It is clear from this description that water rights and land are divorced from ownership of irrigated plots so that in the sharecropping arrangements water is leased separately as a factor of production.

Water disputes over the allocation of pumping time was a major feature of Zbeidat agriculture under furrow irrigation. Aside from problems of share allocation several technical problems were also embedded in the furrow system. Those included: (a) a substantial wastage of water resources, either through evaporation or through seepage from the dirt canals; (b) low productivity due to inefficient plant exposure to water; (c) uneven distribution of the limited water resources since parcels within the immediate proximity of the pump received their water supply at a faster pace and more generously than distant parcels; (d) inefficient use of labour resources. Years after Zbeidat farmers stopped using furrow irrigation they continued to recall with bitterness the exhausting process of clearing and servicing the primitive canals during irrigation shifts.

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

As we have seen in Chapter 10 furrow irrigation is typified by labour intensive cropping and low productivity. Among its features is the limitation of the farmers ability (compared to other forms of irrigation) to farm surplus land due to the excessive demands it puts on household labour in clearing the canals. In terms of productivity our estimates for Zbeidat; based on farmers' recollections and on the basis of estimates provided