

THE MILLS OF LATE OTTOMAN PALESTINE AS REVEALED IN MAPS AND FIELD WORK

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This research examines the history of the mills that appeared on maps of late Ottoman Palestine, specifically the Palestine Exploration Funds 1880 map. Produced over a six year period by the British the map showed around fifty mills on numerous streams and rivers throughout Palestine. Through the examination of other period sources, including travel diaries, this research attempts to learn more about the mills and their role in the rural economy of Palestine in the period. Field work was carried out on several of the ruins of the mills that still exist in Israel and maps from later periods were examined to shed light on the fate of the mills. The mills of Palestine were an interesting and important feature of the rural landscape, mentioned by contemporary travelers. However their extent has not been previously examined in detail. By shedding light on the history of the mills through historical maps the research opens doors to other scholars who wish to explore the contribution that 19th and early 20th century maps can have on our understanding of the rural economy in the period.

During the years 1871 and 1877 the Palestine Exploration Fund, which had been founded in 1865, carried out extensive mapping of Ottoman Palestine on a scale of 1:63,360. They produced an excellent map and accompanying memoirs. On the map numerous mills were indicated in rural areas, especially along the major streams of the country. The explanation for the mills however is not generally mentioned in the memoirs created by Claude Conder and Horatio Kitchener. The memoirs however do include an extensive translation of the Arabic names of the mills. A subsequent map made by the German Army for their allies, the Ottoman Empire, in 1915 shows many of the mills as well. British maps in the Mandate period provide further evidence for their existence and subsequent abandonment or development.

Other explorers and contemporary authors did mention these mills. Among them Edward Robinson and Laurence Oliphant. These other authors provide some explanation as to the function and history of the mills. This research sets out to examine the history of the mills and provide an explanation for their function in the rural economy of Palestine. Through careful analysis of the PEF map around 50 mills were located. Additional research was carried out on maps created before 1880 and after, especially the 1:20,000 British maps created during the Mandate. These provide additional information on the fate of the mills. Field work was then carried out on the mills as they exist today. The result of the research was to shed light on the rural economy of Palestine and especially the mills. Additional research should shed light on other aspects of this economy.

Sources, Background and Contributions

The subject of the Palestines historical mills and their place in the larger economy has never been widely explored. Shmuel Avitzur wrote his PhD thesis in 1959 at the Hebrew University of Jerusalem on the subject and subsequently produced two serious studies in the 1960s. Avitzurs survey of the mills illustrates when they stopped operating. Avitzurs work remains the standard to the present day. However there is a place to update and add to his pioneering efforts.

The PEFs 1880 map and multi-volume Survey of Western Palestine was the first modern survey of Palestine. Its detail provides excellent information on all of the villages of Palestine from the years 1871-1877. The PEF map includes numerous mills on its maps. In addition they appear on the name lists that accompany the maps in the memoirs the PEF surveyors wrote. For instance on Sheet 6 of the map, which covers the area of the Sea of Galilee in northern Palestine there are 17 mills listed with the names translated from Arabic to English (i.e Tahunat el Kaba, the mill of the vault). There are 116 mills listed on the PEFs list, which is twice the number that actually appear on the maps. This is due to the fact that the lists include more detail than found on the maps and specifically mention all the mills found in concentrations in such places as the Wadi Farah (Ghor al Faria).

A German First World War map at 1:50,000 scale provides evidence of more mills, although only north of Gaza since they did not survey the southernmost portions of the country. This map was not explored by Avitzur and therefore insights from it contribute a new layer of information to our understanding of the extent of the mills. For instance the stream leading from Ain Jalud towards Baysan has six watermills on it according to the German map, none of which appear on the PEF map. These mills indicate economic

development of water resources in the period. Avitzurs map in contrast assumed primarily a decline in the use of these mills, as new technologies made them obsolete.

Field Work

The fate of the mills of Palestine after 1960 has not been explored by researcher. Visits to such sites as the mills on the Yarkon illustrate preservation attempts and the continuing degradation of the sites. Other structures that appear near water sources were investigated to see if they were connected with the historical mills.

Conclusions

Initial investigations of the maps and comparisons between them show that a great deal of information and nuances can be learned from examining the history of the water mills of Palestine. The mills played a role in the rural environment and in the lives of the Palestinian Arabs. They also represented major capital investments in the landscape, in some cases being the most significant buildings in their region. Because they existed in the low lying rural countryside they also were the primary places of sedenterized human habitation in these areas in the late 19th century, before Arabs from the foothills and foreigners resettled these areas after 1880.