latter is himself the landlord, was discussed in some detail above. Crop sales through the commission-agent continue to be the central method of marketing in Zbeidat. Because of the surplus in disposable income after the high yields, farmers are no longer indebted to commission-agents for their credit advances, at least not to the same extend as before. They are, therefore, freed to sell at the market of their choice. They still need the commission-agent for the transport and auctioning of produce and for the provision of packing boxes.

b. Export to Jordan: Representatives of the Jordanian government issue special "certificates of origin" which theoretically allow farmers to ship up to 50% of their estimated yields to Jordan. Marketing in this system, which is highly advantageous to the farmer because of the (usually) higher prices in Jordan, is also conducted through wholesale merchants and commission-agents. Over the last two years Zbeidat farmers exported about 25% of their produce to Jordan. The main obstacles facing such export arrangement come when there is a delay in granting "certificates of origin" to farmers beyond the period during which their vegetables can fetch satisfactory prices.

This is apparently caused by the pressure exerted on the Jordanian government by the wholesale merchants in the East Bank (who act as agents and commission-agents for the East Ghor big

landlords) to prevent lowering their prices through competition with the West Bank crops. The pro-consumer policies of the late prime minister Abd al-Hameed Sharaf, who died July 1980, began to rectify these practices.[29] As of this writing, it is too early to tell whether these policies will continue or not.

Many Zbeidat farmers have complained that big farmers from the Jiftlek area have attempted to acquire certificates of origin with the Zbeidat name so as to market Jiftlek crops. These attempts constituted a main incentive for Zbeidat to establish a marketing co-operative of their own.

c. Crop Leasing ("Daman Mahsul"): This practice flourished after drip irrigation was installed. It is practised by farmers who need cash in advance and who otherwise have problems in recruiting, or paying for, extra labour. Wholesale merchants make an estimate of the crop yield immediately after the seedlings blossom and then they make an offer to the farmer. If he agrees, payment is made in advance and all picking, packing and marketing of the vegetables becomes the responsibility of the wholesale merchant. Crop leasing is done only for a portion of the fields, usually one dunum at a time, as the farmer always hopes to get better prices by marketing his crops at the hisbeh. In spring 1980, wholesalers for tomatoes to Haifa fetched a gross income of IL.40,000 (US$1,000) per dunum at Zbeidat.

d. Direct sales to retailers and the public: This takes the form of peddling by the main highway and is performed by children and old people (see plate No.8). Zbeidat fields are well situated along the Jericho-Beisan highway, and it is relatively easy to carry the tomatoes and cauliflower boxes to the road where motorists can stop and bargain for the price. Peddling is done mostly at the very

beginning of the harvest (when the vegetables attract an extremely high price) and towards the very end of the season, when the quality of the vegetables become unmarketable. Such direct sales constitute a marginal, but important, source of marketing in Zbeidat because it eliminates the need for brokers.

In summary, the introduction of drip irrigation has somewhat ameliorated the position of the Zbeidat farmer versus the commission agents and the landlords, but has not changed the fundamental structure of their relationship. The farmer continues to be dependent on them for his marketing needs. At best he can circumvent the system by selling directly to the Israeli wholesaler by crop-leasing when the prices are appropriate, or doing his best to acquire "certificates of origin" in order to export his produce to Jordan on his own.

18. Argaman and Zbeidat

The growth of Argaman, an Israeli settlement adjoining Zbeidat, is reviewed in appendix A of this report. One of the main problems that has plagued Argaman since its establishment in 1968, a problem which determines its relationship to both Zbeidat and Marj Na'je, is labour shortage. In Argaman there are currently thirty couples and fifty children.[30] Utilising highly capital-intensive cultivation (flowers for export and field crops) a 25-dunum plot appears to be beyond the cropping capacity of the nuclear household during harvest time. There are no sources of Jewish labour to tap in the area, except for the occasional European volunteer worker from abroad.

Several Argaman farmers attempted to solve this problem a few years ago by leasing their plots to Arab melon farmers from

Nazareth, a practice prohibited by the Jewish Agency. When the leases became known in the 1977/78 season, a scandal ensued after which the Argaman farmers were severely reprimanded.[31] While leasing moshav lands to Arabs is prohibited, the hiring of Arab workers, while officially discouraged, is widely practised in the Jordan valley. Argaman farmers prefer women workers since they are cheaper to hire (IL.200-220, or $5 - $5.5 per day), and recruit most of their labourers from the Far'a Valley and Tammoun village.[32] A member of the moshav secretariat claimed that they prefer not to hire Zbeidati women because neighbourly relations with the village prevent them from imposing discipline on their work.[33] During harvest, however, an average of 12-15 women from Zbeidat work daily in Argaman. Children (12-16 years) are also employed seasonally in the flower hothouses for IL.60-75 per day's work (US$1.5 - US$1.8).

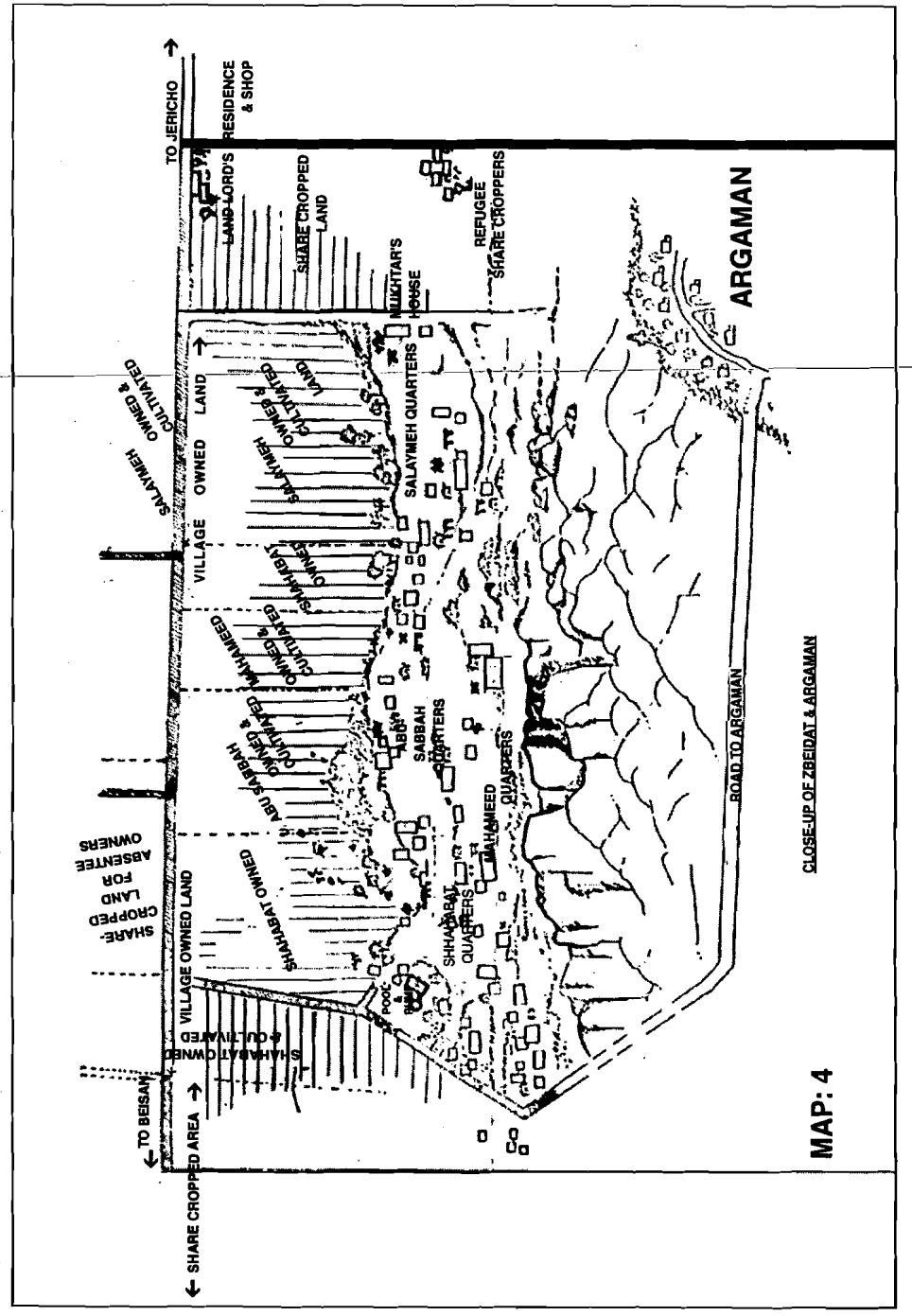
Argaman and Zbeidat farmers also exchange produce surpluses, mainly in subsistence crops, and occasionally the moshav sells Zbeidat farmers drip pipes which they (i.e. the moshav) receive at subsidised rates from the Israeli company Netafim. Furthermore, Zbeidatis are allowed to use the Argaman garage to fix their electric generators when they fail to get a mechanic's help from Nablus or Jericho, and they often buy frozen chicken and milk products from the Argaman general store, products that are not available in the two village shops.

Relations between Argaman and Zbeidat are restrained and "correct" but have their moments of strain.The villagers differentiate between the Israeli army - which has a permanent presence in this border area - and the Jewish farmers. They recall with bitterness, however, that the establishment of Argaman robbed them of 60 dunums or 80 of their unfenced land (20% of the total)

which was taken as compensation for landholders on whose property Argaman was built. The presence of the settlement also prevented Zbeidat shepherds from grazing their cattle on the hilly grassland where the moshav in now located. Security alerts, which are not infrequent, cause strain between the settlement and the village. When they happen, the gates of the settlement are locked to all outsiders and Zbeidat farmers are often refused entry to their own fields by the army.

It would be difficult to assess the future relationship between Zbeidat and Argaman in isolation from policies determining the growth of Jewish settlements in the Jordan Valley Rift and the West Bank in general. At the moment, Argaman cultivates between 300-500 dunums (depending on the season and year), but in fact has access to another 1,500 dunums allocated to it by the Jewish Agency in 1971 (see Appendix A) which it does not crop for lack of manpower.

The Israeli authorities have, furthermore, confiscated all the cultivable land between Zbeidat and Makhrouq, an area which includes altogether (aside from the dunums fenced off by the army for "security" reasons) about 6,000 dunums. This area is set aside for the future growth of planned settlements and for the "thickening" of existing settlements (see Map 1).[34] Aside from the fenced off area, this land happens to be the only cultivable land left which the land-hungry farmers of Zbeidat, Jiftlek and Makhrouq might have potentially expanded onto. The resolution of these conflicting claims, however, can only be dealt with politically, in the general determination of the future status of the West Bank.



19. Summary and Conclusions

We have attempted to show in this report how the introduction of an "intermediate technology" such as drip irrigation had the consequence of substantively altering the material and social conditions of the farmers of Zbeidat. Our study of the recent history of Zbeidat since the 1950s has led us to believe that the village was on its way to disintegration as a peasant community. The reasons lie in four related factors: (a) the rising costs of agricultural inputs; (b) low productivity related to the salinity of soil and primitive techniques of irrigation (furrow canals); (c) demographic pressures on owned and (the limited) share-cropped plots, with the resultant decrease of cultivated area per cropper; and (d) the confiscation and fencing-off of cultivable land by the Israeli army. By 1975, an increasing number of Zbeidat farmers were beginning to work as wage labourers in neighbouring Jewish settlements and a number had neglected their farmland. The introduction of drip irrigation not only reversed this trend but also created a new situation of acute labor shortage, especially during the harvest period.

The impact of drip irrigation can thus be summarised in the following points:

1. A substantial increase in the crop yields over that obtained from furrow irrigation (between three to six times the tonnage weight, depending on the crop) and a consequent improvement of the farmer's material conditions (between five to ten times the income per dunum over the previous method) due to early harvests and increased production. Zbeidat farmers today have accumulated a surplus of disposable income, probably for the first time in their lives.

2. The creation of a disposable surplus has freed the Zbeidat farmer from his exploitative and usurious dependence on commission agents, since he no longer needs them for advanced credit and can buy his inputs directly from the market. However, he is still dependent on commission agents for a great portion of his marketing outlets and on the absentee landlords with whom most farmers enter into share-cropping agreements. There is no doubt, however, that increased disposable income has improved the farmer's bargaining power with both the commission agent and the landlord.

3. The new agricultural technology has altered the nature of the work process by alleviating the heavy burdens associated with furrow agriculture, especially those related to canal clearing during irrigation which were done mostly by men. On the converse side, it increased the work demanded from women and children, especially during harvest. The increased demand for hired labour was easily met by the higher returns from crop-production.

4. The collective use of water sources in the centralised PVC system has had the unforeseen "political" function of compelling local farmers to unite and work in co-ordination. Previously, the "share-system" which allotted each cultivating household a water portion from the common well (depending on the size of his plot, etc.), had fostered a vicious form of peasant individualism which had almost sabotaged the attempt to install drip from the beginning. The drip system, by virtue of its centralised mechanism, superseded the water sharing system, and restored a sense of cohesiveness to a community which was suffering as it made the transition from a semi-settled Bedouin tribe to a fully-fledged peasant community.

5. Drip irrigation allowed the farmer to sustain the demands of an increased population over the same limited cultivated area. This

trend has reached its upper limits, in our estimates, the current state of agricultural technology in the area is such that only the switch to hot houses can enhance crop yields beyond those already generated by drip irrigation. But that would be an unlikely and unwelcome development. Unlikely because the capital costs required for the construction of hot houses are beyond the existing and potential wealth of 90% of Zbeidat farmers. Unwelcome because it is capital intensive and (for the most) labour displacing. Such a change is also likely to cause unhealthy differentiations of wealth in this homogenous community and the attendant strains of such discrepancy.

6. Drip irrigation has further integrated the Zbeidat farmer into the Jordanian, Israeli, and international marketing network. Price fluctuations in input costs and prices of crops have become the farmer's chief concerns aside from his traditional worries over the weather. This situation has created a new dependency in the Zbeidat community on a whole constellation of forces associated with drip technology: scientific farming: seedling nurseries, hormone treatments, hybrid seeds, maintenance engineers, long-lasting drip pipes, etc. In a paradoxical way this new dependence has replaced the earlier dependence on commission agents.

It is not the view of this report, however, that one evil has been replaced by another. While the former problem is associated with the semi-feudal and backward agricultural conditions which prevailed before the installation of the drip system, techno-economic dependence is the world-wide consequence resulting from the subordination of a peasant community to capitalist relations in agricultural production. A certain level of control over these relations can be obtained in part through proper co-operative organisation.

The success of the Zbeidat project was contingent on the availability of an external organisation, the Mennonite Council of Churches, which was willing to extend the initial capital investment, and later subsidise (at the rate of 25% of the total expenses) the cost of introducing an alternative technological reorganisation of agriculture. It also depended on the presence of a homogenous community, tribally-based in our case, which could have responded collectively to the technological introduction. Had these conditions not been met, the drip technology would have been introduced anyway-as the case in Jiftlek and the southern Ghor areas clearly attest-by the landlord. In that case, the uneven and exploitative relationship between absentee owner and share-cropper would have been further accentuated, at least for the short run.

The success of Zbeidat farmers in improving their bargaining power should, however, not obscure two long-term obstacles that face them today: First, how are they to invest their surplus disposable income? Second, how are they going to organise themselves in such a way as to overcome the problems of marketing that emerged from the increased (and earlier) harvest?

In a word, both the traditional, consensus-based decision making leadership and the individual peasant household in Zbeidat are now challenged by having to face the demands of the external world under changed circumstances.

Two events in 1980 are likely to shed important light on the direction Zbeidat will take in facing these central issues. The first event was the January granting of a building permit by the Jericho military governor. This permit arrived after the villagers struggled for 13 years of struggle toward establishing their legal rights to

the land. Since investment in private dwellings constitutes the first objective for peasants who accumulate money, the denial of building permits (due to the presumed miri status of the land) reinforced the instability of Zbeidat's farmers' relationship to their land and constituted an obstacle for any form of investment aimed at village development. At the moment of writing (summer 1980) about thirty nuclear and joint households (almost 50% of the total) had prepared for building permanent brick houses, at the cost of JD 800-1,500 (US$2,640-US$5,000) per unit. For the rest, two more years would be needed before they could accrue such a sum.

The important question here lies not in the potential differentiation between wealthy and poorer peasants, but in whether Zbeidatis are going to invest their newly accumulated surplus in infrastructural projects for the development of the whole village or rather in ways that foster peasant individualism. While the seeds of wealth differences among households can be seen in the contrasting indices of consumption items (ownership of refrigerators, TVs, electric generators, etc.) the majority of Zbeidat farmers realise that communal projects (much as piped water) may be a prerequisite for their own individual welfare. In this respect, the example of the centralised irrigation system (see item No.4 above) has been an illustrative and eye-opening example.

The second event was a meeting held in Zbeidat on 7 July 1980, with the purpose of establishing a marketing co-operative society. The meeting was attended by the West Bank secretary of co-operatives, the Mukhtar of Zbeidat, and seven leading farmers and heads of hamayel (Clans). While all of those present recognised the potential benefits of registering their own co-operative, it became clear that the organisational power of Zbeidat was not up to par with that of neighbouring landlords in Jiftlek and Jericho

who have developed strong connections with the Jordanian authorities and West Bank wholesalers. The director of co-operatives' suggestion that Zbeidat farmers join the already existing Jiftlek marketing co-operative was firmly rejected by the Zbeidatis. In Jiftlek (see Map 1) it should be clarified, the control of water resources is firmly in the hands of the absentee landlords from Nablus (average ownership 200 dunums), while small farmers and share-croppers (average 15-25 dunums) have established two separate and uneven co-operative marketing societies.[35]

It transpired during the meeting that three of Zbeidat's own landlords (including the resident landlord) had discretely signed up their names in the Jiftlek society, an act which re-enforced fears among the Zbeidatis that the Jiftlek farmers are out to "swallow" them. At stake in particular was the procurement of "certificates of origin" (see above) for the export of West Ghor vegetables to Jordan. Zbeidat farmers feared, on the basis of past experience, that the Jiftlek landowners would manipulate the nominal presence of the Zbeidat farmers in the proposed joint society to the benefit of the big farmers in Jiftlek.

In conclusion, it seems that there are inherent limitations in the capacity of Zbeidat peasants, regardless how well organised they may become, to transcend the obstacles imposed on them by the alliance of commission agents, landlords, and vegetable wholesalers in the hisbehs of Nablus, Jericho and Amman. At best, they can establish a supplies co-operative which will improve their buying power for agricultural inputs and cancel the projects of intermediate agents.

They can also sponsor a maintenance system for their dilapidated water pump and for the drip system, thus reducing the magnitude

of their "technological dependency." They can even make a deal with the Jiftlek marketing co-operative which might enhance their marketing possibilities by acquiring "certificates of origin" without having to go through a number of brokers. But the system is ultimately rigged against them, and the constellation of forces facing them are too powerful to confront without a substantial change in the agrarian regime that has established itself firmly in the Jordan Valley.

20. Recommendations

In the concluding section above, it was indicated that the important question facing the Zbeidat community was whether they would invest their newly accumulated disposable surplus in developing the village infrastructure or in private consumption outlets. It is presumed, of course, that several of the better-off households will buy capital goods (tractors for leasing, hauling trucks, etc.), and others will capitalise on the bad services available to Zbeidat by establishing their own services (e.g. shared taxis, minibuses, etc.). These projects need not conflict with, and may facilitate the work of, communal projects. In the following recommendations, an attempt is made to follow an order of priority which corresponds to village needs as seen by Zbeidat people and as assessed by this evaluation:

A. Projects

1. Reservoir and running water grid: A location for the reservoir has already been made on a 25 metre high rocking elevation in the vicinity of Argaman, and a permit from the military authorities is pending. Water will be pumped from the main well (see Map 2) to the reservoir and will then be gravity-directed towards the pipe-

network feeding individual households. Running household water will improve the general sanitation and hygiene conditions in Zbeidat, and will relieve women from the burdensome daily task of carrying the water in exposed buckets from the main well to their homes. Care should be taken to treat the water before it is distributed from the reservoir to the grid.

2. Electrification: The existing four private generators must be replaced by a centralised medium-sized generator capable of serving the household needs of 1000 inhabitants, taking into account the future expansion of Zbeidat during the coming ten years. The present generators are worn out, weak and costly to maintain and repair. A full-time mechanic can be either trained or hired to maintain both the generator and the water pump. Since the latter is the heart and livelihood of the community's wealth, such an investment cannot be over-stressed given the continual breakdowns and inefficiency of the present pump.

Electrification will improve the general standards of village living, and will allow for modest workshops to operate (carpentry, mechanical works, etc.).

3. Internal Roads: Internal roads leading to the cultivated plots should be improved, and new roads within the village should be constructed. At present, motorcars cannot reach a majority of the houses in cases of emergency. There is a detailed mapping for internal roads in the new masterplan, but funds have to be allocated.

4. School: A high rate of drop-outs for girls and boys is caused by demands for their labour and by the distance they have to walk or cycle to reach the primary school in Marj Na'je and the preparatory school in Jiftlek. The latter cause for dropping-out can be

controlled by the construction of a primary school in Zbeidat. The villagers showed complete willingness to have a mixed school (co-educational) which is, of course, more feasible economically than the usual pattern of segregated schooling. A preparatory school (nine years) is also desirable, but it might be more economical in the short run to improve the transport routes to Jiftlek, or alternatively to have a joint preparatory school with Marj Na'je.

5. Clinic and Preventive Medicine (see second part).

6. **Landscaping and Children's Recreation:** The barrenness of the present village has been largely due to the instability of the farmers' title deeds. Now that building permits have been granted, a forestation and landscaping program should be initiated. The summer heat in the village, squeezed between the major highway and the granite rocks, is unbearable. The planting of trees can have a salutary effect on the weather and the scenery. A small swimming pool is feasible and can be constructed for the children to prevent them from playing in the present contaminated pool. Zbeidat is one of the few Palestinian villages where a swimming pool is not a luxury. There is place in a new masterplan for a village centre which can accommodate a meeting hall, co-operative offices, and children's playgrounds. Volunteer labour can be recruited from the local universities for the playground construction and forestation.

B. Follow-up and Intervention:

Follow-up on project proposals and implementation is extremely important in a village like Zbeidat where the historical dependency on commission agents and landlords, and abuse by government officials and the army have produced a sense of apathy and

powerlessness in the community. During the last five years, agricultural extension workers have made a breakthrough in this vicious cycle. The mediation of outside elements (community workers, agricultural experts, etc.) is needed both because of their expertise in a situation where scientific farming calls for it, and because of their perceived neutrality in conflicts between village factions.

Zbeidat farmers have been extremely responsive and innovative in their adaptation to a new system of agricultural technology. They will need guidance in the present conditions to help them set up an agricultural co-operative for marketing their produce, and for extending credit services and supplies to member farmers at reduced costs. The success of such an enterprise is likely to have wide ranging prospects for consolidating Zbeidat's grip on the land, and in controlling the financial fluctuations which has been a source of their misery in previous years. Simultaneously it will give the village a sense of power and independence which has so far been absent.

C. Research Follow-up:

It is hoped that this study will constitute a frame of reference for future assessment studies in the Zbeidat, Jiftlek and Marj Na'je regions. It is recognised that the conditions prevalent in Zbeidat have their own peculiarity and cannot be generalised for the whole Jordan Valley. But the particular combination of small fragmented landholdings, share-cropping and water scarcity, is one that the vast majority of farmers face under common conditions of poverty and exploitation. To investigate these conditions periodically could be a factor in helping them overcome their seemingly perpetual misery.

Appendix A: Moshav Argaman

Argaman, half a kilometre to the West, and built on the hills almost literally on top of Zbeidat, is not only one of those rare Herut settlements in the Jordan Valley, but also one of the very first Jewish settlements to be established in the West Bank (1968). While it was the adopted policy of the Labour Alignment (following the Allon Plan) to establish a permanent, agriculturally-based cordon of Israeli colonies between the river and the populated hilly areas of the West Bank, the Likud coalition later spearheaded by its Gush Emunim allies attempted to entrench themselves in the Hebron, Nablus and Ramallah hills. Argaman was the exception to this rule.

Both its ideological composition and the harsh living conditions in the Jordan Valley contributed to Argaman's continued non-viability as a settlement. In 1968 it was established as a Nahal (military outpost) named after two Israeli soldiers killed in clashes with Palestinian guerrillas across the Jordan River. From the status of a military outpost, Argaman was elevated to a civilian settlement in 1971 - the second such settlement in the Jordan Valley. It became a collective moshav ("moshav shitufi") a form of intermediate between a Kibbutz and co-operative settlement. Menahem Begin (then MK) and General Ezer Weizman officiated at the ceremony in which the Jewish Agency gave the settlers 2,000 dunums, out of which only 600 dunums at the time were cultivated (100 dunums by the drip method).[36] The crops included onions, winter tomatoes and eggplants (for export to England).

Although experts from the Technion and the Volcani Institute gave continued agricultural advice to Argaman farmers, the settlement failed to attract a substantial number of farmers: only 20 people

(including seven couples) ventured to stay. By 1972, the cultivated land had contracted to 350 dunums (half of what Argaman started with). An Israeli journalist had the following impression of the place at the time:

'From an agricultural and economic point of view [Argaman] was considered a failure. The impermeability of the ground did not allow for the salt to be removed, as in other places in the Jordan Valley. Perhaps for that reason leaders of the Moshav and Kibbutz movements refused to adopt the settlement. Near the site line the Bedouin tribe of Arab-al-Zbeidat and to the north Marj Na'je, inhabited by Muslems (sic.) who were not born loving Zionism.'[37]

By 1974, the cultivated area had further declined to 300 dunums, and all but three of the original settlers had left.[38] A decision was made in 1975 to change the status of the settlement to a co-operative (""Moshav ovdim") in which individual families cultivate separately, following ideological disputes and physical hardships which had threatened the unity of the formative group. Each new family was given a 20-25-dunum plot, and a co-operative turkey coop was added.

The gross annual income per Argaman household was calculated to be around IL.110,000 (US$5238) in 1976 compared to about IL.180,000 (US$8570) in neighbouring Petza'el (built on the lands of the Arab village of Fasa'il).[39]

In addition to the electric, water and housing infrastructures, the settlers were allotted a million-and-a half m^3 of water annually (compared with 300,000 c.m. for the whole village of Marj Na'je, with its 350 inhabitants and 700 dunums to cultivate). The turnover for 1975/1976 was IL2.7 million (US$128,570).[40]

ENDNOTES FOR PART I

1. Information obtained from the Mukhtar of Zbeidat Mr. Muhammad Ali Slimi, September, 1979.

2. Arham al-Damin, "Aghani Al-Urs fi Ghor al-Far'a (al-Jiftlik)". Heritage and Society, No. 11, al-Bireh, April 1979, p. 26.

3. Ibid., p. 29.

4. Interview with Mr. Suleiman al-Salih, and his son Hashem al-Salih (Mayor of Tubas)- Nablus, 25 April, 1980.

5. Ibid. There are conflicting reports as to how many dunums Argaman seized, ranging from 8,600 (Ibrahim Mater) to 1,000 (Ann Lesch, *Journal of Palestine Studies*, Vol. VIII:I 29: 105 ff.). The source of conflict it seems, is the difference between land confiscated in the vicinity of Argaman for future Israeli settlement, and the land actually tilled by Argaman. For the latter, I think the figure of 400 dunums used by Lesch (Ibid.) is reasonable on the basis of my personal observation.

6. Suleiman al-Salih, Ibid.

7. Interview with Mr. Hussein Ibrahim, teacher and record keeper for Zbeidat, October, 1979.

8. For variations in share-cropping arrangements in the Jordan Valley, see Hisham Sharat, *Agro-Economic Aspects of Tenancy in The East Jordan Valley* (Royal Scientific Society, Economic Research Department, Amman, 1975), pp. 27-40.

9. In discussing the 'lot viable" for an average peasant family during the Mandate, John Simpson refers to a variety of estimates for irrigated farming; the minimum being 10 dunums, the maximum (used by the Jewish Agency) 25 dunums. See Government of Palestine, Report on Immigration, *Land Settlement and Development*, London, 1930, pp. 61-63.

9a. Interview with Hussein Ibrahim, 8 June, 1980.

10. Interview with Mr. Mahmud al-Damin, Landlord, Nablus, 23 April, 1980.

11. Most of this information comes from Mr. Damin who himself is a descendent of Sheikh Mas'udi, the Prince of al-Masa'eed tribe.

12. Interview with Mr. Damin.

13. Interview with Mr. Damin and Mr. Farouk Abdel 'Al, secretary of the Jericho Agricultural Co-operative Society, 9 March, 1980.

14. Interview with Suleiman al-Salih, Ibid.

15. Sharab, Op. Cit., Table II-8, p. 28.

16. Jarir Dajani, *A Baseline Socio-Economic Study of the Southern Ghors and Wadi Araba*, (Amman, 1979), p.16.

17. The 7% commission is calculated in Israeli pounds, interest on delinquent payments in Jordanian dinars since the latter currency does not depreciate to the same extent as the Israeli.

18. Dajani, Op. Cit., p. 16-17.

19. Interview with Mr. Yehuda Levi, conducted by Yehuda Litani in Argaman, April 3, 1980.

20. Information from Mr. Ibrahim Matar, June 10, 1980.

21. Jericho Bureau of Agriculture, Water Statistics.

22. Paul Quiring, "Installation of Pressurized Water Convergence Pipeline in Marj Na'je Village", (proposal submitted by the Mennonite Central Committee, Jerusalem, 1978), p.2.

23. Kobe Sjoji, "Drip Irrigation", Scientific American, 237:5 (New York, April, 1977), pp. 62-68.

24. Ibid., p. 67.

25. Interview with Abdullah Muhammad Hasan, 22 February, 1980.

26. I am indebted to Dr. Najwa Makhul (Hebrew University, Jerusalem) for a discussion on this subject.

27. Ibrahim Matar and Yusef Azzeh, "Typical Farm Budgets for the years 1977 and 1978, unpublished report (Jerusalem, April 1978).

28. Ibid.

29. Farouk Abdel Al, Op. Cit.

30. From a brochure distributed by the Jordan Rift Settlements Association, March, 1980.

31 It is interesting to note that in all of these crises the Labour

Party was making capital of Argaman's misfortunes, using it as an example of Likud's "mismanagement" and weak settlement policy. See for example, "Mosher Argaman: Structures Photographed for Alignment Propaganda", *Ha'aretz*, 10/5/1977.

32. This and subsequent information from Mr. Yehuda Levi, member of Moshav
Argaman Secretariat (interviewed by Yehuda Litani, 3 April, 1980).

33. Yehuda Levi, Ibid.

34. See Mattiyahu Drobler, *Master Plan for the Development of Settlements in Judea and Samaria*, 1979-1983 (World Zionist Organisation, Department for Rural Settlement), Jerusalem, October, 1978.

35. Information from Mr. Abdel al-Ansari, Director of West Bank Co-operatives (Ramallah), and my own notes taken during the meeting, Zbeidat, 8 July, 1980.

36. "Argaman Declared a Civilian Settlement", *Ha'aretz*, 19/5/1971.

37. Nehman Fabian, 'A Member of Betar Needs to be a little Religious', *Ha'aretz*, 22/6/1972, p.10.

38. Yehuda Litani, 'There is No Permanent Settlement in Moshav Argaman in the Jordan Valley', *Ha'aretz*, 14/8/1974

39. Yair Kutler, 'Herut Moshavs: Words Versus Facts', *Har'aretz*, 2/7/1976, p.15.

40. 'Argaman Declared a Civilian Settlement', *Ha'aretz*, 19/5/1971, and conversations with Mr. Muhammad Abu Hilal.

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2. Dajani, Jarir, *A Baseline Socio-Economic Study of the Southern Ghors and Wadi Araba*, Amman, 1979.

3. Drobles, Mattiyahu, *Master Plan for the Development of Settlements in Judea and Samaria, 1979-1983*, World Zionist Organisation, (Department for Rural Settlement), Jerusalem, 1978.

4. Government of Palestine, *Report on Immigration, Land Settlement and Development*, London 1930.

5. *Ha'aretz* daily Hebrew newspaper), Jerusalem, issues of 19/5/1971,
22/6/1972, 14/8/1974, 2/7/1976, 10/5/1977.

6. Sharab, Hisham, *Agro-Economic Aspects of Tenancy* in *the East Ghors Jordan Valley*, Royal Scientific Society (Economic Research Department), Amman, 1975.

7. Shoji, Kobe, "Drip irrigation", *Scientific American* 237: New York. April, 1977.

8. Steitieh, Akram et al., *A Manual for the Main Vegetable Crops Grown in the East Jordan Valley*, University 1978.

9. Quiring, Paul, "Installation of Pressurized Water Convergence Pipeline in Marj Na'je Village," mimeographed, Jerusalem, 1978.

Plate 1.

General view of the middle area of Zbeidat, overlooking the cultivated plots owned by the village. The Jericho - Beisan highway divides the cultivated land horizontally at the centre of the photograph. The river Jordan and the mountains of Moab appear in the horizon. In the foreground one can see the granite-like barren rocks leading to Argaman. This picture was taken in June 1980, when most fields were resting before preparation for the autumn sowing.

Plate 2.

The tomato harvest reaches its peak in March/April, when extra labour has to be hired by the peasant household to take advantage of the higher prices from early marketing. The whole family takes to the fields then, with women and children doing the main picking, a men grading the tomatoes before packing them in crates supplied by the commission agents. They are then carried to the waiting trucks (centre right of picture) and shipped to the Nablus hisbeh, or to Amman for export across the bridge. On the top left the watch-tower of Argaman can be seen, overlooking Zbeidat.

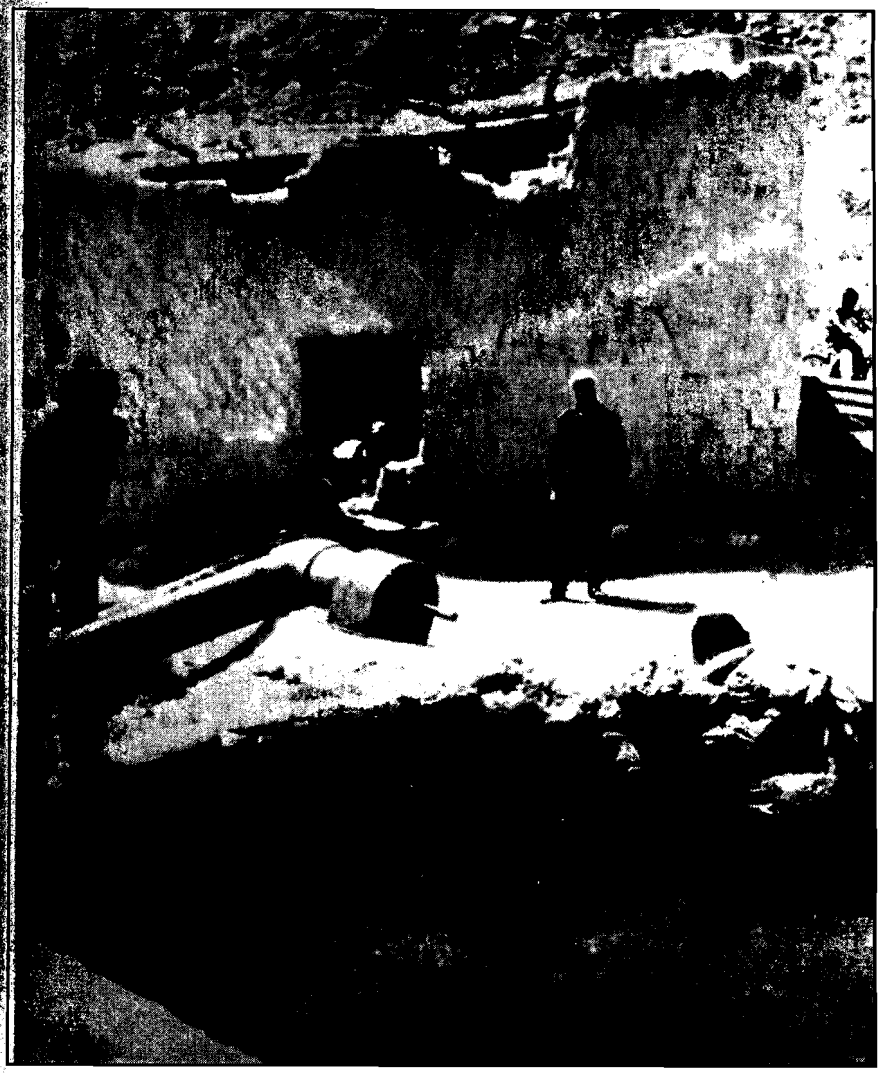


Plate 3.

The dilapidated water-pump room and water pool are linked directly to the PVC system which distributes water to the 311 dunums of irrigated land. This system replaces the outmoded dirt canals which were fed from the well via this pool. Centralized drip irrigation has eliminated water disputes which used to play a decisive role in the community. However, a new dependency has been created, related to the use of sophisticated agricultural technology, fluctuating markets, and expensive hybrid seeds and seedlings.

Plate 4.

A typical Zbeidat mudhouse and shack. The latter, in the foreground (covered with plastic sheaths), is ued as a makeshift kitchen. The protucding porch is often used for storage of wheat, sugar and rice--for the lack of space inside the house. Most families own a cow or two, chicken and/or pigeons for domestic consumption.

Ninety percent of Zbeidat agriculture is composed of cash crops, with occasional cultivation of wheat and barley for fodder and backing.

By 1981, it is expected that half of the existing mud dwellings would be replaced by brick units. The extent that this will indicate the emergence of new status distinctions in the community is hard to tell at this stage.

Plate 5.

The family of Salameh Abu Dabbus, the first Zbeidat farmer to introduce drip irrigation on village plots. He lives in a 2.5-room house with his parents, his two wives and nine children. He married his second wife (on the left, holding the child) in 1977. His father, Salem, is too old to take care of the land and has elegated his authority to Salameh.

Salameh is fond of telling the story of the Argaman farmer who visited him while installing his drip lines in 1977, and boasted that his 20 dunum plot in Argaman yields as much produce as the whole of Zbeidat. In the 1978 season, Salameh's farm, using the new technique, produced 9 tons of tomatoes per dunum. Salameh relates how he then took the Argaman farmer to his fields and, pointing to his tomatoes, said: "This plot produces as much as the whole of Argaman's land".

Plate 6.

The Mukhtar of Zbeidat, Muhammad Silmi, with his youngest son, the son's newly wed wife, and some of the Muktar's many grandchildren. At 80 years old, he is still the village headman, a position that he has neen holding since 1948. Although he owns slighty more land than most, but not all, of Zbeidat farmers (about 25 dunums), the mukhtar's position carries no authority beyond that which is based on the consensus of the village community- as articulated by the hamula elders. Other villagers address him directly by his Kunya (common name) : Abu Ali.

His role today is confined to being the main arbitrator of disputes, and the village mediator to the military government in Jericho.

(Notice how the younger generation of peasant women in Zbeidat no longer wear the traditional bedouin embroidery of Beer-el-Sabi', but have adopted the peasant trousers of the north.)

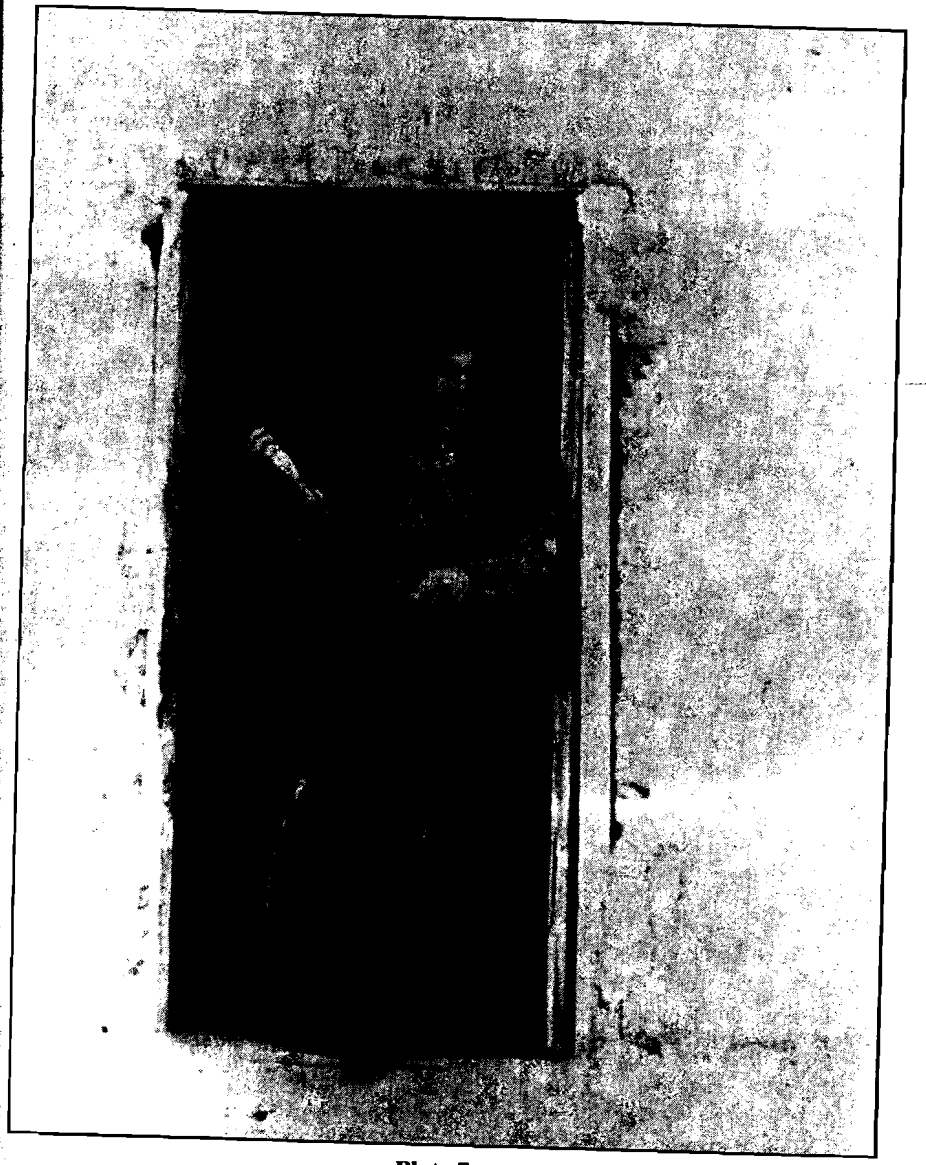


Plate 7.

Hardly any crafts exist in Zbeidat today. Only two woman continue the traditional bedouin art of rug-weaving; unlike before, however, most of them use synthetic fibers. The craft began to die out after the village grazing land was confiscated, and agriculture became a year-round activity for the Zbeidat farmer. This photograph depicts an exceptional case of a woman preparing the woolen thread for weaving.

Plate 8.

Peddling of crops by the Highway is usually confined to children and older people, since the main form of marketing is done through commission agents, or through vegetable wholesalers who crop-lease directly from the fields. Zbeidat fields are well situated by the highway, a fact which reduces the amount of labour and hauling costs required to bring the produce to the trucks.

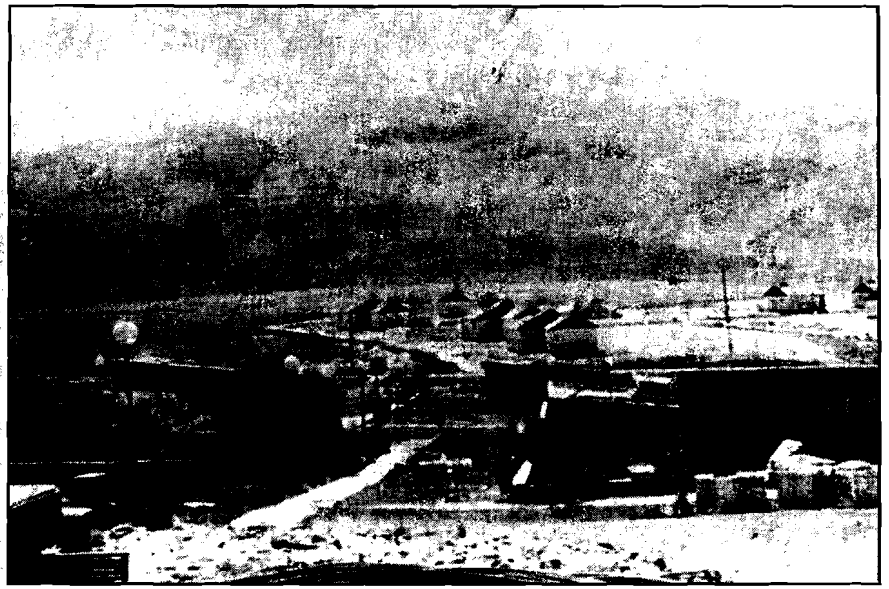


Plate 9.

Argaman: a Herut settlement which was established as a Nahhal in 1968, and became a moshav in 1971. It is situated on the hills right on top of Zbeidat.

Today it houses 20 couples and 55 children. The harsh conditions in the valley has made it difficult for Argaman to recruit new members. The vacant, and better, houses in the background are still awaiting settlers to occupy them. All units include air conditioning, and the moshav- in addition- has a swimming pool, a community centre and a small supermarket.

Plate 10.

Khadra, the dayeh (midwife) of Zbeidat. She is pictured here underneath an elevated bed, used in the hot season for outdoor sleeping. The makeshift bed is raised from the ground to avoid snakes and insects. If the health standards in Zbeidat are to be improved, traditional medicine must be raised to acceptable levels by training popular practitioners like Khadra. Local health practitioners should also continue to form an integral part of the health delivery system.

PART TWO
HEALTH CONDITIONS IN ZBEIDAT

1. Introduction and Objectives

This study attempts to identify and evaluate the different factors that influence the health status of the Zbeidat community. At present there are no reliable data on the health conditions of farming communities in the Jordan Valley, or on the environmental, socio-economic and nutritional factors that influence their health, their access to health services, and their receipt of medical care.

Since the health impact of developmental projects such as the introduction of improved irrigation techniques cannot be evaluated, and since the health needs of the Zbeidat community cannot be assessed without baseline population and health data, the following research objectives were identified:

1. Description of the environmental characteristics that have an impact on health.

2. Measurement of the inhabitants' health status.

3. Assessment of the inhabitants' nutritional status.

4. Identification of the problems of access and difficulties in the receipt of medical care.

5. Recommendation of certain measures that may improve the health status in this community.

2. Methodology

There are 38 households in Zbeidat, (we define a household as a dwelling unit whose inhabitants share a common kitchen). Of those, 14 are occupied by extended families (more than one married man per household) and the rest by nuclear families (one married man per household). Information was obtained by interview, measurement of children's heights and weights, and by observation. At times, prolonged discussions were held with the more co-operative villagers, such as the teacher and one of the midwives. Data on children or relatives not living in Zbeidat was excluded from the calculations, with the exception of fertility and mortality rates. Cases with missing information were also excluded; thus, the number of cases in the tables vary. Altogether, roughly 90-95% of the Zbeidat community was covered, so the data presented accurately reflects the health conditions in Zbeidat.

3. Demographic Characteristics

There are approximately 400 people living in Zbeidat today, 49.7% of whom are females. The Zbeidat population is young, with 19% under the age of five and over 51% under the age of 15. The adult population, aged 15-59, represents approximately 45% of the population, while the older generation, aged 60 years and over, represents only 4% of the population. This latter statistic possibly reflects the difficult conditions under which these people live.

Table 1 represents the distribution of the population by age and sex.

Table 1: Distribution of the Population by Age and Sex

	Males	Females
0-4 years	34 (19.4%)	32 (18.5%)
5-14 years	61 (34.9%)	51 (29.5%)
15-59 years	71 (40.6%)	84 (48.6%)
>60 years	9 (5.1%)	6 (3.5%)

It is interesting to note that though the total number of females is almost equal to the males, there are variations among the different age groups. Among children under the age of 15, there are more males than females. The difference is reflected more strongly among the group aged 5-14 than the group aged 0-4 years. This is probably due to the presence of the unknown group, but may also suggest negligence of female infants.

Among the group aged 15-59 years, however, there are more females than males. Male migration may explain this variation and corroborate the observation made by some of the villagers that there are more females of marriageable age in Zbeidat than males.

Among the adult population, one particular group, women of childbearing age (15-49), deserves special attention. This group alone represents over 19%, or roughly one fifth, of the population. Women of childbearing age and children under five years of age constitute almost 40% of the population; women of childbearing age and children under 15 years represent about 70% of the population. Additionally, there are fewer females over 60 than there are males.

Childbearing, delivery and lactation render women in the 15-49 years old age group highly vulnerable to disease. Both women of

childbearing age and their children because of biological reasons, work conditions and inadequate nutrition (to be discussed at length later) are at a much higher risk of becoming ill and dying than the rest of the population. In the creation of future health programs, particular attention should be given to this numerically significant high risk group.

4. Environmental Characteristics

Zbeidat is located in Ghor-al-Fara'a, approximately 35 kilometres north of Jericho and 3 kilometres south of the village of Marj Na'je. Zbeidat occupies a plot of land 319 m long and 83 m wide. Houses are situated very close to the hills for maximum use of the agricultural land that lies in front. Average temperatures range from a low of 10 °C in the winter to a high of 39 °C in the summer. During the months of June, July, August and September, the villagers have to withstand sustained hot weather, as the temperature does not usually drop below 23 °C (during the night). The village roads are unpaved, dusty and dirty. The majority of houses are made by the villagers themselves out of mud bricks mixed with straw and bamboo supports. Mud houses are fairly cool in the summer, but in the winter, most of the houses suffer from leakage, probably due to inadequate upkeep. House repair has not been allowed by the military government since 1967. As a result, many of the houses are dilapidated and require major repair, if not rebuilding.

All of the houses, except one, have no toilets. The inhabitants defecate "au naturel " in the hilly area close by and the young ones by the living quarters. Garbage is disposed of in three ways: dumped close to the houses in order to be burned later, deposited in the village dump (where garbage and animal manure is collected

and later used as fertiliser), or thrown away in the hill area. These factors probably account for the large number of insects (vectors of disease) that raid the village, particularly during the summer.

Table 2: Household Distribution by Number of Rooms in the House

Rooms in house	Number of Families	% of population
1	12	32.4
2	12	32.4
3	7	19
4	2	5.4
Unknown	4	10.8
Total	**37**	**100**

Table 2 shows that roughly a one third of the families live in one-room houses, another third in two room houses, one fifth in three-room and 1/20 in four- room houses. One woman, a widow with no family, lives alone in a Bedouin tent. No data is available for the remaining four households. The villagers live in overcrowded conditions, with an average crowding of 5.5 persons per room.

Table 3 is a summary of amenities by household. A total of 57.9% of the households have electricity, 18.4% do not, and the rest are unknown. Private generators provide electricity for the village from 5 a.m. until 11 p.m. The village motors cannot accommodate a large power load so there are consistent difficulties with electrical equipment such as refrigerators. Motor breakdown is frequent, and repair is costly.

Radios are found in 71% of households, televisions in 44.71 and refrigerators in 10.5%. Kerosene burners are found in 63.2% of

Table 3: Distribution of Amenities by Household

Facility	# of households w/ item	% of households w/ item	# without	%	Unknown #	%
Electricity	22	57.9	7	18.4	9	23.7
Radio	27	71	5	15.4	6	15.8
Television	17	4.7	15	39.5	6	15.8
Fridge	4	10.5	31	81.6	3	7.9
Kerosene burner	24	63.2	10	26.3	4	10.5
Butane gas	7	18.4	27	71.1	4	10.5

homes, while butane gas is found in only 18.4% of the houses. Most women reported using woodfire more than the other methods for cooking, primarily because of cost. For kitchens, shacks, made out of bamboo and held together with cloth, are separately erected close to the dwelling unit. (See plate 4).

None of the houses have a potable running water supply. The village water source is the village well where water is pumped electrically by way of a motor. When the pump is operating, water gushes out of the main faucet into a small, open pool underneath (See plate 3). Water from the pool is used for irrigation and washing dishes and clothes. Drinking water is obtained from the main faucet. After collection, women and children transport it to the houses where it is stored in un-covered jugs.

A water sample from the main faucet was tested for the presence of facal cliforms (an index of contamination with sewage), and there was no contamination. Pumping water by electrical means greatly reduces the chances of contamination. Water collection, transportation and storage, however, contribute to contamination, as the disease prevalence data indicates (This data is discussed below). It would be highly desirable to test the water for mineral content, particularly since many villagers have mottling of the teeth, an indication of excess fluoride ingestion, probably found in drinking water.

Environmental conditions have long been known to have a major impact on health. Inadequate water supply is usually associated with a high incidence of water-born diseases and malnutrition. Similarly, inadequate sanitation facilities and sanitary habits and the presence of insects contribute to the spread of infectious and vector-born diseases.[1] Infectious diseases are, as a class, more easily

prevented and cured than any other major group of disorders. They can be controlled by improved sanitation, vector control, immunisation and, among other methods chemotherapy.[2] A large number of preventable deaths in childhood are due to infection.[3] In order to control these diseases and the resultant morbidity and mortality, health schemes must aim to improve the general sanitation level in the village, provide a potable water supply, as well as public health education.

In the past, crowding in homes has been associated with the increased and easy transmission of infectious agents. It is presently believed, however, that lack of education and low income play a far greater role in the spread of disease than crowding.[4] Accident rates, on the other hand, are considerably higher in dilapidated dwellings.[5] Electricity and other household amenities also impact on health. The heat is intense in Zbeidat and refrigerators are useful for preventing food spoilage, wastage and cooking time. The presence of butane gas may encourage women to boil water for formula or for general use during epidemics. This precaution may help reduce the prevalence of diarrheal diseases and malnutrition, though it is an insufficient measure alone.[6]

Zbeidat has long suffered from neglect by public authorities. The village has never been inspected for public health, sanitation and water supply, and health education is notoriously absent. Since poverty and lack of education are origins of bad health,[7] it is expected that health conditions in this village will improve, slowly perhaps, as a result of drip irrigation and a subsequent rise in income levels. This improvement will not, of course, occur

[1] Information obtained from the Fara'a Agricultural Station

[2] These parasites are reportedly prevalent in the Jordan Valley region. Information was obtained from Jericho and Nablus government laboratories.

immediately or automatically.

Food beliefs, sanitary habits and concepts of what constitutes good or bad health are also important factors contributing to the spread of disease. Attempts to control or change these beliefs and habits may conflict with cultural patterns.

There are many things to be done to ensure improvement; Zbeidat may continue to suffer from poor health unless additional measures are taken. These include the following: improvement of the general education system, provision of a potable water supply, building of latrines, and public health inspection, all undertaken in conjunction with the provision of positive examples and reinforcement.

5. Health Status

A. Vital Statistics

Since mortality patterns generally reflect the socio-economic and nutritional status of a population, an attempt was made to obtain this information from the local public health authorities. But the information was found to be unreliable. In fact, when birth certificates of children were inspected, grave inaccuracies were noted. This, coupled with the fact that the Zbeidat population is too small to yield meaningful annual birth and death rates, led to the calculation of overall rates.

There are 63 married women in Zbeidat today. Of those, five were too old to be interviewed. An additional ten were excluded from the calculations either because of missing and inaccurate information, or due to their absence from the village at the time of interview. Information obtained from the remaining women revealed the following:

Table 4: Birthrate and Mortality Statistics	
otal Number of Married Women	48
otal Number of Pregnancies	329
otal Number of Miscarriages and Stillbirths	36
Total Number of Livebirths	293
Total Number of Neonatal Deaths (0-28 days)	11
Total Number of Post Neonatal Deaths (29 days to 11 months)	19
Total Number of Infant Deaths (0-11 months)	30
Total Number of Deaths among the 1-4 years old age group	6

Table 4 shows the calculated mortality rates per 100 live births; the neonatal rates is 3.9, the post neonatal 6.4, the infant 10.2 and the mortality among the 1-4 years old age group 2.1. Miscarriage and stillbirth rate is shown to be 10.9 per 100 pregnancies.

The majority of women indicated that they did not receive prenatal care from a physician, nurse or other health worker, unless they experienced complications during their pregnancies. Out of a total of 247 births, 13% were hospital births and the rest were home deliveries. Women who deliver at home are usually helped by one of the two untrained midwives of the village, or by other experienced women. Two births were reported to have taken place in the fields. Most of the hospital births were reported for the youngest children born in recent years and for complicated labours. The major reasons reported for not using hospital services during labour and delivery were cost and distance. Improved income levels in the community may explain the increased number of hospital deliveries observed during the last three to four years.

The successful outcome of a pregnancy depends on two factors: the ability of the mother to nourish the baby *in utero* and to deliver it easily, and the standards of obstetric care.[8,9] Maternal malnutrition and infection are also believed to produce synergistic negative effects on fetal growth.[10,11] Neonatal deaths are due to natal and prenatal influences.[12]

The relatively low neonatal mortality rate in comparison to the high miscarriage and stillbirth rate may be due to inaccurate reporting by mothers. Perhaps the distinction between the two has less meaning for the mothers than for researchers; that is, women may have reported live births that lasted a few hours as stillbirths. Most women do not receive prenatal or natal care by trained health workers. A high miscarriage and still birth rate may reflect the absence of such care and perhaps maternal malnutrition and infection.

Other factors that may have influenced the outcome of pregnancies in Zbeidat include: overwork, breastfeeding during pregnancies, and a high birth-rate coupled with short birth intervals. For women of childbearing age (15-49) we have calculated an average of 6.4 live births per woman, and estimated an average two year interval between successfully completed pregnancies. The estimates serve in the place of exact information, which was not available.

Natal influences that may have contributed to the high neonatal death rate include inadequate care during labour and delivery and harmful traditional practices. One woman reported the death of a neighbour's infant soon after birth due to infection of the umbilicus. Upon further investigation, it was found that ordinary and probably contaminated scissors were used to cut the umbilical cord of the infant at birth possibly, leading to infection and death.

Among the neonatal deaths, eight males and four females were reported dead before they reached the age of 28 days. Among the post neonatal deaths, seven males and twelve females were reported dead before they reached the age of one year. Prenatal and neonatal mortality rates are lower for girls than for boys. This may explain the larger proportion of male deaths in this age group. A larger proportion of female deaths among the age group 1-11 months, however, suggests negligence of females.

Post neonatal causes of death include epidemic disease, diseases of the respiratory system, poor hygiene and faulty feeding patterns that result in malnutrition.[13] All of these factors combined probably contribute to the morbidity and mortality of children in Zbeidat.

B. Disease Prevalence Data
Table 5: Disease Prevalence by Household

Disease	Number of Households	Percentage
Gastro-intestinal	29	85.3
Diseases of Infancy	24	70.6
Eye	23	67.6
Parasitic	22	64.7
Respiratory	21	61.7
Skin	15	44
Reproductive Organ	15	44
Chronic	14	41.2
Complications of Pregnancy	13	38.2
Total	**34**	**100**

Table 5 shows that out of a total of 34 women, 85.3% reported the frequent occurrence of gastro-intestinal diseases in their households, 70.6% of infectious diseases of childhood, 67.6% of eye diseases, 64.7% of parasitic problems, 61.7% of respiratory illnesses in 44% of skin diseases. Reproductive organ disease was reported present by 44% and chronic disease in 41.2% of households, both affecting at least one member of the family. A total 38.2% of the women reported complications in at least one of their pregnancies.

Physical exams and laboratory tests were not performed, thus eliminating the possibility of breaking down the disease categories into specific illnesses. Some of the women's descriptions of certain diseases, particularly those that are common and those that they know well are interesting, quite specific at times, and deserve attention. Skin diseases were described mostly as rashes and itching, affecting both children and adults. Respiratory diseases seem to affect children much more than adults, and take a variety of forms: the common cold, chronic cough in adults, whooping cough in children and respiratory tract infections in both.

Parasitic diseases afflict children and adults. The women's descriptions of some visible adult parasites were clear enough to indicate the prevalence of Enterobius vermicularis, Ascaris Lumbercoides and Taenia saginata infections in Zbeidat. There are, of course, other types of parasites not seen with the naked eye (such as parasitic protozoa and blood and tissue nematodes)[2] that are probably prevalent due to the state of sanitation and hygiene, the presence of insects and the general environmental characteristics of the area.

Gastro-intestinal diseases affect mostly children. Diarrhea was the main complaint, with occurrences primarily during Spring and Summer. Significantly, with the exception of only one mother, all

others who bottle fed their infants listed diarrhea as a primary cause of sickness in children. Bottle feeding contributes to the etiology of diarrhea, and possibly malnutrition, among infants in this village.

Dyptheria, mumps, whooping cough, and measles were the four most frequently reported childhood diseases. All women indicated that their children have been vaccinated at least once, but were unable to specify how many times their children were vaccinated and for what type of disease. A governmental vaccination car arrives to Zbeidat once every three months or so. It is clear, however, that the vaccination service available to this village is far from adequate. This inadequacy may be due to incomplete vaccination of children, the use of expired and improperly stored vaccines, or both. Thus diseases of infancy to this day constitute an important cause of childhood morbidity and mortality in Zbeidat.

Eye diseases affect children more than adults. Most of the cases reported appear to be of the communicable type. Incidence of eye disease is highest during spring and summer and lowest in winter. Women's descriptions of symptoms and course of disease and the endemicity of the area point to conjtirictivitis and perhaps Granular Conjunctivitis (Trachoma) as possible causes of eye problems in the village.

Reproductive organ disease affects women more than men. Two types were identified: female reproductive organ disease, including: ovarian cysts, haemorrhages and uterine fibrosis, and also venereal diseases, affecting both sexes. Symptoms for the latter include itching, discharge and rashes. Complications of pregnancy range from edema and anemia to difficult, prolonged labour and Caesarean section. Chronic diseases include joint pains, heart disease, asthma, kidney and stomach disease, affecting almost exclusively adults.

Table 6: Disease Categories by Order of Prevalence

Disease	% Prevalence	Disease	%
Gastro Intestinal	85.3	Skin	44
Diseases of Infancy	0.6	Reproductive	44
Eye	67.6	Chronic	41.2
Parasitic	64.7	Pregnancy Complications	38.2
Respiratory	61.7		

Table 6 represents the disease prevalence in ranking order. It is clear that the main health problems faced by the inhabitants of Zbeidat are due to vector-born communicable disease, non-vector born communicable diseases (both water and food-born), and diseases of infancy. Poor hygiene, unsanitary conditions, insect vectors, bad housing and inadequate vaccination of children all contribute to the spread of these preventable diseases. Morbidity and mortality might best be decreased through a co-ordinated program geared towards the improvement of the environmental conditions that contribute to the spread of diseases. Vaccination services should be improved and public health education provided.

6. Nutritional Assessment

The nutritional status of a population can be evaluated through using one or a combination of several methods. Food consumption surveys provide information on the type and amount of food consumed. This method, however, can be costly and at times unreliable. Clinical examinations provide data on incidence of deficiency symptoms. Severe nutritional deficiency diseases can be easily recognised using this method, but identification of the marginal cases is difficult. Biochemical studies providing

information on nutrient intake and adequacy are very accurate, but also expensive. Anthropometric measures of heights and weights provide information on growth status and protein caloric malnutrition. They are easy and simple to collect and constitute the most important criterion for judging nutritional status in infancy and childhood.[13]

Two methods for the evaluation of the nutritional status in Zbeidat were used. Anthropometric measurements were made to assess the nutritional status of children under 5 years of age, and food lists were constructed to determine the type and frequency of foods consumed. In spite of the fact that food list construction is a less refined method of measuring food consumption, it was felt that this cheap and quick method would provide an acceptable amount of information given the scope of this project. Additionally, other methods of measuring food consumption require the co-operation of housewives, trained investigators and extensive time for data calculation.

A. Anthropometry of Children

Of a total of 66 children under the age of five (34 males and 32 females), 64 were weighed and their heights measured. Nine of those were excluded for lack of accurate information on birth date. For the 55 remaining children (83.3% of the total number of children under five in Zbeidat, 30 males and 25 females), the chart of McLaren and Read (both of the Nutrition Research Program of the School of Medicine at the American University in Beirut) was used for the assessment of nutritional status.[14] See Chart 1 on next page.

Table 7: Nutritional Classification of Children by Age and Sex

	Age<1	1-2	2-3	>3	Total male	Total female	Percent of both
Overweight		1 male			1	0	1.8%
Normal	3 male 1 fem.	4 male 2 fem.	4 male 1 fem.	6 male 4 fem.	17	8	45.1
Mildly Malnourished	2 male 0 frm.	0 male 1 fem.	1 male 0 fem.	6 male 4 fem.	9	5	25.1
Moderately Malnourished	0 male 2 fem.	2 male 4 fem.	0 male 2 fem.	1 male 0 fem.	3	8	20
Severely Malnourished	0 male 3 fem.	0 male 1 fem.	0 male 0 fem.	0 male 0 fem.	0	4	7

Table 7 shows the nutritional classification of children by age and sex. One child, or 1.8% of the total number of children, was found to be overweight, 25 (45.1%) were normal, 14 (25.1%) were mildly malnourished, 11 (20%) were moderately malnourished and four (7%) were severely malnourished. Out of 14 children who are either moderately or severely malnourished, fell within the range of 5 months to two years (age of weaning). Additionally, 12 out of 15 children classified as moderately or severely malnourished were females.

Chart 1
Nutritional Status of Children by Weight/Height Versus Age

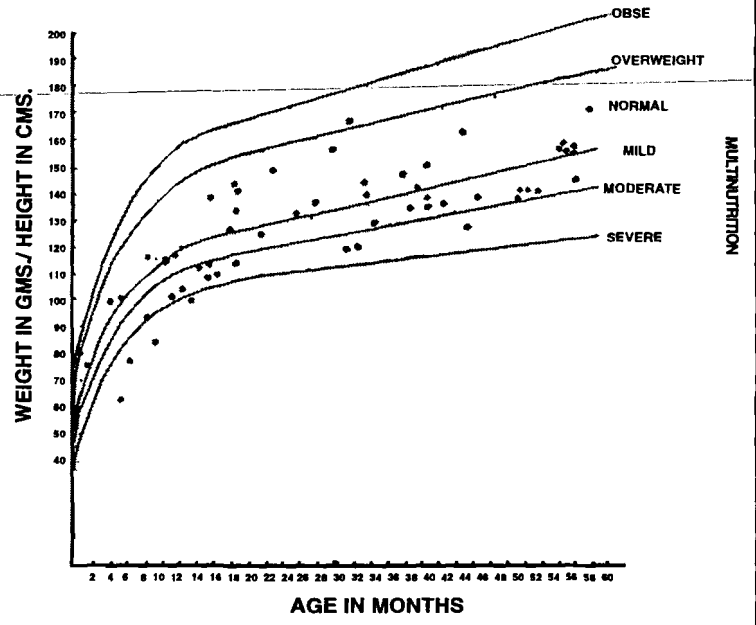


Chart 1 represents the nutritional classification of children by weight / lenght versus age in months.

From the Nutrition Research Program, School of Medicine, American University of Beirut, Lebanon.

A pattern of decreasing severity of malnutrition with age was noted, and may be explained by the child's decreasing dependency on the mother with age. This pattern, however, points to feeding and weaning patterns as a cause of malnutrition. Several factors contribute to the presence of malnutrition in infancy and childhood. There is a significant correlation between the average protein intake of mothers and the developmental conditions of babies.[15] Average birth weights also increase progressively as mothers' dietary intake increases.[16] Since children tend to remain within their birth weight categories during the first eight years of life,[17] maternal undernutrition is the first form of malnutrition that children in this community may be subjected to.

Age of the mother also influences birth weight of her offspring. Babies of very young mothers have lower birthweights than those of older mothers.[18] With increase of mother's age, however, there are also increases in the number of congenital malformations in the newborn. Studies undertaken in developed countries show that children who are of low weight for gestational age at birth do less well in intelligence tests than children of average weight for the duration of gestation. A total of 47.3% of mothers in Zbeidat whose children were weighed and their heights measured fell outside (above or below) the optimal age range for birth of 20 - 34 years.

The second form of malnutrition that children in this community may be subjected to is breast milk that is poor in quality and quantity due to maternal malnutrition.[19] Though the nutritional status of mothers was not specifically assessed, the data on parity, birth intervals and food consumption strongly suggests the presence of maternal undernutrition in Zbeidat. This factor may explain some of the data on children's nutritional status.

Table 8: Use of Breast and Formula Milk to Feed Infants

	Number	Percent
Breast Milk	20	55.5
Formula Milk	4	1.2
Both	12	33

Table 8 shows that, out of a total of 36 women, 55.5% breast feed their infants, 11% used formula milk, and the rest used both. The reasons given for the use of formula milk included dryness, insufficient quantity of breast milk and the delivery of twins. There are many advantages to breast feeding. It is cheap, convenient, carries with it a very low risk of contamination, and defends the newborn against infection.[19] Additionally, in areas where sanitation and food are lacking, the breast-fed baby has a lower death rate than the bottle-fed baby.[20] Long-term nursing also lowers the breast cancer risk and prevents conception by delaying the return of fertility and pregnancy.[21] As is shown in table 8, over half of the mothers breast feed their infants, a habit that should be strongly encouraged.

Table 9: Age of Introduction of Solid Foods and Complete Weaning of Children				
Introduction to Solid Food			**Complete Weaning**	
Age in Months	Number	Percent	Number	Percent
0-3	2	5.6	-	-
3-6	8	22.4	2	5.6
6-9	9	25	-	-
9-12	10	27.2	5	13.9
12-18	-	-	13	36.2
18-24	-	-	10	27.7
24-36	-	-	3	8.3
Unknown	7	19.3	3	8.3
Total	**36**	**100**	**36**	**100**

Table 9 shows that of a total of 36 women, over half start introducing solid foods into their infants' diets between the ages of six and twelve months. It also shows that roughly two thirds of the mothers completely wean their children between the ages of one and two years.

When food supplementation starts before the sixth month and weaning is completed before the age of one year, the risk of infant malnutrition is low.[22] It was shown that eleven out of fourteen measured children who fell into the moderate and severe malnutrition categories are above the age of five months and below the age of two years. Faulty weaning patterns then constitute another cause of childhood malnutrition in this community.

B . Food Consumption Data

The food list construction method used to assess dietary adequacy in this study does not document the nutrients consumed by each individual, but simply describes the foods eaten and the frequency of their consumption. Since there was a remarkable similarity in the type and relative frequency of foods consumed among families, and due to limitations inherent in the data, dietary adequacy was assessed for the village as a whole.

Foods were grouped into five categories that reflected their principal nutritional benefits.[23, 24] To determine dietary adequacy, frequency of ingestion of foods from each group was compared to a standard. Food grouping and dietary adequacy calculations have been adapted from the method used in the Chippewa Health Study, prepared by the School of Public Health, University of Michigan. The adequacy of each food group was then calculated as a percentage of the standard. Overall adequacy was obtained by setting the upper limit of nutritional adequacy at 100% and averaging the five nutrient adequacy scores.

Table 10 : Frequency of Ingestion of Foods	
January- June	**July- December**
At least once daily	**At least once daily**
bread tomatoes green vegetables oils	bread oils
1-3 times weekly	**1-3 times weekly**
eggs beans and lentils milk and its products meat and poultry	beans and lentils rice green vegetables tomatoes potatoes and eggs
Once every 2-3 weeks	**Once every 2-3 weeks**
sardines	meat and poultry milk and its products burghol (parboiled wheat)

Table 10 shows the frequency of ingestion of the main types of foods available in Zbeidat. Foods that are ingested rarely and those that furnish small amount of nutrients were excluded. Information on the frequency of ingestion of foods containing sugar (biscuits, soft drinks etc.) were also excluded due to inaccuracy of reporting. Chart 2, on the next page, represents the seasonal cycle in Zbeidat, and shows the dietary adequacy for the village as a percentage of standard.

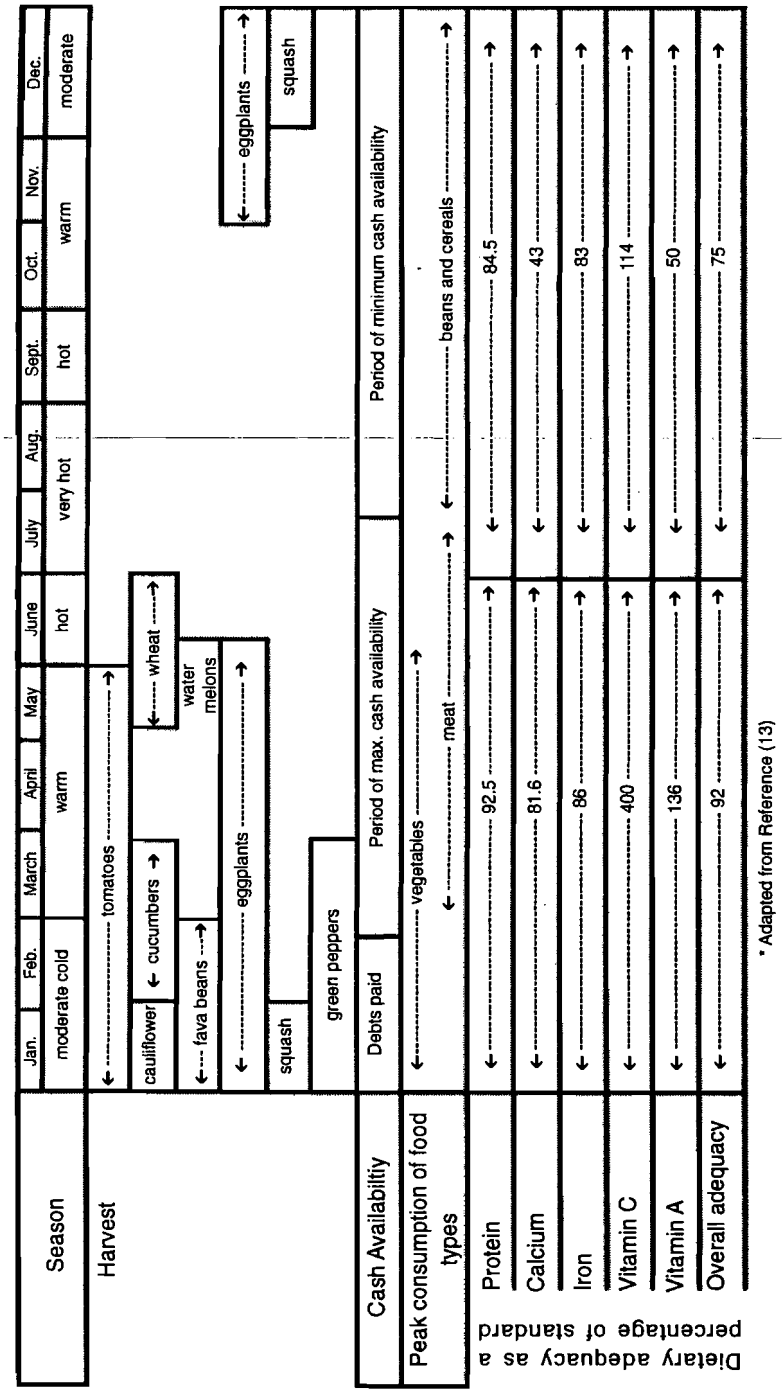
The main sources of protein were meat, poultry, eggs, bread (made from whole wheat flour), and fava beans in the winter and spring, and beans, lentils, rice and bread in the summer and autumn. A higher intake of protein (meat) during the first six months of the

year is probably due to cash availability. Milk and its products, green vegetables, bread and eggs were the main sources of calcium. The decrease in calcium intake observed during the summer and autumn is probably due to decreased intake of green vegetables and the relative decrease of cash. The consistency observed in the amount of iron ingested throughout the year is probably due to compensation for the decrease in meat and green vegetables intake by the increased lentil, burghol (parboiled wheat) and bean intake in the summer and autumn.

The high intake of vitamin C is due to the frequent consumption of tomatoes, green vegetables and potatoes. The main sources of vitamin A were eggs, green and yellow vegetables and milk products. Decrease in the frequency of ingestion of vitamin A rich foods in the summer and autumn is due to the decrease in vegetable consumption and cash availability.

Two categories of foods are consumed: home grown and purchased. The home grown category includes all the vegetables listed in table 9, wheat and watermelon. In addition, from January through April, a variety of naturally growing green leafy vegetables are eaten including mallow, swiss chard and oxalis, all of which furnish high quantities of calcium, iron and vitamins A and C. Milk and eggs are obtained from cows, goats and chickens that are owned by the villagers for household consumption. Purchased foods include meat, milk products, beans, lentils, poultry, oil and sugar. Food is purchased mainly from Nablus, approximately 30 kilometres north-west of Zbeidat, or from one of the two stores found in the village. Only small quantities are bought from the village stores, whenever the item is available.The inhabitants prefer to purchase their food from Nablus because the prices are cheaper and there is more variety.

Dietary Adequacy and Seasonal Cycle in Zbeidat



* Adapted from Reference (13)

Storage is a main limitation to the bulk purchasing of food. Wheat, sugar and oil are usually stored (in sacks or containers) in one corner of the house, which is overcrowded to begin with, or on the porch (See plate No. 4). Most denied purchasing foods from neighbouring Argaman, but there is reason to believe otherwise. It appears that foods are sold to children and women of Zbeidat who go to Argaman for work, but only when there are enough quantities available for consumption by Argaman residents. When the supply of a certain food item is low, selling to the Zbeidat inhabitants is stopped.

In general, the data indicates that, during the first half of the year, the inhabitants of Zbeidat are not undernourished (92% overall adequacy score). In the second half of the year, however, their diet falls short of being called adequate (75% overall adequacy score). It should be born in mind that inter-household variations in food consumption do exist. Income influences the nutritional adequacy of a family' s diet. Since it has been shown in the first portion of the report that income depends on ownership of land, and since families that do not own land have to purchase most of their food, landless families would be expected to suffer more from inadequate diets than the rest of families.

Intrahousehold distribution of food is an additional cause of variation in food consumption. In Zbeidat, families usually eat commonly from one plate. If some members of the family eat faster than others (particularly children), dietary inadequacy of the slow eaters may result. Additionally, in Zbeidat, adult males are usually given the best diet in terms of both quality (meat, eggs) and quantity. Boys also have a priority over girls, while mothers seem to get the least share in both quantity and quality except during the first two to four weeks after delivery. Then mothers are

given special diets and are relieved from work for four weeks if they deliver boys and two weeks if they deliver girls.

Nutrient supplies available to families should ideally be distributed in relation to requirement. For instance, the requirement of pregnant and lactating women and adolescents for milk is about 1.5 - 2 times that for an adult. The requirement of women for iron is almost twice that of men.[23] In Zbeidat, food is allocated according to the person' s status within the family. Maldistribution of food within the family, and physiological requirements compounded by traditional beliefs that favour men over women, all point to the conclusion that pregnant, lactating mothers, and children, particularly female children, are at a higher risk of suffering from malnutrition than the other members of the family.

Work is also of importance. In Zbeidat, all family members work in agriculture. Children (both males and females) become an integral part of the work force in the fields by the age of 12-13 years, and perform essentially the same functions as women. As the male children grow older, they are slowly introduced to and trained in the work of men (the division of labour is clear cut, see the first part of the report for details). Females assume the total responsibility of household chores and child rearing. Women usually take their infants to the fields until they reach the age of two. Children are then placed under the care of female siblings.

The workload of women and children imposes additional nutritional demands on their dietary intakes. The introduction of drip irrigation may have further aggravated the situation by causing a probable net decrease in the workload of men and a net increase in the workload of women and children (see part one of the report) without corresponding changes in the nutritional intake among

family members. The risk of malnutrition among women and hence nutritionally vulnerable children may have increased due to the introduction of drip, particularly during the initial phase where the new added income was used to pay debts. It is expected, however, that improvement of income levels, with time, will probably result in an increase in the absolute amount of food available for consumption, and therefore the impact of food maldistribution on the nutritional status of family members may become minor in importance.

In summary, maternal undernutrition, maternal age, and faulty weaning patterns are some of the causes of childhood malnutrition in Zbeidat. Other factors that may affect the nutritional status of children include number of children, spacing between births, and diarrheal diseases of childhood. Causes of malnutrition among females include a high workload and maldistribution of food in favour of men with the family. Nutritionally at risk groups include children at the age of weaning, female children, and women of childbearing age.

Malnutrition early in life may lead to permanent physical as well as mental deficits.[25] Malnutrition has also been associated with childhood deaths ostensibly deriving from other health problems. Maternal undernutrition in addition increases the potential for producing nutritionally vulnerable children. Social factors associated with undernutrition include illiteracy, the presence of many young siblings, landlessness and low status. But the prime cause of malnutrition is poverty.[26] Raising the general educational level as well as knowledge about health and nutrition would be helpful in improving Zbeidat conditions. Other necessary measures include family planning and changing some harmful traditional beliefs and habits at the same time the community is experiencing

an improvement of income levels. Unless such preventive measures are taken, malnutrition in this community may continue to occur despite temporary cures.

7. Access to Health Services

Two major problems face the Zbeidat community today: unavailability of health services in the village and restricted access to the health care facilities of nearby cities. Until around 1973, a governmental mobile clinic reached Zbeidat regularly, but no reliable information is available regarding the frequency and types of services provided. At present, a mobile clinic arrives to Marj-Na'jeh, three kilometres north of Zbeidat, where a physician attends to the health problems of the inhabitants of both Marj-Naajeh and Zbeidat for about two to three hours. A governmental health worker arrives to Zbeidat irregularly for the vaccination of children. Therefore, when suffering sickness the inhabitants usually have to travel to Nablus by bus, one hour's drive away.

There is no public transportation linking Zbeidat with Jericho to the south, while one bus leaves the Zbeidat area daily at 7.30 a.m., heading towards Nablus. Cost is also another factor that limits the use of health services by the inhabitants. In general, preventive services are minimal and curative services are unavailable. The use of curative services is restricted to emergencies due to inaccessibility and cost.

8. Traditional Medicine

Traditional medicine has long been known to play an important role among the rural cultures of the Middle East. At this date in rural areas (where the majority of people live), traditional medicine

is readily obtained, well-accepted and constitutes an integral part of the healing process.[27] Zbeidat is not an exception. Traditional medicine, using both physical and herbal methods of healing, is widely practised among the inhabitants.

A traditional and untrained midwife usually attends labour and delivery. The ritual starts by washing the breasts of the women in labour with preboiled water. Salt is then applied to the nipples in order to contract them, in preparation for nursing. Women deliver while lying down or by squatting. In difficult labour, the midwife inserts her hand into the mother's vagina and pulls the baby' s head out. This is a method that carries with it the risk of infection in the mother and damage to the child. When labour continues for more than six to seven hours, the mother is taken to a hospital in Nablus if transportation is available.

Following birth, the baby is immediately covered. The umbilical cord is then tied with a string and cut with an unused razor blade or scissors. The baby' s umbilicus is checked within an hour of cutting, and if it is bleeding, the midwife will retie it.

A mixture of Kuhl and onions is then applied to the eyelids of the newborn for the prevention of eye infection. (Kuhl is a preparation of pulverised antimony that women apply to their eyes as a cosmetic) In the Western world, a 1-2% solution of silver nitrate (a germicide and an antiseptic) is applied to the conjunctiva (the mucous membranes covering the anterior surface of the eyeball) of new-borns for the prevention of neonatal conjunctivitis. Kuhl may be of some value in the prevention of neonatal conjunctivitis, but its efficacy has not yet been studied. Furthermore, the introduction of this mixture of Kuhl and onion into the eyes of new-borns, particularly if the mixture is made under unsanitary conditions, carries with it the risk of eye infection.

Following placental expulsion, the mother' s genital opening is washed with pre-boiled water and salt, and the wound is left to heal naturally. During interview, the midwife acknowledged a high rate of infection among newly delivered women. Infections are probably the consequence of some harmful practices employed in the delivery process.

Two physical means are used for healing in Zbeidat: "Tajbir" (bone setting) and "kawi" (cautery). The "Mujabber" (bone-setter) is traditionally a man who learns the secrets of the trade from other experienced men. He usually begins the process by rubbing the skin around the area of the broken bone with warmed oil or grease. The bone is then pushed back into its normal position and the area is bandaged and splinted.

Kawi is also performed by men, and it involves burning the skin above the general location of pain with a hot nail. For asthma, the skin of the neck is burned, for heart troubles, the skin of the chest, and for leg pains, the skin of the knees. Kawi is a harmful and dangerous method of healing that has no established efficacy.

A variety of herbs are used as medicinals in Zbeidat. Here women have the responsibility of choosing and administering the herb appropriate for the ailment.

The principal herbs used include "Yansoun" (Pimpinella anisum) which is boiled and drunk as tea for stomach problems. Yansoun has been scientifically established for its efficacy as a carminative.[28] A carminative is a substance that decreases gaseous distension in the stomach and intestines. "Miramiyya" (Saliva triloda) and "Jaadeh" (Teucrium polium) are also drunk due to their beneficial affects on the stomach. Both have a bitter taste, increase the

appetite and increase the secretion of digestive juices.[29] Other herbs are used, some of which are of a dubious value. Listing all of the herbs used, however, is beyond the scope of this report.

Health services in the majority of developing countries are disproportionately distributed, with most of the health facilities in the urban centers, and the least in the rural areas where the majority of people live.[30] In a village like Zbeidat, traditional medicine is heavily relied upon and should be seriously considered as a possible alternative to western medicine in view of the isolation of the village and local medicine's potential benefit. As organised health services expand and start effectively reaching villages like Zbeidat, traditional medicine may slowly fade. But it will not disappear as long as the present health care vacuum exists.

Since the possibility of such a radical change seems dim at present, it may be best to approach the problem of health care delivery in Zbeidat by integrating the existing traditional medical practices into the health care system. Local midwifery may possibly be raised to acceptable levels by training women who have traditionally filled these roles. Co-operating and willing members of the community may be trained through an organised program in village health. Local health practices may be combined with scientifically derived health measures in such a way as to synthesise in a manner acceptable for both trained health personnel and local practitioners.[31] These are only examples of some measures that may ameliorate the health conditions during a period when neither the political nor the economic conditions favour a deep-rooted solution to the health problems of this community.

9. Summary and Conclusions

This report describes the health conditions of a small agricultural village in the Jordan Valley and identifies some of the factors that contribute to the health problems of its inhabitants.

Of about 400 inhabitants, 49.7% were females (19% of whom were of childbearing age), and 15% were under the age of 15. The neonatal and infant mortality rates were 3.8 and 10.2 deaths per 100 live births respectively.

The environmental factors that contributed to health problems in this community included lack of potable water supply, low level of overall sanitation and the presence of insect vectors. Prevalent diseases included gastrointestinal diseases, diseases of infancy, eye, parasitic, respiratory and skin diseases. Most fell into the communicable diseases category.

Of 55 children under the age of five years who were weighed and their heights measured (constituting 83% of the total number of children under the age of five), 45.1% were found normal, 25.1% mildly malnourished, 20% moderately malnourished, 7% severely malnourished, and 1.8% overweight. Some causes of malnutrition in these infants included maternal malnutrition, faulty weaning patterns and diarrheal diseases of childhood.

Dietary adequacy was calculated for the village as a whole. The diets of inhabitants were found to be adequate (92% adequacy score) in winter and spring when the villagers consumed home grown crops and when cash was available. Their diets were found to be inadequate in summer when cash and home grown crops were not available.

The main problems encountered in the receipt of health care included distance from health services and cost. Traditional medicine was widely practised, where both physical and herbal means were used for healing.

Increased income may upgrade the health conditions in Zbeidat by improving dietary intake and providing better accessibility to health services. Income alone, however, does not account for all the health problems faced. Income improvement is also unlikely to have an immediate impact on general health. Unless weaning patterns are changed, childhood malnutrition will continue to occur, even if the villagers come to afford temporary clinical cures. Unless the overall sanitation level is improved, communicable diseases will continue to account for a substantial amount of morbidity and mortality. Harmful traditional practices will continue to be employed, unless an alternative is provided that is acceptable to the inhabitants.

More immediate action is needed for both humanitarian and economic reasons. Bad health compromises the quality of life, causes human suffering, restricts the ability to learn, reduces productivity, and impedes economic growth.[11, 13] Efforts to upgrade the health conditions should involve specific intervention programs primarily geared towards prevention. Such programs must consider the environmental conditions, the cultural habits and beliefs, and the specific needs of the village. Otherwise, they may be faced with resistance, and ultimately, failure. The support of influential persons in the village, such as the Mukhtar, and the active participation of the inhabitants themselves may be instrumental in making the intervention measures successful.

Perhaps the most important challenge that faces Zbeidat today is the concept of self help. Self care and reliance must become the motivating factors of activities related to health, agriculture, and other aspects of life. It was through such change strategies that some third world countries, such as China, were able to improve the health status of their people.[31] No other alternative to self care is feasible for Zbeidat in view of: the scarcity of resources, isolation of the village, maldistribution of health services in the West Bank, and the absence of governmental programs geared towards the eradication of poverty and disease. Unless such value and attitude changes accompany development and intervention programs, the people of Zbeidat will continue to suffer the consequences of bad health.

10. Recommendations

1. An attempt should be made to integrate traditional medical practices with the local health care system. This may be achieved through the following measures:
   - A. Training of traditional midwives.
   - B. Training individuals from the village in health, including basic first aid procedures, sanitation control, and general preventive measures.
   - C. Training may be achieved through short courses offered by established health or educational institutions, and should be followed by periodic updating courses.

2. Basic services need to be instituted and include:
   - A. Provision of potable water supply.
   - B. Provision of adequate electrical supply.
   - C. Sanitary removal of wastes.
   - D. Control of insect vectors.

   - E. Provision of an effective vaccination program.
   - F. General sanitation and nutrition education.
   - G. Family planning.

3. Specific measures that relate to mother and child health include:
   - A. Encouragement of breast feeding.
   - B. Discouragement of infant formula feeding.
   - C. Discouragement of weaning before the age of six months.
   - D. Instruction in proper weaning methods.
   - E. Improvement of the nutritional status of mothers and children by both general and health education.

In view of the scarcity of governmental sources of finance for such projects, voluntary agencies may perhaps be able to share these responsibilities, and should therefore be approached for financial help. Additionally, some services, such as nutrition programs and mother and child health centers could be established for both Zbeidat and Marj-Na'jeh. This may reduce costs and may also decrease the amount of scarce manpower needed to operate such programs.

4. Active community participation in established programs should be encouraged. The approval of influential personalities in the village should also be sought.

5. The use of traditional means of healing that have scientifically established efficacy should be encouraged. The effectiveness of other means that have not so far been studied should also be investigated.

6. Most important of all, a strategy of self-help must direct all activities and services rendered to this community.

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PART THREE: ZBEIDAT THREE YEARS AFTER: A CASE STUDY OF COMMUNITY DEVELOPMENT IN HEALTH

1. Introduction

In 1980, the author of this report participated in conducting a baseline survey of the health status of the inhabitants of Zbeidat, a peasant refugee community of semi-nomadic origins that resettled in the Jordan Valley following the Arab-Israeli war of 1948. At the time of the survey, Zbeidat was about to emerge into the modern world. After years of being neglected by governmental authorities and development agencies, drip irrigation technology was introduced in farming with the financial and technical assistance of the Mennonite Central Committee (MCC) in 1977.[1] The resulting increased productivity initiated a new era in the history of this community, both in terms of the ability to accumulate wealth and its new linkages with the outside world.

This presentation will examine the kind of path which community development in health took in Zbeidat. We shall also look at how MCC and other voluntary agencies introduced community development projects into Zbeidat. Finally, an attempt will be made to identify the various factors that contributed to the failure of an experiment and the creation of new problems.

2. The Community in 1980

With a total population of about 400, Zbeidat in the 1970s presented the classical indices of underdevelopment: infant mortality was about 10%, malnutrition over 50% among children under five,

and literacy was very low with two and a half times as many illiterate females as males. Life in general was not exactly pleasant. The village was more like a garbage dump, both inside and outside the mud brick houses and shacks, than an inhabited area. Zbeidat lacked the most basic services, such as a potable water supply, electricity, adequate living space, latrines, health facilities and schools, to name only a few notable absences.[2] About three fourths of the households owned the land they cultivated. However, a substantial number of farmers had share-cropping arrangements with absentee and resident landlords as an additional source of income. The structure of relations between the Zbeidat farmers on the one hand and landlords and commission agents on the other hand was exploitative, always leaving the farmer dependent on both for advance credit, supplies, and the marketing of produce. The pioneering step that MCC took in extending its agricultural development services to Zbeidat resurrected this community, which was disintegrating due to land confiscation, demographic pressures, low productivity, rising costs of agricultural expenditures and other factors. Drip irrigation technology increased crop yields, allowed the farmer to accumulate surplus, and freed him to some extent from his dependence on commission agents. But it also increased the integration of the Zbeidat farmer into the Jordanian, Israeli and international marketing networks, thus introducing a new type of dependence into the community.[3]

MCC s involvement in the Jordan Valley region revived the interest of other development agencies, researchers and media in the area, which strengthened the connections of Zbeidat with the outside world. Guidelines for intervention programmes in health, laid down in the survey report that was prepared in 1980[4] at the request of MCC, stressed two major points: the first, while acknowledging the impact of improved income levels on health, emphasised the

need for further action in environmental control and health education. The second alerted the agencies to the importance of community participation, and the need for consciousness-raising as an integral component of development activities in this community.

When the survey, and thus the involvement of the researchers in Zbeidat, ended in 1980, two central questions remained unanswered. The first related to the Zbeidat farmers' ability to meet the challenge of changed circumstances. Specifically, it concerned their perceiving the necessity of investing surplus in collective infrastructural projects, as opposed to individual ones such as the construction of houses. It also referred to their ability to organise, perhaps in a co-operative form, so as to reduce the control the landlords and commission agents exercised over them.

The second question related to the role that development agencies could play as organisers in improving this community's situation. Whether agencies would be able to plan and implement programmes in accordance with people's needs, whether they would successfully incorporate the community into the decision-making and allow them the chance to participate in the implementation and operation of projects, and whether agencies would be able to contribute to consciousness-raising and community mobilisation remained to be seen.

3. Planning and Implementation of the Health Project

In view of the isolation of the village, the scarcity of resources, and the absence of governmental programmes for health care promotion, it was suggested to the organisers that perhaps the only feasible step to take was to train individuals from the village in basic health care. This training was to include first aid procedures,

sanitation control, health and nutrition education and the training of traditional midwives. Training was to incorporate traditional practices with modern methods. A married woman respected by the community seemed to be a likely choice for a trainee in basic health care, since women were mostly responsible for family health in this community. The organisers, however, were unable to locate an institution in the West Bank that would take the responsibility of training at a non-degree level.[5] This in effect eliminated the possibility of training a woman because the two-year university course in village health work that only Bethlehem University offered required a Tawjihi certificate for admission.[6]

Thus Amin, a man, was chosen by the Mukhtar of Zbeidat, for he was one of the very few males who possessed this certificate and was willing to train. The community promised to arrange for the payment of Amin's salary once he had completed his training and assumed his duties. Within a few months, however, Amin failed his course, and the organisers were faced with the problem of what to do with him. It was finally arranged that both Amin and his wife 'Alia would train under the supervision of Catholic Relief Services (CRS),[7] who, in turn, would make contacts with various health institutions and admit Amin to train by practice. 'Alia was to take a course in mother and child health care that was being offered by CRS. Her inclusion as a trainee was apparently thought to solve the problem of Amin being inaccessible to females in Zbeidat.

4. Zbeidat Revisited in 1985: Problems and Explanations

For three years, MCC, in co-operation with CRS, planned and implemented projects for Zbeidat. New one- and two-storey houses were constructed, electricity was installed, intra-village roads were

opened, a kindergarten was set up, and village health workers were being trained. Additionally, plans were under way to form a charitable society that was to take the responsibility of administering some of the projects, to install a potable water supply in households, and to build a community centre that was to house the clinic, a school, an adult literacy programme, the kindergarten and a village meeting centre.[8] By the summer of 1983, Amin and 'Alia had completed their training and returned to the village to set up the health programme. However, they faced resistance. This prompted the new directors of MCC and CRS[9] to request the author to visit Zbeidat again, this time in order to arrive at an understanding of the problem.

In summary, it appeared that the work and knowledge of Amin and 'Alia were being rejected by the community. Very quickly they became the laughing-stock of the village. Within weeks after their return, Amin's father was threatening to throw them out of the house, claiming they had become a liability in both financial and moral terms. Amin's crisis reached its peak when the village leaders decided to banish him from the village because he displayed some books in the unused clinic that were deemed political and therefore dangerous.

4.1. The Training of the Local Health Worker

Several features of the problem deserve discussion. The first is the nature of Amin's training. His apprenticeship in health basically prepared him to assume two roles: one as a physician's aid in a curative clinic, and another as an environmental and sanitation control worker improving the sanitary conditions by way of project design and implementation and through community education. Once Amin returned to Zbeidat, it transpired that the first task was

impossible to carry out: there was no curative clinic or physician in the village to assist. Due to the constraints imposed by the isolation of the village and the general political situation in the area, the chances were that at best, the community and the voluntary agencies might have been able to arrange for a physician to visit Zbeidat once or twice a week.

Discouraged, Amin turned to practically the only technique that was possible to apply in such circumstances. To justify his newly acquired status, he became "injection-happy" and began administering injections indiscriminately to anyone who asked, without supervision and sometimes without prescription by a physician. But injecting patients soon became insufficient evidence of his skills, and the villagers began to question Amin's knowledge in health care.

They demanded equipment and instruments for the clinic from the organisers. The organisers were confused about these demands for equipment and the reasons were finally made clear in a heated discussion with the villagers: it turned out that the perception of the community of health care differed substantially from that of the organisers. To the villagers, first aid, rehydration, health education and sanitation control were alien concepts which had never been discussed with them and which seemed unimportant. To the villagers, the idea of health care implied very concrete proportions: a clinic with a couch, a blood pressure set and stethoscope, a physician, injections and drugs. So, their question was: "What did you train Amin as; if he is not a doctor, what is he?"

What made matters worse for Amin was that his training in environmental control and sanitation did not take into account the

environmental conditions in the area, the financial situation of the community, village life in general and, least of all, the community's consciousness regarding sanitation and health. Thus Amin, with his inappropriate training, proceeded to implement the sanitation programme by trying to convince the community to place their refuse in specially purchased garbage bags which were later to be transported to an area outside the village. But the entire village looked like a dump, and no one thought it was unusual.

When this idea was not met with too much enthusiasm, he introduced another suggestion that he learned in the city. This time he went through the laborious task of visiting every single household to explain the need for installing window screens to ward off the evil of mosquitoes and other dangerous insects. This was to take place in houses that were full of holes of all sizes and shapes! Perhaps these ideas contributed to Amin turning from a potentially respected personality into the laughing-stock of his community.

In short, the problem connected with Amin's training was embedded in the improper conceptualisation of the kind of role he was to play in his community. It also lay in the basic incompatibility between his newly acquired knowledge in health care and people's needs and perception of health. The problem then was not exactly due to the "backwardness" of the community, as Amin had expressed it. By dismissing Amin's suggestions and by going back on their promise to support his salary, the villagers, among other factors that will be discussed later, made rational attempts to balance gains versus losses. And they opted out of the village health care programme because it offered too little for them.

Since his return from the city, Amin had also refused to work on the land. When we inquired as to why he would not consider

working with his family in farming while he awaited the resolution of his salary problem, he expressed great surprise and distaste for our suggestion. He excused himself by stating that he could not work in agriculture, for he now developed blisters on his fingers and backache when he did. Though the real reasons for this distaste of agricultural labour may never be revealed, it is our strong suspicion that training in the city had had its impact on Amin's self-perception. After having been "trained" and becoming "almost a doctor", it was now inconceivable for him to earn his living like the other members of his community. Whatever the reasons for this attitude might have been, it effectively alienated him further from his community.

4.2. The Community Attitude Towards the Local Health Worker

The second feature of the problem deals with the choice of 'Alia. To begin with, the rationale for training two village health workers remains a mystery to us (one would have been perfectly sufficient). In addition, it seems rather obvious that a community of 400 people, with limited resources and mounting needs and aspirations, would almost certainly not be able or willing to support the salaries of two workers. As it turned out, there was not even the willingness to support one for the benefits were not obvious, and the perceived needs of people lay elsewhere.

Apart from this, 'Alia herself posed a problem. She was chosen for training neither by the villagers nor by the Mukhtar. She was trained simply because she happened to be Amin's wife, and was thus allowed by her community to leave the village and train in the city, under her husband's supervision. On the surface, this appears to be a good reason for such a choice, and a quick solution to a complicated problem.

However, had the organisers discussed the question of 'Alia with the villagers, they would probably have opted out of this choice, thereby saving the money spent on her training and sparing her frustration and despair. A major factor in 'Alia's life history was the fact that she was a new-comer to the community. Originally from the faction of the Zbeidat tribe that had to resettle in Jordan as a result of the 1948 war, 'Alia lived most of her life in the city of Amman. She married Amin, her cousin, and came to Zbeidat to face a difficult and "backward" life. It became obvious when we talked to her that she was not very happy about being there, and that she basically regarded this community with contempt. Discussions with other women in the village confirmed that they regarded her as an outsider. More importantly, to them she was disrespectful of the community and therefore not worthy of trust. Thus, when 'Alia came back from her training course, she was faced with a double problem as she tried to set up a mother and child health service. One was the general difficulty of putting such a non-concrete and untested programme into action in isolation from other more tangible and appreciated aspects of health care. The women of Zbeidat failed to see the rationale behind weighing children and receiving health and nutrition education, which was the core of 'Alia' s programme. To them, it did not make sense to take the trouble and the time to attend the programme because, as some stated, they had always raised their children without such services, never perceiving a need for them or the problems that may ensue as a result of their absence.

Had this very important programme (but obviously not so important to the women of Zbeidat) been set up around or in conjunction with other services, such as immunisation of children, the response would probably have been different. At that stage in the health consciousness of women, immunisation offered them concrete

rewards, as it had already been tested and proven to protect against diseases.

The other problem that 'Alia faced was the lack of trust between her and her community. One woman summed up the relation by stating that the women of Zbeidat did not need an outsider and even less, a young girl without experience in life, to come and tell them how to raise and feed their children when they possessed far more knowledge and experience in that respect. Given this state of affairs, it is unclear why the women of Zbeidat would have been expected to join this programme, let alone pay for its services.

With the failure of 'Alia' s programme, both she and Amin began investigating the possibility of salvaging the situation. By drawing on the example of how the organisers set up mother and child health care centres in other villages, they decided to introduce food aid distribution and tie it to the mother and child health care service in Zbeidat.[10] Food aid would solve the problem, they said, because women would then have an incentive to attend. This attempt at overcoming the village boycott of the programme, however, added insult to injury. Food aid included the distribution of powdered milk to mothers and children. In a community that lacked a potable water supply, suffered from a high incidence of diarrhoeal and gastrointestinal diseases, and where breast feeding was still almost the sole method used by mothers to feed their infants, this solution seemed like a disaster.

4.3. The Funding Agency' s Procedure

The third aspect of the problem requires the examination of how the organisers proceeded to introduce the health project and the numerous other development schemes into the village. To begin

with, a quick review of events that took place during 1980-1983 alerts us to the fact that too many projects were implemented too fast, with too short intervals between them, and sometimes at the same time. Most, if not all, required, in accordance with the organisers' policy of "self-reliance", some contributions from villagers. This factor adds to our understanding of why the community refused to pay Amin's salary. Once again, their decision was rational, for, as the villagers actually explained, no one was willing to contribute to the health project. It was not their priority, and even if it had been, their resources were exhausted by other projects.

By pursuing this point further, we found out to our dismay that these projects were actually being implemented in accordance with the recommendations that had been included at the end of the infamous 1980 survey report: in fact, they were followed by the book. Yet very little regard was paid to the few basic, but extremely important principles of how to implement development schemes including participation of the community in all the stages ranging from the decision-making process, the agreement on priorities, to the actual operation of projects, the promotion of community spirit and consciousness-raising by dialogue and discussion.

The question is: why did the organisers follow this path of decision-making and planning from the top? Various factors account for this state of affairs, some of which will be discussed shortly. But a few remarks are required here. As far as the health project was concerned, discussion, dialogue, participation and other co-operative activities were virtually impossible. The organisers were not only foreigners, but they seemed to live on the fringes of this society, know little about it in general, and its tradition and culture in particular. Thus, they could not have had the necessary insights

needed for the implementation of a health programme which was not within the range of daily experience in the village.

Most importantly, they could not even speak the language.Thus, their genuine efforts at basic communication with the villagers, let alone understanding the sometimes intricate points and undercurrents that emanated from a discussion, resulted in failure and frustration.[11] But apparently they had no choice, for it had already been decided by the policy-makers of the agencies to embark on community development activities, the fashionable thing to do, and there was no allowance made for the employment of a Palestinian for the purpose.

This was not the case with the other development projects, where the planner and executor was a dynamic, very hard-working and dedicated Palestinian. Their problem there was that, in spite of the very crude form in which the concept of self-reliance was applied (partial support of project costs by villagers, for instance), every other message the community was given reinforced dependence on the agencies and the patron-client nature of the relationship between them. In fact, a new type of consciousness was emerging in Zbeidat as a result of this sudden intensive contact with the outside world.

The villagers discovered the ease with which they could obtain grants and subsidies from voluntary agencies and the Jordanian-PLO Joint Committee[12]. During the first few encounters we had with the people of Zbeidat in the summer of 1983, it became apparent that, in spite of the heated discussions regarding Amin and the woes of the health project, what really mattered to the villagers was not the discussions, nor the solution to the problem, but their interest in "landing" yet another grant for the community

centre, for the new water tank and so on. They became confused when the new director of MCC (who was the first to perceive and courageously face the problem) suddenly changed a policy which had operated for several years, and flatly refused to extend any further grants or loans to them. Despairing of MCC, they proceeded to ask us for the addresses of other voluntary agencies in Jerusalem!

In general, there was no strategy nor a coherent collective plan for the development of Zbeidat. There was a great deal of activity and a very crude form of "self-reliance" ideology. The ideological force behind the developments in Zbeidat can be summarised in what is locally called "steadfastness". This concept has evolved as a basic slogan for the national struggle, and aims at the prevention of land confiscation by various methods, including the encouragement of peasants to work the land and thus reclaim it, stabilisation of communities by increasing productivity (drip technology), and the provision of basic services that the military government should, but does not provide.

In view of this ideological background and the quite understandable human response of the organisers to the unliveable conditions that prevailed in Zbeidat, the course of the development of Zbeidat was sealed: money poured in, services were set up and the existing and problematic system of patronage was cemented. This, of course, contradicted and effectively eliminated whatever spirit of self-reliance existed in this community. It also eliminated the possibility of working with the community on participation, genuine self-reliance and consciousness-raising in health.

Even if the ideology was not a problem, it would have been difficult indeed for the organisers to pursue a different course. The reasons

are, in part, related to the peculiar political situation of the Occupied Territories (to be discussed later), and to the framework within which the organisers of community development in Zbeidat, as well as most other development agencies, operate. Most agencies appear to be interested in community development. But more often than not, agencies actually only deliver services. Between their drive to reach larger and larger numbers of communities[13] and their tendency to quickly expend their budgets, perhaps to justify their existence or even their plans for expansion, they seem to get lost in the jargon of community development and miss the substance.

Meanwhile, the task becomes an impossibility because its substance lies in the laborious and difficult functions of discussion and dialogue, of investigation and reflection, and of acquiring insights into communities. This could not have been done by the organisers in Zbeidat because of simple personal problems. At the time, they were, and still are, extremely busy and involved in introducing new technology and a variety of basic services in a network that extends across the West Bank and sometimes even the Gaza Strip.

But the question arises: who then is responsible for consciousness-raising and community organisation? Given the potentially harmful effects of pouring development aid funds into communities, without considering the above mentioned factors, should voluntary agencies perhaps reconsider their community development policies?
In Zbeidat, the result of this kind of policy is that projects other than the health programme are also being met with resistance. The kindergarten, for instance, is not being attended by children because mothers do not see the need. This is the case in spite of

the teacher being a respected member of the community, and despite her efforts to convince mothers of this project's importance. The obstacle is being overcome, once again, by the introduction of a food aid and powdered milk distribution programme that is to be supported by the military government's social welfare department.

4.4. Problems of Community Spirit

The fourth feature of the problem is one of leadership and community spirit. Both have been deeply affected by the "'Abed connection".Up to 1980, the decision-making process in this homogeneous community, though controlled to some extent by the leaders, was essentially consensus-based.[14] The Mukhtar elected by community members exercised, according to villagers' accounts, his power, based on justice and a genuine interest in community welfare. His death in 1982, however, precipitated a crisis of leadership.

'Abed, the second son of the Mukhtar and, as some villagers described him, an "illiterate and a drunkard", was apparently a person of questionable character who had barely completed four years of schooling. During his teens he had worked in the nearby settlement of Argaman as a wage labourer. This apparently led him to establish connections with the Israeli secret service. Ever since then 'Abed was considered "corrupted". Through this connection, however, 'Abed became a power figure, for he was able to solve some of the problems of Zbeidat with the help of the military government, and to deliver important and usually unobtainable services to his community.[15] Because of this connection he became feared, and was thus able to dictate what was to be done, particularly after his father died. He was also able

to form a coalition with two of the larger landlords and effectively imposed himself as the new Mukhtar. So, when the military governor came to visit and inquire about the identity of the new Mukhtar, the village council was too afraid to express its strong objections to this fait accompli.

Ever since, community meetings have been abolished, and decision-making in village affairs has fallen into the hands of, 'Abed and the very few who supported him for personal interests. The village was thus split into two factions: those who were for and those who were against the Mukhtar. To make matters worse, 'Abed ruled with great injustice, placing a priority on individual interests over communal ones. In the end, he controlled the whole village.

Another factor that may have contributed to the weakening of the communal spirit seems to be related to the new phenomenon of surplus accumulation. Though this matter should be systematically and thoroughly studied because of its importance, it appears as if drip irrigation has widened the income gap among families, with the landless benefiting the least and those who owned larger plots of land benefiting the most.[16] This seems to have created a conflict between collective and individual interests.
Consider, for instance, the events that occurred during the house-building period. By 1981, upon the acquisition of building permits, those who had larger plots of land built new houses immediately. Landless families, however, could not afford house-building projects even with loans. When they approached the organisers with their problem, a list of names of those in greatest need of financial help was drawn up by the organisers and the village teacher (who owns one dunum of land only). When the others discovered the list they were incensed and, according to the teacher, all of a sudden everyone claimed to be poor. A conflict ensued.

Unfortunately, it was resolved by the organisers deciding to extend building material equivalent to the amount of JD 250 (amounting to about 5% of the costs for building an average house) to most families, without regard to wealth status. Later, when the organisers discussed the issue of building a room in the village to serve as a clinic, virtually no one was willing to financially contribute to the project. As a result, the organisers themselves paid for the clinic's construction.

Thus, when the time came for the farmers to decide about how to invest their surplus, they opted for individual investments of the traditional type. Today, the community can be mobilised into project action virtually only when projects are subsidised by agencies or from Jordan. The health project has no place whatsoever within this kind of consciousness.

4.5. Community Development Under Military Occupation

The last feature of the problem, and perhaps the most entangled and the least clear one, is the relationship between community development and organisation on the one hand, and the constraints imposed by the political reality on the other. Under military occupation, there is no coherent and integrated development plan for the area and at best a lack of interest, at best, on the part of the authorities in delivering basic services. These facts, of course, have many consequences, but in Zbeidat they have meant that the attempt at community development has taken place in a vacuum.

Take, for instance, Amin and 'Alia's problem. Had there been a regional plan for health services in the area providing for an immunisation programme and proper supervision of other services, it would probably have been possible for them to earn their income

serving their village, without being potentially harmful. They might also have been able to serve communities living nearby (such as Marj Na'je).

Zbeidat is too small and too isolated to be able to support all the services needed to render it inhabitable. And it is crippled by its inability to surpass its boundaries and seek solutions in solidarity with other communities. A regional plan delineated by an interested authority might have solved the problem. To illustrate the problem further we can draw on the examples of electricity and water. To install electricity, the community had to face a difficult choice. It could have been connected to the Israeli electrical grid by way of Argaman, the settlement that was erected on the confiscated land of Zbeidat. But this option would have eliminated the possibility of obtaining a grant from the Jordan-PLO Joint Committee, for its policy prohibits connection with the Israeli grid. This choice would also have placed the village at the whim and mercy of the settlers, and rendered them more dependent on the Israeli government.

From both a pragmatic and a national political point of view, this choice was rejected. Yet when they received the large sum of JD 15,000 (approximately US$50,000) from the Joint Committee and provided the village with electricity by way of a private village generator, they discovered that the costs of having electricity only in the evenings was about three times higher than the costs of twenty four hour service supplied by the Israeli grid. Then they had to face a similar and difficult choice in relation to the water project. Jordan promised the even larger sum of JD 35,000 for the installation of a potable water supply system. But the villagers are afraid of the increased operating costs, knowing that they have the possibility to connect to the Israeli water system, again by way of Argaman.

Zbeidat may be able to continue to pursue its policy of refusal to depend on Israel; the connections it has established with agencies who, in turn, put a great deal of effort and money into subsidising services may make this possible. But is this a reasonable and realistic choice for the rest of the Occupied Territories? And what about the future when we may face the problem of very costly village-level services? Would not this kind of development overburden the national budget?

4.6. Lack of Regional Development Plans

The nagging question is why Palestinians cannot take the responsibility of formulating and implementing a development plan for themselves. One of the answers lies in the nature of the factionalised Palestinian national movement in the Occupied Territories. A detailed discussion of the origin and nature of this problem is beyond the scope of this presentation. But we may examine its consequences by looking at examples not immediately related to Zbeidat.The Palestinian women's committees' movement, for instance, is today at the forefront of the struggle for community development.[17] Yet in spite of practically identical platforms and statements of purpose as far as women and development objectives are concerned, they remain incapable of co-operating with each other or unifying their work and thus becoming a structure that may implement a regional plan for development, perhaps a national one. So far, the women's committees are not even capable of dividing regions among themselves so that they can avoid clashing in a locality that is deemed interesting to work in by more than one committee. In addition there is the problem of the apparent contradiction between national political and development aims.

How do we reconcile, for instance, the centralised decision-making, authority and command that are thought to be needed for an effective national political movement with a self-reliant consciousness-raising perspective whose core lies in the task of helping people to make decisions for themselves?

Apart from the political framework, very little remains that could effectively carry out the difficult tasks of planning for and implementing community development projects. Palestinians until now still possess their institutions, but in general these are incapable of meeting the challenge. Institutions tend to be centralised (unlike the women's committees which represent the first genuine grassroots movement in the Occupied Territories) and are primarily located in towns. They generally represent the interests of the middle classes and intelligentsia, tending to be far removed from development needs at the rural level (where 70% of the population live), and are plagued by hierarchical structures and networks of command.

Most importantly, they lack the necessary infrastructural network and manpower that can extend across the area. And the possibility that these institutions would co-operate on such schemes still seems rather dim, since they too suffer from the problem of petty rivalries. Foreign agencies are thus left to face the problems of community development alone. Lacking guidance from Palestinians, they tend to execute projects in accordance with their own needs and in a haphazard fashion. And given that they cannot even institute projects without prior approval of the military government that controls their work, the situation is distorted further since, almost always, approvals made by the military government are subjected to political considerations.

5. Lessons and Questions

Many lessons can be learned from the experiment in Zbeidat. Most have been repeatedly reiterated elsewhere[18]: the difficulty of putting a development plan into action, the necessity for designing and implementing programmes in accordance with people's needs and at a pace that is compatible with their ability to respond, the necessity for organisation and consciousness-raising, and the importance of leadership and community spirit. But for us and Zbeidat, the lesson is that if researchers and agencies do not possess the time or the operational structure or manpower to realistically carry out and follow up their recommendations and programmes, then perhaps they should not become involved at all in community development schemes.

The lesson also is that an emphasis on increased productivity and delivery of services to the exclusion of other requirements for development remains an inadequate attempt at radical change. There is no doubt that the material gains accrued to the farmers of Zbeidat as a result of drip technology have actually improved the physical conditions in the village. But drip irrigation has not freed the farmers from the control of the commission agents, landlords, the military government, and most importantly, their own low level of consciousness.

Today, in Zbeidat, even the material benefits of drip technology are jeopardised. On 5 January 1983, a new military order (number 1039) was promulgated by the military government forbidding the planting of vegetables, specifically tomatoes and eggplants, in the Jordan Valley region unless prior permission has been obtained.[19] In Zbeidat, where eggplants and tomatoes are among the very few crops that are capable of withstanding the salinity of

the soil and have therefore become major crops since the installation of drip, the consequences of this order may prove to be catastrophic. In the summer of 1983, the military government decided that permits for the planting of tomatoes and eggplants in the Valley would be restricted to 9,000 instead of the usual 12,000 dunums that are reserved for these crops. The farmers have already been instructed to plant 80% of the previous year's allotment for these vegetables and have expressed apprehension about the future.

But this is not the only limitation of drip technology. The people of Zbeidat have yet to face other consequences of the new technology: increased land salinity, the impact of the utilisation of heavy doses of fertilisers and other chemical substances on the environment, water purity and people's health, to name a few of the problems that we are conscious of. Also, it has recently become apparent that, as a result of the double-cropping system and intensive irrigation that accompanies the technology, Zbeidat land is suffering from increased soil disease and an overgrowth of harmful weeds. This, in turn, has decreased land productivity. To solve the problem, a new system of treating the land with a fumigant, methyl bromide is being tested. But methyl bromide is a deadly poison. How the largely illiterate people of Zbeidat will be able to adjust to the introduction and the presence of such a dangerous chemical in their environment, and how this will affect people's health, remains to be seen.

At this stage in our understanding of community development, we do not have answers. We are just beginning to understand the difficult questions: what is consciousness-raising in the Palestinian context? How can we formulate a development ideology so that it will acquire meaning for people? Is there really an inherent contradiction between national political and developmental aims,

and if so, how do we reconcile the two? If not, how then do we go about refining and adding new dimensions to the concept of steadfastness? How can we bypass the "corruptive force of the indiscriminate flow of development money from both Jordan and voluntary agencies? But most importantly, is community development possible without a radical change in our political, economic and social contexts, and will Palestinians be able to surpass their constraints and meet the challenge?

ENDNOTES FOR PART III

1. A development agency operating in the West Bank with offices in Jerusalem.

2. For further information see Part II of this report.

3. For further information see Part I of this report.

4. The purpose of the survey report was to accumulate baseline data for future follow-up and evaluation, to assess the impact of drip technology on the community, and to formulate recommendations for further action.

5. At the time, Birzeit University and Birzeit Women's Charitable Society were already in the process of training village health workers in their area. Why they were not approached by the organisers remains a mystery. But even if they had been, it is unlikely that they would have undertaken such a responsibility since their programme was just being launched, and they were having difficulty locating the personnel necessary to train their own students.

6. The governmental general certificate of high school education.

7. Another development agency working mostly in health, and with offices in Jerusalem.

8. Incidental meetings with MCC personnel kept us marginally in touch with the events.

9. By then, the persons responsible for planning and implementing the health programme at both agencies had left the country. This left me and the new MCC director with the task of reconstructing the incidents through interviews with the village teacher, Amin and 'Alia, and through discussions and meetings with the village leader Abed. Additionally, we reconstructed events by reviewing the MCC project file.

10. The organisers here, CRS, are until today heavily involved in distributing food aid across the Occupied Territories. Birzeit University's Community Health Unit has for several years suggested, in vain, that CRS reconsider its policy. The Unit has accumulated evidence that food aid reinforces the very dependence that is being combatted. The strategy is contradictory to self-reliance in the provision of health care. The Unit's experience has been that women, in general, attend services to pick up the food, sometimes sell it in the open market, and that they generally pay little regard to the information that they receive along with the service.

The other problem, of course, is the impact on health of the distribution of powdered milk (which comes in a package deal along with other food items) to children who live in villages that lack potable water supplies. At this stage, it appears that as long as control and authority is not in the hands of Palestinians, and since there seems to be no interest on the part of the military government and CRS to solve the problem, powdered milk and food aid distribution will continue. Other food aid distributors in the Occupied Territories include CARE (International) and the military government's social welfare department.

11. I attended one of these meetings that occurred between the organisers and the community early in 1981. The language barrier was clearly creating a situation that can be described as almost comic. The organisers knew and appreciated the importance of this point, but, given what I suspect was pressure from above, they decided to continue with the project, and to try to make the best out of a difficult situation.

12. An agency that was established in 1977 with the purpose of channelling funds to the Occupied Territories for steadfastness purposes.

13. This may be justified in view of the need for basic services in most rural communities in the Occupied Territories.

14. For further information see Part I of this report.

15. Such services include, for instance, family reunion permits, bridge passes to Jordan and other important services that are controlled by the military government. It is thought that the "'Abed connection" was instrumental in obtaining building permits for this village which occupies Miri (government) land, and which was prohibited from even repairing existing houses from 1967 till 1980.

16. Drip also benefited the landless farmers who had share-cropping arrangements with absentee landlords. It is interesting to note that MCC provided financial and technical help to farmers so as to install drip technology into both Zbeidat and absentee landlord property. Thus benefits from drip technology were also incurred by the big landlords.

17. The women's committees are four community and women's development groups that have revolutionised the activities of women's organisations in the Occupied Territories. Their remarkable creativity and efforts are slowly breaking new barriers in steadfastness activities in the area. For further information on the subject, see: Giacaman, R., Women and Development in Occupied Palestine, Report to the United Nations' 7th Seminar on the Question of Palestine, Proceedings, Dakkar, Senegal, 1982.

18. See, for instance: Dore, R. and Mars, Z. (eds.), Community Development, London: UNESCO/Croom Helm, 1981.

19. This information and all other information pertaining to the new military order and its consequences, including the English translation of the text, was obtained from Mr. Ibrahim Matar, MCC, Jerusalem.

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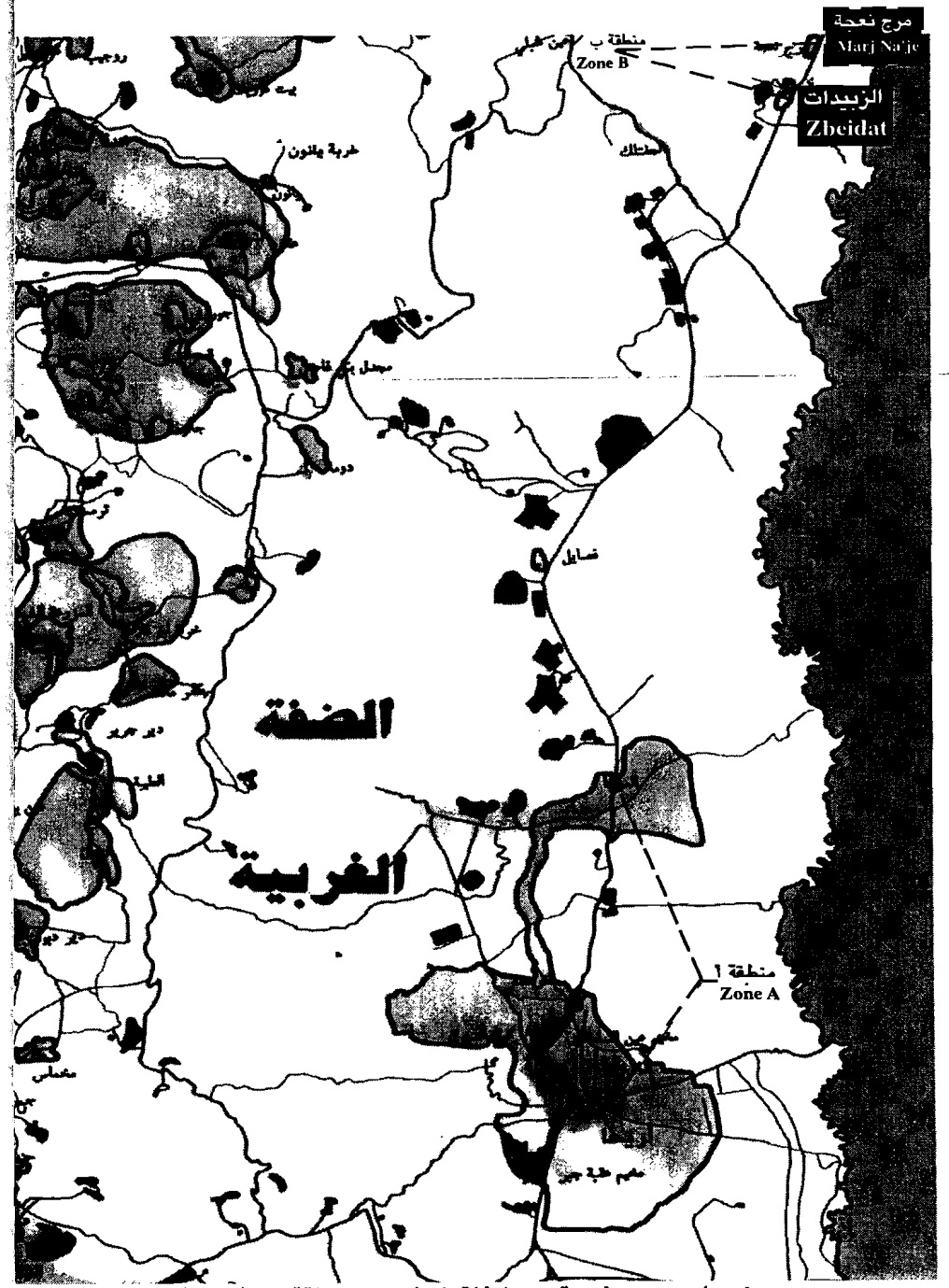

زبيدات ومرج نعجة بعد اتفاق اسلو ٢- منطقة ب (١٩٩٥)

Zbeidat and Marj Na'je under the Oslo 2 Accords (1995), Zone B

(See Preface to the Second Edition راجع مقدمة الطبعة الثانية)

ودفع مركزه الى الامام بعلاقته بالسمسار والتاجر ومالك الارض، وان لم تتغير هذه العلاقة بشكل بنيوي وجذري.

أن هذه الدراسة تضيف عمقاً تحليلياً جديداً في مجال دراسة التغيرات الاقتصادية – الاجتماعية في المجتمع الفلسطيني بعد الاحتلال، وتبرز أهميتها، بشكل خاص، في كونها دراسة تحليلية ميدانية لمجتمع فلاحي محدّد. فهي تطبيق لمفاهيم نظرية طالما تم تناولها بمعزل عن الوقائع الحية الميدانية، وهي بذلك تضيف الجوانب الخاصة التي تميز تطور المجتمع الفلسطيني في ظل الهجمة الاستيطانية الاسرائيلية في الاراضي المحتلة.

وإذا كان الوصول الى الشكل الخاص لتطور المجتمع الفلسطيني في ظل الاحتلال، يحتاج الى عدد كبير من الدراسات الميدانية والنظرية متعددة الجوانب، فلا شك في أن هذه الدراسة هي نقطة انطلاق واحدى البدايات على هذا الطريق.

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في القسم الثاني والثالث من الكتاب تعالج الدراسة الابعاد الصحية للتغييرت التكنولوجية في الزبيدات، ثم تراجع ريتاجقمان اثار هذه التحولات بعد خمس سنوات من انجاز الدراسة الاولى.

وكان لتجربة بعض مزارعي القرية باستخدام هذا الاسلوب بمساعدة جمعية المانونايت عام ١٩٧٦ نتائج مذهلة على صعيد الانتاجية، حيث ضاعفت الانتاجية الى حوالي ثلاثة أو اربعة اضعاف الانتاجية القديمة. هذه التجربة شجعت القرية بكاملها على الاتفاق مع الجمعية على اساس مد شبكة المياه الرئيسية وتوابعها بتكلفة اساسية بلغت مليون ونصف المليون ليرة اسرائيلية (٩٠٠٠٠ دولار بأسعار ١٩٧٨)، ومشاركة الأهالي بما قيمته ٣٠ ٪ من التكاليف الرئيسية. ومن الجديد بالذكر هنا أن اسلوب الري الحديث كان في الاصل منتشراً في معظم ملكيات الغور الشمالي والجنوبي الكبيرة، لتوفر رأس المال المطلوب، وبسبب من أن هذا الأسلوب هو غير اقتصادي للملكيات التي تقل مساحتها عن ٢٠ دونماً.

أما في مجال تقويم النتائج الرئيسية لاستخدام اسلوب الري الحديث في الزبيدات، فيحدد الكتاب النتائج التالية:

أولاً: تزايد في الانتاجية وصل حتى ٥-٨ اضعاف الانتاجية القديمة.

ثانيا: موسم مبكر يوفر امكانية التسويق بأسعار عالية.

ثالثاً: وفر المدخول النقدي المتزايد للفلاحين شروطاً افضل في مجال المفاوضة مع السماسرة والتجار.

رابعاً: اعطى تزايد معدل الإنتاجية قوة اكبر للمحاصيص في مفاوضته مع مالك الأرض.

خامساً: ادى «التفتات» الى اعادة تنظيم عملية العمل الزراعي، في مجال اعفاء المزارعين من الأعمال الجسدية المضنية، وزيادة كثافة العمل الزراعي، وازدياد الطلب على الآلة الزراعية في معظم المهام.

سادساً: أدى الى اعتماد الفلاح بالأساس على التكنولوجية الاسرائيلية، وبالتالي خضوعه لارتفاع أسعار البذور المحسّنة والآلات والمبيدات، الخ.. مما يعرضه لأعباء مالية جديدة.

سابعاً: تؤدي عملية مراكمة رأس المال الى ظهور انقسامات طبقية جديدة، فهي عملية غير متساوية، وتؤثر على الفلاحين المتوسطين تأثيراً مختلفاً على فلاحي الملكيات الصغيرة، وعلى المحاصصين وعلى المالكين – المزارعين واسعة.

ويفصل الكتاب هذه النتائج، خاصة فيما يتعلق بالانتاجية، والمداخيل، واختلاف الدورة الزراعية، وشكبة التسويق. وحول الاخيرة، يحدد أنه أصبحت هناك أربعة مجالات رئيسية للتسويق: الأول، البيع لتجار الجملة والسماسرة (وقد تحدثنا عنها سابقاً)؛ الثاني، التصدير الى الأردن، ويستعرض هنا الصعوبات التي تواجه مزارعي الزبيدات من أجل استحضار «شهادات المنشأة» من ممثلي الأردن في الضفة الغربية، هذا بالأضافة الى اتخاذ الأردن اجراءات متعددة منها منع استيراد النتاج الفلسطيني الى السوق الاردني، الا بعد نزول الانتاج الاردني الى السوق وانخفاض اسعار المنتوجات الزراعية مما عرض الانتاج الفلسطيني لضربات متكرره على هذا الصعيد: الثالث، ضمان المحصول، وقد انتشر هذا الشكل بعد ادخال الأسلوب الحديث للري، ويستمد اهميته من وجود عدد من المزارعين المحتاجين الى السيولة النقدية لدفع أجور العمال وغيرها من الاحتياجات قبل انتهاء الموسم الزراعي، ويقوم بعملية الضمان، تجار الجملة من نابلس على الأغلب؛ الرابع، البيع المباشر للجمهور، ويقوم بهذه العملية النساء والأطفال الذين يجلسون الى جانبي الطريق المار بالزبيدات ويبيعون المحصول للسيارات المارة في الطريق.

ويلخص الكتاب نتائج البحث باستعراض العوامل التي كانت تهدد الزراعة في منطقة الزبيدات وتؤثر في انتقال عدد كبير من الفلاحين الي العمل المأجور، وصولا الي ادخال التكنيك الحديث وما انتجه من تأثيرات مختلفة على زيادة الانتاجية والمدخول وتقسيم العمل، الخ.. مما رسخّ من علاقة الفلاح بالأرض،

ثالثاً: اعتماد الفلاحين المحاصصين (وهم من اللاجئين) على ملاك الأرض في ايجاد سكن لهم، مما عزز من طول مدة المحاصصة والاستقرار الى خمس سنوات بالمعدل.

أما السماسرة والتجارة، فتحدد دورهم في اقراض الفلاحين الصغار والمحاصصين مبالغ مالية سابقة للموسم الزراعي مقابل ٧٪ من ثمن الناتج «المسوّق» في الحسبة (وهم في العادة تجار الحسبة الكبار). هذا بالاضافة الى الفائدة المتفق عليها على القرض المالي نفسه. وفي حالات كثيرة يكون هؤلاء التجار والسماسرة هم أنفسهم ملاكي الأرض الكبار. ويمكن تلخيص وظائف هؤلاء السماسرة بأربع نقاط رئيسية:

* يوفرون للفلاح حاجة من البذور والكيماويات والمبيدات، الخ..
* يوفرون له مبلغاً من المال في نهاية موسم الصيف حيث ينعدم الدخل الزراعي.
* يوفرون له صناديق لتسويق بضاعته.
* يتفاوضون مع تجار الحسبة (إن لم يكونوا هم أنفسهم) للحصول على أعلى سعر لبضائعهم.

وفي المقابل، فإن السمسار هو المسؤول الوحيد عن تحديد أسعار المبيدات والبذور، وهو الواسطة الوحيدة للتسويق. وفي حال عدم قدرة الفلاح على ايفاء ديونه، يحق للسمسار أخذ ما يعادل ديونه من ملكية الفلاح، أو تجديد الاتفاق معه لسنة جديدة تضاعف من ديونه السابقة.

ان النتيجة العامة تكون، في العادة، مشاركة مالك الارض والسمسار للفلاح في أرباحه السنوية، واعتماد الفلاح بشكل كامل على قروضهما، مما أدى في الزبيدات الى تزايد اهمال الفلاحين لأراضيهم، وتوجههم مع منتصف السبعينات الى سوق العمل المأجور المتاح في المستوطنات الاسرائيلية القريبة.

تتحدث الدراسة عن مشكلة مصادر المياه في القرية لاهميتها في التقديم لنقاش أسلوب الري الحديث وأثره على القرية. فيقول أن السياسة الاسرائيلية لم تتوقف عند مصادرة أراضي الزبيدات فقط، بل استكملته لتصل الى قانون يمنع حفر آبار ارتوازية ما بين أراضي المحروق والزبيدات (١٥كم)، بحيث لم يبق لأهل الزبيدات الا بئر الزبيدات الذي تحدد انتاجه بـ ٢٠٠-٢٠٠ الف متر مكعب في السنة، أي ما يكفي لريّ ٣١١ دونماً من أراضي القرية الزراعية. أما في المنطقة المحيطة بها، فتوجد سبعة آبار ارتوازية يملك ستة منها ملاكون كبار. واذا أضيف الى ذلك المشاكل المحيطة بأسلوب الريّ القديم (القنوات المفتوحة)، والتي تؤدي الى فقدان كميات كبيرة من الماء بالتبخر والتسيّب الأرضي، وبداءة التكنيك الزراعي، ومشكلة تملك أراضي الاغوار مع قلة الأمطار فيها، لوجدنا أن من النتائج الطبيعية لذلك، التوجه المتزايد للفلاحين للعمل المأجور وتركهم أراضيهم الزراعية.

الري الحديث يأتي للزبيدات

تحت هذا العنوان، يعالج الكتاب الفترة ما بعد عام ١٩٧٧ (سنة ادخال الري الحديث أراضي القرية)، وفيها جرت مجمل التغيرات التي شهدتها القرية، وتشمل أثر الري الحديث على الانتاجية والدورة الزراعية والعمل والتسويق والمداخيل النقدية. ويبدأ هذا الجزء باستعراض مختصر لكيفية دخول اسلوب الري الحديث اراضي الزبيدات؛ فيقول أن هذا الاسلوب لم يكن غريباً على أهالي القرية، خصوصاً أولئك الذين عملوا كعمال زراعيين في أراضي المستوطنات الاسرائيلية المحيطة؛ بل أن الحاجة كانت ماسّة لهذا الأسلوب، في ظل ازدياد تملح تربة الزبيدات لدراجات خطيرة وانخفاض الانتاجية الأرضية وندرة مصادر المياه ومشاكل توزيع الأسمدة.. الخ، الا أن المعيق الرئيسي، كان دائماً في عدم توفر رأس المال الكافي للشروع في مثل هذه العملية الضخمة.

على استبيان موجّه لمسؤول كل عائلة، هذا بالاضافة لاستخدام اسلوب المقابلة المفتوحة مع ثلاثة من ملاك الأرض الرئيسيين في المنطقة نفسها، ونقاش التفاصيل المالية عن الموسم الزراعي ١٩٧٩-١٩٨٠ مع اثنين من مزارعي القرية. أن اسم الزبيدات هو اسم لقبائل عرب الزبيدات القاطنين فيها الآن، وذوي الأصول شبه البدوية، حيث هاجروا من منطقة بئر السبع بعد حرب ١٩٤٨ الى غور الأردن ليعملوا كمحاصصين لملاك ارض غائبين من طوباس ونابلس. وفي أوائل الثمانينات، منحتهم الحكومة الأردنية ٥٠٠ دونم في المنطقة الجنوبية لمرج نعجة، على أساس تحويلها، بعد فترة خمس سنوات، من الزراعة المتتالية الى أرض خاصة بهم. ومع حرب ١٩٦٧، فقد اهالي الزبيدات هذا الحق بمجيء الاحتلال الاسرائيلي وهجرة ٨٠٠ من ابنائهم الى منطقة اربد، وكذلك مع بداية الحملة الواسعة من المصادرات التي شملت ٢٦٠ دونماً من أراضي القرية، و٧ آلاف دونم من أراضي مرج نعجة والقرى المجاورة لها، مما هدد المئات من الفلاحين الذين اعتاشوا على نظام المحاصصة بفقدان الأراضي التي بحوزتهم.

أما نظام ملكية الأرض في الزبيدات، فيحتوي ثلاثة مظاهر رئيسية بالاضافة الى الملكية الخاصة للأرض: الحيازة بدون ملكية، نظام المحاصصة، والضمان، وكلها مظاهر مهمة شاركت في عدم استقرار علاقة الفلاح بالأرض. وفي معرض استعراضه لنظام المحاصصة، يعرف الكتاب هذا النظام بأنه نظام شبه اقطاعي، يقوم بين الفلاح ومالك الأرض على أساس تقديم المالك للمياه والأرض وقرض نقدي مسبق لشراء البذور والسماد وغيره، وفي المقابل يقدم الفلاح العمل، وجزءاً من رأس المال المودع في الأرض. وفي احصائية عن أراضي منطقة مرج نعجة والزبيدات التي يزرعها سكان الزبيدات، يتبين أن مساحة الأرض التي يحوزها الفلاح الواحد لا تزيد عن ٥,٢ دونم. وهذه المساحة أقل من الحد الأدنى من المساحة الأرضية التي تكفي عائلة مكونة من ثمانية أشخاص والمقدرة بحوالي ١٠ دونم. هنا يضيف نظام المحاصصة الى أراضي الفلاح بضعة دونمات أخرى

لتصل مجموع حيازات الفلاح الى ١٤,٢ دونماً. وهي بالتحديد ما تمنعه من الانتقال الى سوق العمل المأجور.

أما نظام ايجار الارض مقابل مبلغ فوري من المال، فهو نظام موجود ولكنه غير منتشر في القرية، ولا تزيد مساحة الاراضي المؤجورة عن ٤٧ دونماً.

نواجه هنا شخصيتين رئيسيتين في مجال العمل الزراعي في القرية، الأولى: ملاك الأرض الغائبين والمقيمين. والثانية: السماسرة والتجار. أن ظاهرة ملاك الأرض الغائبين قد ظهرت الغور الشمالي مع بداية الخمسينات، حين أعلنت الحكومة الأردنية منحها مساحات واسعة من الأراضي الاميرية لكل من يستطيع زراعتها لثلاث سنوات متتالية، مما شجع عدداً كبيراً من تجار نابلس وطوباس على امتلاك هذه الاراضي، خصوصاً في ظل وجود عدد كبير من اللاجئين في مخيمات الغور ذوي الخبرة الواسعة في زراعة الأرض وغير المالكين لوسائل انتاج خاصة بهم.

أن هذه العملية قد أثرت بشكل كبير على تطور الزراعة في الأغوار، فتم حفر مئات الآبار الارتوازية بمساعدة الحكومة الاردنية ووكالة غوث اللاجئين، وبدأت زراعة الحمضيات بالانتشار في الغور الجنوبي ضمن توفر الاحتياطي الضخم من العمالة المأجورة في المخيمات أما في الغور الأوسط والشمالي، فقد استمر شكل المحاصصة، كشكل غالب، ضمن وجود ثلاثة عوامل أثرت عليه في أراض في أراضي الأغوار ككل.

أولاً: انخفاض الطلب على أراضي الغور بعكس مناطق اخرى مثل جنين وطولكرم.

ثانياً: الظروف المناخية الصعبة التي جعلت استقرار عائلة فلاحية لفترة طويلة في أراضي الأغوار مسألة صعبة.

الزبيدات
التأثيرات الاجتماعية للتكنولوجيا الزراعية على حياة مزارعي الاغوار

ملخص الدراسة

بقلم سمير حليلة

تعالج هذه الدراسة التحولات في مجتمع استطاع أن يتأقلم وسط حلقة من المستوطنات الاسرائيلية (المتقدمة تكنولوجيا) وما أدّت اليه سياسة الاستيطان من مصادرة أراضٍ ومياه وغيره، كان من نتائجها حدوث تغيرات واسعة على البنية الاقتصادية – الاجتماعية في القرية المدروسة: الزبيدات.

أما عن الأهداف المباشرة، فيحددها بأنها:

أولاً: دراسة تأثير ادخال اسلوب الزراعة الحديثة (التفتات) على حياة الفلاحين.

ثانياً: ايجاد معلومات احصائية اساسية عن الظروف الاقتصادية – الاجتماعية في القرية لاستخدامها فيما بعد في مراقبة التغيرات الحلصلة داخل هذا المجتمع، أو في مجال مقارنتها بالقرى المجاورة في الغور الفلسطيني.

ثالثاً: وضع توصيات محددة في المجالات المختلفة على ضوء نتائج هذا البحث لاستخدامها في أي مشروع تطويري للقرية.

ولتحقيق هذه الأهداف، أجرت الدراسة احصاء شامل لعائلات القرية بالاعتماد

التطور الثاني هو القيود الصارمة التي فرضت على السكان خلال خمس سنوات من الانتفاضة (١٩٨٧-١٩٩٢) عندما اعلنت سلطات الاحتلال مرج نعجه والزبيدات منطقة امنية محظورة واصبح المزارعون غير قادرين على الوصول إلى حقولهم أثناء موسم الحصاد في الشتاء. كانت الذريعة في هذه الاجراءات أن الزبيدات ومرج نعجه منطقتان يتسلل اليهما المسلمون، من الاردن عبر النهر.

التطور الثالث كان توقيع البروتوكول الثاني من اتفاقية اوسلو (أوسلو ٢) عام ١٩٩٥، الذي ادى الى توسع سلطات الحكم الذاتي الفلسطيني لتشمل باقي الضفة الغربية. بموجب هذه الاتفاقيات صار كل من الزبيدات ومرج نعجة مشمولتين في المنطقة (ب) (راجع الخارطة) - وهذا يعني انهما اليوم تقعان تحت السيطرة المدنية الفلسطينية اداريا، ولكن السيطرة الامنية فيهما لاسرائيل. ولقد خاض المفاوضون الفلسطينيون مفاوضات شاقة لانتزاع هاتين المنطقتين (مع فصائل في الشمال) من سيطرة الاحتلال، ذلك أن الاسرائليين يعتبرون أن كافة المناطق السكانية العربية في وادي الاردن (باستثناء اريحا) هي جزء من شريط الامن الاسرائيلي طيلة الفترة الانتقالية (١٩٩٤-١٩٩٩). كانت النتيجة بالنسبة للزبيدات ومرج نعجة الوقوع في وضع متناقض: اذ بينما انحسرت وطأة السيطرة العسكرية الاسرائيلية على حياتهما اليومية، فقد انفصلتا الآن عن مناطق الحكم الذاتي، وأصبح عليهما أن تواجها العراقيل أمام تسويق بضائعهما في الاسواق الفلسطينية وكذلك عبر النهر الى الاسواق العربية. وبينما ساعد نشوء علاقات تجارية بين فلسطين والأردن (وكذلك بين اسرائيل والاردن) على تسهيل حركة اهل الزبيدات نحو العالم العربي، وبالتالي الحد من انقطاعهم التاريخي عن اقاربهم في شرق الاردن، فإن انقطاع الزبيدات عن امتدادها الطبيعي مع نابلس واريحا سوف يستمر طالما ظلت اتفاقيات اوسلو بدون تطبيق.

نأمل أن تلقي هذه الدراسة بعض الضوء على المأزق الذي يعيشه الفلاحون

الفلسطينيون في وادي الاردن - الذي هو اغنى منطقة فلسطينية حاليا واكثر منطقة تعرضاً للانتهاك - وأن تحفز الدراسة الباحث على التعمق في دراسات اخرى حول القضايا الملحة التي يواجهها المزارعون بعد مرحلة اوسلو.

يتقدم الكاتبان بالشكر الى كل من ساهم نشر هذه الطبعة الثانية، ونشير بالأخص الى غادة البابا لاعادة طباعتها للدراسة، والى حسن الجعبة لاشرافه على اعمال الصف وطباعة المسودات، والى ناتاشا المعاني لتصميمها الغلاف واخراج الكتاب بشكل جذاب.

ريتا جقمان
سليم تماري
بير زيت تشرين الاول ١٩٩٦

زبيـدات

التأثيرات الاجتماعية للتكنولوجيا الزراعية على حياة مزارعي الأغوار

سليم تماري و ريتا جقمان

الطبعة الثانية، ١٩٩٧

التصميم والتنفيذ والاشراف الطباعي:
مؤسسة الناشر للخدمات الفنية - البيرة - ت ٩٩٨٦٣٨٧

مقدمة الطبعة الثانية

هذه الطبعة الثانية من «زبيدات» هي في الاساس اعادة نشر للطبعة الاولى الصادرة في ١٩٨١، مضافاً اليها فصل جديد «زبيدات بعد ثلاث سنوات» الفته ريتا جقمان. لقد اصدرنا هذه الطبعة الثانية نزولاً عند رغبة العديد من المؤسسات ومن الاخصائين في العلوم الاجتماعية، سواء في داخل البلاد او خارجها، ذلك انها الدراسة الوحيدة التي تعالج موضوعة التحول الذي تعرضت له قرية فلسطينية في وادي الاردن. كانت النسخ من الطبعة الاولى محدودة العدد، وقد جاءت على شكل دراسة سحبت على آلة النسخ ووزعت على نطاق محدود، وكان كلانا يطمح الى اجراء بحث ميداني أوسع بهدف مقارنة التغيرات التي اصابت المنطقة بعد عشر سنوات. لم يتحقق لنا ذلك، سوى فيما يتعلق بالبحث القصير الوارد في نهاية الدراسة. ومع ذالك، فاننا ننشر هذا الكتاب على أمل أن يوفر للباحثين مادة اولية تشجعهم على استكمال البحث.

منذ أن صدرت هذه الدراسة شهدت المجموعة البشرية التي تناولتها هذه الدراسة ثلاثة احداث هامة اثرت في حياتهم.

الحدث الأول (جرى تناوله في نهاية الدراسة وفي التذييل الذي وضعته جقمان) هو التحول في شروط البناء، ويتمثل في الانتقال من قوالب اللبن (الطين)، كنمط في البناء خاص بسكان وادي الاردن نصف البدو، الى استخدام الباطون، الذي اصبح ممكناً بفضل التحسن في مداخيل المزارعين من جراء اتباع اساليب التكنولوجيا الزراعية الجديدة.

زبيدات

التأثيرات الاجتماعية للتكنولوجيا الزراعية
على حياة مزارعي الأغوار

سليم تماري و ريتا جقمان