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THE ROLE OF AGRICULTURE IN MAMLUK-JORDANIAN POWER RELATIONS

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Power politics between rulers and ruled need not always take the form of open conflict. Particularly in rural society, the exercise of and response to state power can express themselves in multiple, nuanced ways and through multiple channels, such as the administrative structure and management of agricultural lands. Power relations based on access to and control of rural land may alternate between cooption and coercion, on the part of the state, and cooperation, and resistance, on the part of local villagers and tribesmen. Such are the patterns that emerge from a combined analysis of written and archaeological data on Mamluk Jordan.

Today's Jordan was, in the Mamluk period, divided into two different administrative regions: *Mamlakat Kerak* (the Province of Kerak) in the south and the southern *safaqa* (district) of *Mamlakat Dimashq* (the Province of Damascus) in the north. Together, the two regions were of great strategic and economic importance to the Mamluk state. In the mid-thirteenth century, Ayyubid princes still retained castles there, and the *hajj* route from Damascus to Mecca ran through its interior. The peoples of the region brought sultans to power: Kerak Castle, the "nursery" of and place of exile for Mamluk sultans, gave refuge to both al-Nasir Muhammad and Barquq during their political exiles, and its local tribes actively supported their return to the throne [1]. By the fifteenth century, Kerak had become a hotbed of political discontent, where ambitious governors and amirs struggled for power within their own ranks and against the sultan himself [2]. Such patterns of tribal support and amiral rebellion were not

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1. Rukn al-Dīī Baybars al-Dawadari, *Zubdat al-fikra fī tārīkh al-hijra*, ed. D.S. Richards (Beirut, 1998), 316-317 and 416.

2. Shawkat R. Hujjah, *al-Tarīkh al-Siyāsī li-Minṭaqa Sharq al-Urdunn (min Janūb al-Shām) fi 'Asr Dawlat al-Mamālik al-Thāni* (Irbid, 2000), 115-119.

limited to Kerak, but characterized much of Jordan in the fourteenth and fifteenth centuries, making the region critically important to the stability of the state. The Mamluks' fluid administration of the region, with shifting administrative borders and district capitals, was one way that Cairo co-opted local tribes, manipulated their alliances, and attempted to quell amiral rebellions [3]. Jordan, moreover, served the state in another strategic way by providing Cairo with the horses on which its cavalry so heavily depended [4].

In terms of its economic importance, Jordan's rich farmland was exploited to its maximum potential by the Mamluk state to support the *iqṭā'āt* that were the financial and social underpinnings of its military. In addition, the region produced for the Mamluks' export market, namely the sugar industry, which was one of the highest profit agricultural sectors of the Mamluk economy. The foundation, however, of the Mamluks' agricultural regime was grains: Jordan was a key supplier of wheat to Cairo, in times of shortages there, and regionally.

Its geography and human and natural resources thus made Jordan important to the Mamluk state on many levels. It is the power relations between the state and Jordanian peasants, however, that is the focus of this paper. Key to these relations was control over land, through tenure and planting decisions. Written and archaeological sources suggest that rather than being passive participants in the Mamluks' agricultural regime, the *fallāḥūn* did, at times, assert control over their own natural resources and markets. This paper builds on the seminal work of two Jordanian historians, who have written extensively on the Mamluk and early Ottoman periods: Drs. Yusuf Ghawanmeh (Yarmouk University), who has written many books and articles on Mamluk Jordan, and Muhammad Adnan al-Bakhit, (the University of Jordan), who has demonstrated the importance of the Ottoman period for Mamluk studies through his analysis of sixteenth-century tax registers (*defter*s). All of us doing research on Mamluk Jordan are indebted to them for their many years of important and original scholarship.

GENERAL TRENDS IN LAND TENURE IN THE FOURTEENTH CENTURY - STATE AGENDAS

The fourteenth century witnessed both the apex of rural development and prosperity for Mamluk Jordan, as well as the beginning of administrative and economic processes that

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3. Bethany J. Walker, "Mamluk Investment in Southern Bilad al-Sham in the Eighth/Fourteenth Century: The Case of Hisban", *Journal of Near Eastern Studies* 62.4 (2003): 241-243.

4. Horses were collected from Transjordanian tribesmen as part of their taxes to the Ottoman state well into the sixteenth century (Muhammad Adnan al-Bakhit and Noufan Raja Hmoud, *The Detailed Defter of Liwa' 'Ajlun (The District of 'Ajlun) Tapu Defter No. 970, Istanbul* (Amman, 1989), 21).

would transform, at least for a time, traditional Jordanian village society. While a single study cannot properly examine the myriad factors behind this transformation nor fully assess its long-term impact, I would like to briefly discuss two state-led initiatives that set into motion this transformation: the cadastral survey of southern Syria (*rawk*) of al-Nāṣir Muhammad in 713/1313 and the endowment of rural land by state officials as *waqf*. The response to these initiatives by Jordanian peasants will be addressed in turn.

IQṬĀ'ĀT

The *rawk* of 713/1313 was the first of four surveys ordered by al-Nāṣir Muḥammad, which collectively laid the economic foundations for Mamluk society by reallocating *iqṭā'*s among the sultan, amirs, and members of the *ḥalqa*. Most of the scholarly studies of these surveys have focused on the Egyptian one of 715/1315 and its political and economic ramifications [5]. It is more difficult to do the same for Syria. There are no records, either in original or summary form, of any of the three Syrian surveys, and there are very few references to them by Syrian historians. The surveys, thus, do not appear to attract the notice or interest of contemporaries. Nonetheless, a few suggestions may be made about the possible structural impact of the 713/1313 *rawk* on agricultural production, land tenure, and markets in Jordan.

The immediate results of the survey were to fragment land, assigning smaller, non-contiguous and often widely dispersed, shares to the *muqṭā'*s, and to give more control over land to the sultan himself. How this affected agricultural production and village life in general would have depended on several factors: the types of crops traditionally grown there, the nature of traditional crop rotation, how water was distributed, and how and when taxes were paid and collected. Describing these factors first requires an understanding of how the *iqṭā'* system functioned economically and socially, that is what the relationships were between *muqṭā'*s and *fallāḥīn*. In the absence of written sources dealing directly with southern Syria on such matters, we have to depend on Egyptian sources, taking into account that Egyptian and Syrian societies were organized differently, that there were differences in access to and sharing of water, and a different history of land proprietorship. Hassanein Rabie and Sato Tsugitaka's monographs on rural Egypt are suggestive in this regard. Relying largely on the

5. Tsugitaka Sato, *State and Rural Society in Medieval Islam: Sultans, Muqta's and Fallahun* (Leiden, 1997), 138-143; Petry 1998. A single article by Sato in the 1980s is one notable exception (Tsugitaka Sato, "Historical Character of *al-Rawk an-Nasiri* in *Mamluk Syria*", in *Proceedings of the First International Conference on Bilad al-Sham* (Amman, 1984), 223-225.

accounts of the management and planting cycles of Egyptian agricultural land by al-Makhzumi, Ibn Mammati, al-Nabulsi, and al-Nuwayri, they conclude the following:

1. The *muqṭa'* was responsible for digging canals, building dams, and maintaining both. He relied on peasants for most of these activities but could use corvée labor and his own soldiers when needed. By and large he did not reside on his *iqṭā'*; he generally relied on his own agents (*wakīl*s) to estimate local taxes and collect them on his behalf [6]. Because the *iqṭā'āt* were fractured, one *muqtā'* could hire as many as four or five *wakīl*s for these purposes [7].

2. *Muqṭā'*s rarely interfered in the internal operations of the planting and harvests. It was the *fallāḥūn* themselves who decided what to plant, on what schedule to rotate crops, and how to share water. In other words, local custom generally prevailed in matters of cropping, harvest, and processing. One notable exception is sugar production, which was more closely monitored by the *muqtā'*, who in Jordan was often the sultan himself. On "sugar estates" the cropping of the sugar plant took precedent over other crops and customary water sharing agreements, interrupting crop rotation and the planting of summer crops [8].

3. Taxes on grains (*kharaj al-zirā'ah*) were generally paid in kind in Egypt [9]. The presence of grain storage facilities throughout Jordan by the fourteenth century suggests that grain was stored on site and at transport depots on main roads. Grain surplus could be used for times of need, which was often exploited by the state through forced purchases (*ṭarḥ*), or to provide provisions for agricultural laborers who supplemented the labor on sugar estates [10].

While Jordanian agriculture was broad-based and produced a variety of grains, fruits, and vegetables for the region, the staple here, as in Egypt, was wheat. Wheat is a winter crop that requires adequate rainfall during the growing season (200-300 centimeters per year in Jordan) and dry storage [11]. It is grown all over the country, but the largest fields are on the open plains of central and southern Jordan (Fig. 1). Because Jordan's wadis run with water only seasonally and are not generally navigable, local farmers had no major river, like the Nile, on which to rely for transport of grains to major storage facilities. Therefore, much

6. Sugar tax is one notable exception: *muqṭā'*s, who were generally the sultans themselves, often personally supervised the collection of tax on sugar.

7. Hassanein Rabie, *The Financial System of Egypt: A.H. 564-741/A.D. 1169-1341* (London, 1972), 65.

8. Sato, *State and Rural Society*, 212, 233.

9. Rabie, *Financial System of Egypt*, 74-76.

10. Sato, *State and Rural Society*, 201.

11. This is one major way in which Jordanian agriculture traditionally differed from Egyptian agriculture. The Jordan River, unlike the Nile once did, does not flood annually. With the exception of summer crops grown in the Ghor and in wadi basins, most farming in Jordan was dependant on winter rainfall.

transport from threshing floors to granaries (*shuwan*) must have been done overland, on the extensive road system developed in the early Mamluk period. The granaries took two forms: formally built *shuna*s, which is a common enough place name in the Jordan Valley, and reused cisterns, which are ubiquitous in the country's soft limestone beds and can preserve grains for up to two years [12]. Both facilities required regular maintenance through cleaning and plastering. Because of Jordan's special hydrological conditions and infrastructure, its grain industry was highly vulnerable to drought and the security of the road system. As for cropping patterns, the *fallāḥūn* of Jordan traditionally practiced a two-crop rotation on most cultivated land, including the Jordan Valley. Land tenure, in those areas not assigned as *iqṭā'āt*, may have been communal, with a division of revenues among villagers after the harvest according to shares, known today as *musha'* and very similar to the pattern of shares adopted by the *muqta's* [13].

Fig. 1. Wheat fields in Hisban today. The well-watered Madaba Plains were one of the bread-baskets of Mamluk-period Jordan and an important revenue base for the state.

12. J.M.H. Kareem, *The Settlement Patterns in the Jordan Valley in the Mid- to Late Islamic Period* (Oxford, 2000), 10; Carol Palmer, "'Following the Plow': the Agricultural Environment of Northern Jordan", *Levant* 30 (1998): 155.

13. Communally-held land was the pattern in the nineteenth and twentieth centuries and is also suggested by early Ottoman tax registers. It remains to be documented with certainty that this was the traditional pattern in the Mamluk period, however. See discussion below.

Given these factors, but in the unfortunate absence of written sources for verification, one can cautiously propose that the *rawk* of 713/1313 impacted Jordanian agriculture in multiple ways. To being with, the fragmentation of *iqṭā'āt* may have produced a more complex system of tax collection and transportation, particularly of grains, under the supervision of the agents of multiple *muqṭā'*s. It is not clear at this point whether there was any coordination of efforts on the part of these agents or if tax revenues (in kind or in cash) were simply divided by the *muqṭā'*s shares of the revenues after the harvest or sale and conversion of crops to currency. Regardless, the multiplication of *muqṭā'*s likely meant heavier traffic on the road system and made more vital than ever the security of these transportation corridors for the purposes of tax collection.

On a second note, the concentration of *iqṭā'āt* in the hands of the sultan led to the development of large estates based on the production of specialized cash crops, such as sugar cane and olive oil, for export markets. These "plantations' transformed traditional cropping, water sharing, and labor organization. The sugar plantations in the Jordan Valley and on the tributaries of the Jordan River best illustrate these patterns. Cane sugar production requires a soft, well-drained soil, high temperatures, extensive irrigation, and a large labor force [14]. In addition to resident *fallāḥīn*, seasonal, migrant workers assisted in some of the heaviest labor tasks associated with sugar processing, and there is some evidence for the use of slaves, as well [15]. The soil requirements, the long period of cultivation (ten months), and the labor intensive activities associated with pre-sowing land preparation and maintenance make it impossible to grow other summer crops, namely vegetables that tend to bring in large revenues, or to maintain the traditional two-crop rotation [16]. Moreover, growing sugar cane requires the diversion of irrigation water from other crops [17].

The concentration of land in the hands of a single *muqṭā'*, as in the case of the sultanic sugar estates, was certainly conducive to plantation-style production. What impact, however, the fragmentation of what were largely grain-producing regions had on annual yields and tax revenues in general has yet to be determined. The nineteenth-century grain boom of Palestine and Transjordan, for example, would not have been possible without the development of large landed estates after the implementation of the Ottomans' 1858 Land Law. There was a significant shift from subsistence farming and limited production for local markets to surplus

14. Sato, *State and Rural Society*, 216; Kareem, *Settlement Patterns in the Jordan Valley*, 13.

15. Sato, *State and Rural Society*, 185; Kareem, *Settlement Patterns in the Jordan Valley*, 11.

16. Sato, State and Rural Society, 217, 220.

17. Ibid., 212.

production for export to Europe [18]. Ottoman tax registers, as well, indicate that large estates brought in more tax revenue for the state, individually, than family or village-owned farms, collectively. In the absence of a comparison of grain yields between the pre- and post-*rawk* periods, it is not possible to determine what impact such patterns had on yield as a whole. However they do suggest that that fragmented land was more expensive, in the end, to administer for tax purposes.

On the economic level, all of these developments required more from the *muqṭā'*s, in terms of maintenance of irrigation canals and storage facilities, than before al-Nāṣir Muḥammad's survey, diverted Jordanian agriculture from a diversified to a specialized and export regime, and was profit-driven. Such a transformation of the local regime was certainly profitable, as the Ottoman *defters* demonstrate, however it required a strong state and demanded safe transport and storage. Security was a particular concern for grain production, which was concentrated on the open plains and was particularly susceptible to disruption during times of political unrest. As the lynchpin of the Mamluk economy, problems in the grain sector had serious ramifications for the state's economy as a whole.

On the level of social relations, two preliminary observations can be made. First, after 713/1313 the state came to control more directly Jordanian land. In the case of "plantations", this meant that peasants would have been less autonomous in planting decisions and the general management of land targeted by the state for export production. Traditional arrangements for the sharing of water, crop rotation, and the organization of labor and production for regional markets would have been overturned in favor of systems better suited to a plantation economy. The Jordan Valley was particularly impacted in this way. The second effect was to consolidate the economic and political hold of the largest *iqṭā'* holders – outside of the sultan himself, this would have been provincial and district governors and high-ranking amirs – over local peasants. It is no coincidence that the one of the most harmful economic practices of the day, forced purchases (or *ṭarḥ*), was most common in regions most associated with amiral rebellions. The political turmoil of fifteenth-century Kerak should be analyzed in this light. Nonetheless, in both cases Jordanian peasants resisted state control, when it was damaging to local society and its economy, and asserted themselves in creative ways, as we will see shortly.

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18. Linda Schilcher, "The Grain Economy of Late Ottoman Syria and the Issue of Large-Scale Commercialization", in *Landholding and Commercial Agriculture in the Middle East*, eds. Çaglar Keyder and Faruk Tabak (Albany, 1991), 173-195.

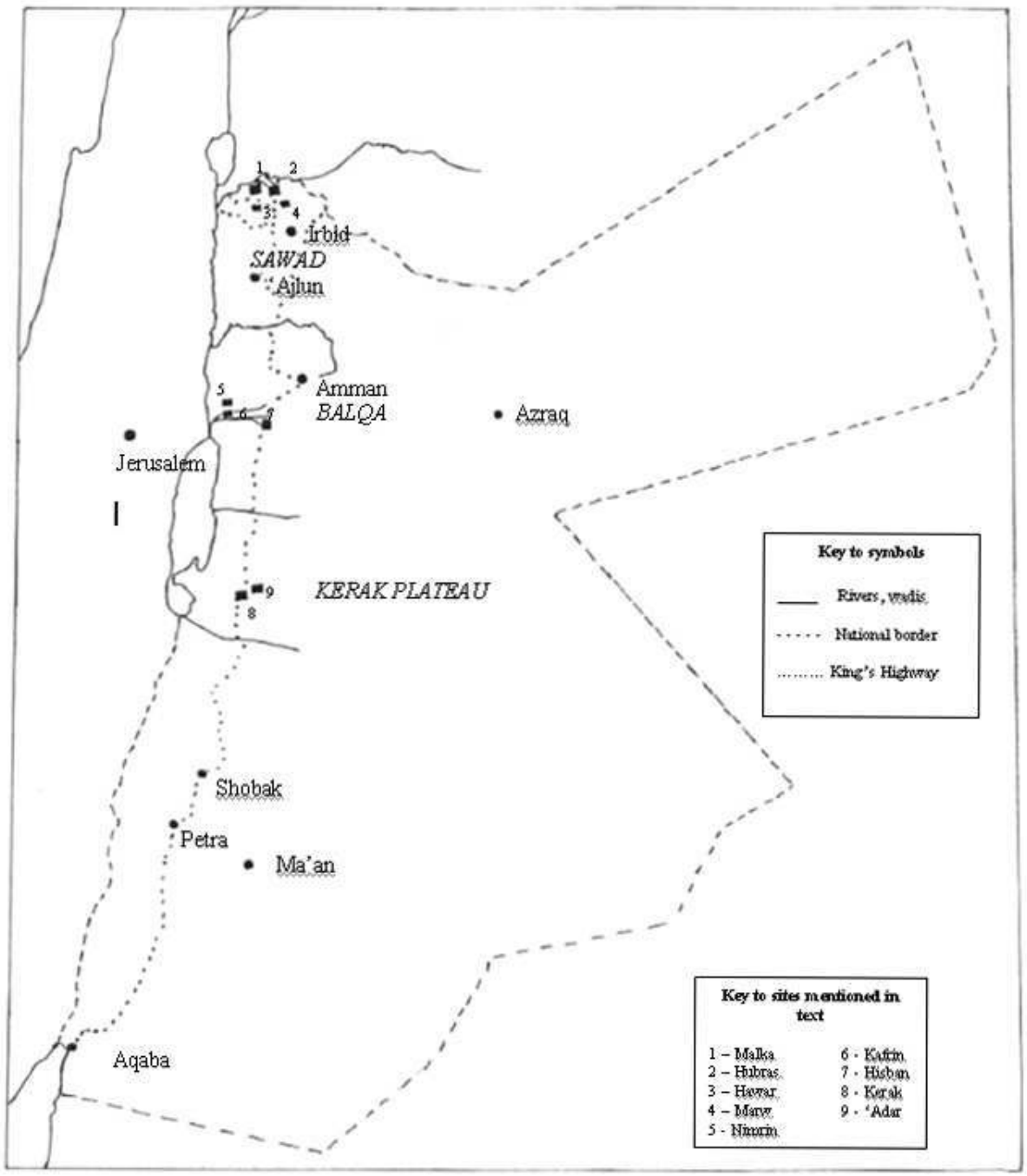

Fig. 2. Sultanic Endowments and Administrative Centers in Mamluk Jordan.

ENDOWMENTS (see Fig. 2)

The endowment of rural lands by the Mamluk elite, primarily for charitable purposes, is yet another factor in state control of the provinces. The current debate in the U.S. and Egypt on sultanic *awqāf* has focused on the large-scale endowment of Egyptian and Syrian land by Mamluk sultans during the mid-late fifteenth century [19].

Articles written by Carl Petry (University of Southern Illinois) in the late 1990s, which examined the endowment strategies of Sultans Qaytbay and al-Ghawrī, and the masterful monograph on late Mamluk land tenure by ʻImād Badr al-Dīn Abū Ghāzī (Cairo University), which was published in 2000, have challenged traditional interpretations about the motivations behind such endowments [20]. Focusing their analysis on Egyptian agricultural land, and the sales documents and *waqfiyyat* in Cairo preserved from this period, they argue that there was a phenomenon of endowment of Egyptian farmland by Mamluk sultans late in the period; that this land was largely acquired through purchase of land previous registered as *iqṭāʻāt*, under somewhat dubious legal circumstances, directly from the *Bayt al-Māl*; that much of this land was acquired and endowed piecemeal (very little of it as entire villages); and that the rationale for these endowments may have very little to do with raising money for military campaigns (as contemporary sources claim) or for protecting assets from confiscation. Petry describes these endowments as investments, in a very modern sense of the term - a central repository of assets serving, in this limited sense, as a bank [21]. Citing the considerable difference between the revenues gained from this land and the comparatively meager financial requirements of the endowments (largely madrasas) they purportedly supported - a difference that, in some cases, reached 90% - he suggests that the process of sultanic endowments of rural land was, thus, profit-driven, rather than security-driven [22].

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19. A panel on "Decline or Transformation? The Economy of the Late Medieval Middle East", part of the Annual International Congress on Medieval Studies, held at 5-8 May 2005 at the University of Western Michigan in Kalamazoo, Michigan, emphasized this theme.

20. Carl F. Petry, "Fractionalized Estates in a Centralized Regime: The Holdings of al-Ashraf Qaytbay and Qansuh al-Ghawri According to their Waqf Deeds", *Journal of the Social and Economic History of the Orient* 41.1 (1998): 96-117 and idem, "Waqf as an Instrument of Investment in the Mamluk Sultanate: Security vs. Profit?", in *Slave Elites in the Middle East and Africa: A Comparative* Study, ed. Toru Miura and John Edward Philips (New York, 2000), 99-115; ʻImad Badr al-Din Abu Ghazi, *Taṭawwur al-Ḥiyāzah al-Zirāʻiyah fi Miṣr Zaman al-Mamālīk al-Jarākisah* (Cairo, 2000); see also Carl F. Petry, *Protectors or Praetorians? The Last Mamluk Sultans and Egypt's Waning as a Great Power* (Albany, 1994), 196-210.

21. Petry, Protectors or Praetorians, 210.

22. Petry, "Waqf as an Instrument of Investment", 104.

As for Jordan, the same process occurred here, but there were some important differences. The largest documented sultanic endowments date to the reign of Barqūq, were acquired in the same fashion as in Egypt (through purchase from the *Bayt al-Māl*, as is documented in the original *waqfiyyat*, where available), and were concentrated in the Jordan Valley and the Sawād of the northern hill country (some of the richest farmland in the region). However, the earliest recorded endowments consisted of entire villages, not merely shares [23]. The lands described are located in the most fertile regions of Jordan and fall into three categories: grain fields of the plains, sugar plantations of the Jordan Valley, and the orchards of the Sawād (which produced high quality olive oil, as they do today). Wheat, sugar, and olive oil - these were the staples of the average man's diet in this period, and were, thus, excellent commodities to control by enterprising entrepreneurs [24]. These estates remained intact as taxable units, whether they were retained as endowments or not, through the sixteenth century and subject to the *'ushr* tax (at 10%). Their revenues are recorded in the Ottoman *defters*. Their longevity alone suggests that if the endowments were investment-motivated, they were sound strategies on the long-term.

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23. The documented examples are few: two shares of the village Bayt Rama in the Jordan Valley, for Sultan Baybars' madrasa complex in Cairo, (no date given – *ibid*); the village of Adar near Kerak, in its entirety, for an unnamed recipient, by Sultan Sha'ban in 777/1375 (Yūsuf Ghawānmeh, *Tārīkh Sharqī al-Urdunn fī 'Asr Dawlat al-Mamālik al-Ulā (al-Qism al-Ḥaḍarī)* (Amman, 1979), 243-244; *idem*, "al-Qarya fi Junūb al-Shām (al-Urdunn wa-Filistin) fī al-'Aṣr al-Mamlūkī fi Ḍaw' Waqfiyyāt 'Adar, *Studies in the History and Archaeology of Jordan* 1 (1982): 363-371; the Jordan Valley villages of Nimrin, Kafrin, and Zara'a, in their entirety, for Sultan Barqūq's madrasa-mausoleum complex in Cairo (no date given – Muḥammad Ipsharlī and Muḥammad al-Tamīmī, *Awqāf wa Amlāk al-Muslimīn fī Filisṭīn* (Istanbul, 1982), 94; Muḥammad 'Adnān al-Bakhīt and Noufan Rajā Hmoud, *The Detailed Defter of Liwa' 'Ajlūn (The District of Ajlūn) Tapu Defteri No. 185, Ankara 1005 A.H./1596 A.D.* (Amman, 1991), 32); the village of Malka in the Sawād, in its entirety, for the same complex, in 796/1393 (Waqfiyah 9/51, Dār al-Wathā'iq, Cairo, in Bethany J. Walker, "The Northern Jordan Survey 2003 – Agriculture in Late Islamic Malka and Hubras Villages: A Preliminary Report of the First Season", *Bulletin of the American Schools of Oriental Research* 339 (2005): 71; *idem*, "Regional Market and their Impact on Agriculture in Mamluk and Ottoman Transjordan", in *On the Fringe of Society: Archaeological and Ethnographical Perspectives on Pastoral and Agricultural Societies*, ed. Benjamin Saidel and Eveline van der Steen (Oxford, 2007): 117-125; and *idem*, "Mamluk Investment in the Transjordan: A 'Boom and Bust' Economy", *Mamluk Studies Review* 8.2 (2004): 130); three shares each of the Sawād villages of Marw and Harhar, for Sultan Khūshqadam's madrasa complex in Cairo (no date given, Muḥammad 'Adnān al-Bakhīt, *Nāḥiyat Banī Kinānah (Shamālī al-Urdunn) fī al-'Aṣr al-'Āshir al-Hijri/al-Sādis 'Ashar al-Mīlādī* (Amman, 1989), 38, 45); and twelve shares of an unnamed *mazra'a* (isolated farm) in the Jordan Valley for the same complex (no date given, al-Bakhit and Hmoud, *Tapu Defteri No. 185*, 32). In addition to these are unpublished references in contemporary *waqfiyyat* to a village on the outskirts of Kerak (its name not preserved in the fragmentary manuscript – Waqfiyah #49, microfilm #15m folia 1-4, Dār al-Wathā'iq, Cairo), for the same complex in Cairo, and other rural land in the vicinity of Kerak, for Sultan Hasan's monumental madrasa complex in Cairo (endowed in 762 A.H., Waqfiyah #40, microfilm #15, folia 1-3, Dār al-Wathā'iq, Cairo).

24. For estimates of the profits made on sugar, see the calculations from the storeroom at the citadel at Tall Hisban in my "Sowing the Seeds of Rural Decline?: Agriculture as an Economic Barometer for Late Mamluk Jordan", *Mamluk Studies Review* 11.1 (2007): 190-191.

It is worth examining the *waqfiyyah* for one of these sultanic endowments, the village of Malka, in some detail as it is quite illuminating for the kind of rural properties that were the focus of the financial activities of Mamluk sultans in Jordan in this period (Fig. 3). The document records the endowment of several urban properties and rural estates in Egypt and Greater Syria owned by the Mamluk sultan Barqūq in 796 A.H./1393 A.D. The recipient of the endowment of these properties is a *madrasah* (Islamic law school) that the sultan had recently built in the heart of Cairo on the Bayn al-Qaṣrayn.

The paper scroll is handwritten in semi-voweled *naskhī* in a form of legal Arabic used by the Egyptian chancery of this period and, from the facsimile copy available for study, appears to be adequately preserved, with limited water and insect damage [25].

Folia 18-21 of this 2.5 meter-long scroll describe the village of "Hay Malka" at the end of the century and document in some detail the dimensions of the medieval village, the countryside's topography and water sources, the village's taxable agricultural production, and a few of its noteworthy monuments (including the village mosque) and roads. The text also notes what fields, buildings, and installations, such as presses (*ma'āṣir* – presumably for olive oil) have fallen into disuse. Neighboring villages are named, such as 'Ayn 'Atiyya, as they constitute the borders of the village estate. According to the *waqfiyyah* the village produced mostly olive oil and wine. The preference for well-watered lands near appropriate marketplaces and administrative centers and serviced by roads is suggested by the document and is paralleled by the *waqfiyyah* of 'Adar by Sulṭān Sha'bān [26].

Fig. 3 – Olive groves in the village of Malka, near the olive processing plant identified during survey in 2003.

25. The scroll was restored by the *Dār al-Wathā'iq* in Cairo in 2001.

26. Ghawānmeh, "al-Qarya fī Janūb al-Shām".

Physical remains of the olive oil industry described in this document were identified during archaeological survey under my direction in 2003. It is possible to cautiously estimate production of this single factory, by adopting the production calculations from sites in the region exhibiting comparable technology and, in the absence of such records from the Mamluk period, carefully considering the figures from early Ottoman tax registers (*tapu defteri*) [27]. The press consisted of six shafts, the remains of press arms, cut into the wall interiors of a natural cave (Cave 12) on the western edge of the village, used from the Byzantine through Mamluk periods. The cave included, as well, two ceiling holes for screw-and-weight presses. In addition, the remnants of a basalt grinding stone were left in the cave interior. According to calculations made for similar weighted lever plants at the Hellenistic site of Maresha in the Galilee, and assuming that all six presses were in use in this period and operating simultaneously, six hectares of olive groves would have supported this single plant at Malka and could have produced 13,000-27,000 liters of olive oil annually. Of this amount, over 10,000 liters were surplus, exceeding the needs of local consumption, and were thus available for sale in local markets or export [28].

As for the value of such surplus in fourteenth-century currency, I rely on the price indices of Ashtor. Today a liter of olive oil weighs 9/10 of a kilogram; the 10,000 liters surplus from this single plant at Malka would have weighed a total of 9000 kg, which was the equivalent of 482 Syrian *qinṭārs* [29]. Ashtor, citing Ibn Kathīr, records an export price in the

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27. It is entirely possible that other presses were in operation at the same time, elsewhere in the medieval village, although they were not visible to us during the survey. The following calculations are only for the six presses we identified in Cave 12.

28. Nahum Sagiv and Amos Kloner, "Maresha Underground Olive Oil Production in the Hellenistic Period", in *Olive Oil in Antiquity: Israel and Neighbouring Countries from the Neolithic to the Early Arab Period*, ed. D. Eitam and M. Heltzer (Padova, 1996), 276-277. This is based on a conservative population estimate of 150 people, arrived at by using figures from an Ottoman land register (*Tapu Tahrir Defteri*) of 1596-7. The census records 27 families (*khāne*) and 15 bachelors (*mufrad*) (al-Bakhit, *Nāḥiyat Benī Kināna*, 22, Table I). A peasant family, for the purposes of Ottoman tax registers, consisted of a nuclear family (mother, father, and children) (Halil Inalcik, *The Ottoman Empire: The Classical Age 1300-1600* (London, 1994, reprint), 144). Our modest estimate is deliberately low at a five-member household. (Such numbers should be used with caution, however. For criticisms of calculating population size on the basis of Ottoman tax surveys, see Bekir Kemal Ataman, "Ottoman Demographic History (14th-17th Centuries): Some Considerations", *Journal of the Economic and Social History of the Orient* 35 (1992): 187-198 and Heath W. Lowry, "The Ottoman *Tahrir Defterleri* as a Source for Social and Economic History: Pitfalls and Limitations", in *Studies in Defterology: Ottoman Society in the Fifteenth and Sixteenth Centuries*, *Ibid.* (Istanbul 1992), 3-18.).

29. My estimates for modern weight and volume calculations were retrieved on-line at: www.olivebusiness.com/oliveHanbook/GrowingOlives/olive_balance_sheet.htm.

year 1347 of 4.5 dirhams per Damascus *ratl* of oil, which was 9 dinars per Syrian *qinṭār* [30]. In the mid-fourteenth century, then, this plant could have produced a profit of 440 dinars annually. This is, of course, assuming the same end product, which was soap. If a higher quality product was the result, such as table oil, it would have been worth considerably more. The profit either way would not have been negligable: it would have represented, for example, over 30% of the cost of a shipment of 2790 jars of Spanish olive oil to Alexandria in 1405 [31]. Sultanic estates were, thus, lucrative, even on the level of the individual village.

Malka, in addition to the other sultanic estates cited above (see note 23), followed the general pattern of growth (in terms of population and revenues) and agricultural diversification that characterizes early Ottoman Jordan. The largest of the pre-Ottoman endowments were, by and large, retained as large taxable units and taxed at 10%; those tax revenues then became the *khāṣṣ* of the Ottoman sultan or provincial governor. On the other hand, agricultural land that was not endowed seems to have fragmented even further into smaller taxable units (percentages of villages of isolated farms, *mazra'a*, for example), cultivated and tax-paying but, in many cases, no longer permanently settled. Much of central Jordan falls into this category, including Hisban, the former capital of the Balqa, which was fully abandoned by the end of the century and paying only a pastoral tax, presumably by semi-nomadic tribes that camped there on a seasonal basis [32]. The regional pattern of growth and decline that emerges for late Mamluk and early Ottoman Jordan suggests, perhaps, that endowment, through *waqf*, was the key to preserving the financial solvency of agricultural estates, particularly in times of political turmoil.

ASSESSING RURAL DECLINE FOR LATE MAMLUK JORDAN: CONFLICTS BETWEEN PEASANTS AND STATE

The fifteenth century was, indeed, a troubled period for the Mamluk state, one that is punctuated by rebellions and economic decline. Al-Maqrīzī was one of the most vocal critics

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30. Eliyahu Ashtor, *Histoire des prix et des salaires dans l'orient médiéval* (Paris, 1969), 407.

31. Notarial records in the Vatican record a shipment of olive oil from Seville to Alexandria in 1405, when the Mamluk state was now importing large quantities of oil from Europe; the shipment was worth 1400 dinars at the time (Eliyahu Ashtor, *Levant Trade in the Later Middle Ages* (Princeton, 1983), 214). While there is a fifty-year difference between this shipment and the price estimate used above, and we are not certain from the data provided about the quality of the oils and how they compare, the comparison in profits is, nonetheless, informative for the scale.

32. Al-Bakhit and Hmoud, Tapu Defteri No. 185, 149; Wolf-Dieter Hütteroth and Kamal 'Abdulfattah, *Historical Geography of Palestine, Transjordan and Southern Syria in the Late 16th Century* (Erlangen, 1977), 169.

of fiscal practices, which he blamed for the state's fiscal and military weakness. His *Ighāthat al-ummah bi-kashf al-ghummah* is a well structured critique of what he believed to be the worst of these practices and describes the damage they have done to the Egyptian economy: inflated prices and forced purchases (*ṭarḥ*), bribery (particularly damaging when financial offices are purchased in this manner), high taxes, and an unstable and inflated currency. According to Maqrīzī, one natural factor lay behind such practices: drought, which ultimately led to grain shortages [33].

The point of view of Syrian historians was comparable, in that they identified drought as the single most important factor behind the financial and political decline of Bilād al-Shām and that regional political struggles flowed from it. Ibn Qadi Shuhba, who often commented on agricultural conditions throughout Syria, discusses the problems of Jordanian agriculture in his obituary of Iyās al-Jarkashī, who was the Supervisor of the Jordan Valley (*Mushadd al-Aghwār*) during Barqūq's reign and died in prison in 799/1396. Contemporaries condemned Iyās for the economic collapse of the Jordan Valley in this period by diverting shared water to his own plantations, forcing sales of his own sugar at inflated prices (*ṭarḥ*) on local residents, and terrorizing peasants by cutting the hands off accused thieves [34]. After receiving complaints from local peasants and administrators alike for his abuses, Sultan Barqūq had Iyās arrested and killed that year. Ibn Sasra records the events that followed: the former viceroy in Damascus was named to replace Iyas as *Mushadd al-Aghwār*. Once he took up his new post, he began buying up wheat from the markets in the Jordan Valley at low prices, hoarding them, and reselling at inflated ones during the height of a famine [35].

Throughout the events of this year, contemporaries recognized the sultan's active role in addressing rural grievances and responding to drought and famine. Maqrīzī, in his *Ighāthat al-ummah*, mentions the grain shortages of 796/1393-4, as illustrating a rare instance when the government acted responsibly to avoid famine. For Maqrīzī, there was no famine that year, in spite of drought and grain shortages, because Barqūq invested so much money in charitable endowments [36]. This intriguing statement suggests that, in the eyes of contemporaries,

33. Adel Allouche, *Mamluk Economics: A Study and Translation of al-Maqrizi's Ighathah* (Salt Lake City, 1994), 50-54.

34. Taqī al-Dīn Abu Bakr Aḥmad Ibn Qāḍī Shuhba, *Tārīkh Ibn Qāḍī Shuhba*, vol. I, ed. Adnan Darwish (Damascus, 1987), 630-631.

35. Ibn Sasra as recorded in Ḥujjah, *al-Tārīkh al-Siyāsī*, 81.

36. Allouche, *Mamluk Economics*, 53.

the endowment of rural lands, even while creating vast private estates for the elite, resulted in good things for the people. Moreover, it was a response to natural crises, such as drought, grain shortages, and famine – all the result of rainfall of insufficient levels to support an adequate grain harvest.

Jordanian agriculture is particularly susceptible to drought. Many regions of the country receive just enough rainfall to support the cropping of grains without irrigation; even today, the wheat crop fails one out of every five years from insufficient rainfall [37]. Historical, palynological, sedimentological, and dendrochronological analyses have all indicated that the late fourteenth and fifteenth centuries witnessed several cycles of drought in the region and a general trend towards desertification: higher temperatures, reduced rainfall, and abandonment of once cultivated fields [38]. Such processes coincided with cycles of settlement abatement (and in many cases whole-scale abandonment of villages), which are documented by archaeological surveys. So, too, are the local soils vulnerable, particularly to mismanagement of the land. Sugar cane must be planted on land that has been left fallow for at least four years [39]. After two years' of harvest, the land must once again be left fallow or crops other than sugar should be planted. According to Ibn Mammātī, land on which sugar was planted was taxed at a lower rate after the first year, thus losing value over time [40]. Sugar cultivation is, moreover, demanding in terms of the mineral resources, water, and fuel required for growing and processing and could lead to deforestation [41]. As forested land gradually disappeared, whether for fuel for industrial activities or to clear land for agriculture, soil cover eroded and

37. Palmer, "Following the Plow", 132.

38. Alan Horowitz, "Preliminary Palynological Indications as to the Climate of Israel during the Last 6000 Years", *Paleorient* 2.2 (1974): 407-414; Yusuf Ghawanmeh, "al-Ṭā'ūn wa-al-Jafāf wa-Atharuhuma 'ala al-Bi'ah fi Junūb al-Shām (al-Urdunn wa Filisṭin) fī al-'Aṣr al-Mamlūkī", *Studies in the History and Archaeology of Jordan* 2 (1985): 315-322; Nicole Shehadeh, "The Climate of Jordan in the Past and Present", *Studies in the History and Archaeology of Jordan* 2 (1985): 25-28; W. van Zeist, "Past and Present Environments of the Jordan Valley", *Studies in the History and Archaeology of Jordan* 2 (1985): 199-204; Heim *et al*, "Near East Desertification"; Bernhard Lucke, Michael Schmidt, Ziad al-Saad, Oliver Bens, and Reinhard Hüttl, "Abandonment of the Decapolis Region in Northern Jordan – Forced by Environmental Change", *Quaternary International* 135.1 (2004): 65-82.

39. Sato, *State and Rural Society*, 216.

40. Rabie, *Financial System of Egypt*, 75.

41. Effie Photos-Jones, Konstantinos D. Politis, Heather F. James, Alan J. Hall, Richard E. Jones, and Jerry Hamer, "The Sugar Industry in the Southern Jordan Valley: An Interim Report on the Pilot Season of Excavations, Geophysical and Geological Surveys at Tawahin as-Sukkar and Khirbat ash-Shaykh 'Isa, in Ghawr as-Safi", *Annual of the Department of Antiquities of Jordan* 46 (2002): 591-614.

what was left was depleted of its constituent mineral resources [42] Thus, a combination of reduced rainfall and cash crop farming may have contributed, in the long term, to environmental degradation and crop failures.

The abandonment of villages and fields also contributes to desertification [43]. While on the long run climatic shifts may account for settlement abandonment, the immediate causes in the late fourteenth and early fifteenth centuries in Jordan, according to contemporary sources, were the armed conflicts among amirs posted there and their poor (short-sighted) administration of the lands under their supervision. These rebellions seem to have peaked during Faraj's reign and were worst in the region around Kerak [44]. These rebellions are analyzed in a sophisticated manner in the recently published doctoral dissertation of Shawkat Ramadan Hujjah. Hujjah cites the amiral rebellions of Kerak as one of the most important factors behind the decline of the agricultural sector in Jordan in the late Mamluk period and the general economic demise of the Mamluk state. The rebellions were worst during the sultanate of Faraj and had the heaviest impact on the region of Kerak, which went through ten governors in twelve years [45]. The people of Kerak got involved (by both choice and coercion) in the struggle for power among potential governors and among governors and the sultan, creating deep divisions in their communities and resulting in civil war and much loss of life and property. In both the rebellions of 802/1399 and 806/1404, it was the people of Kerak Town and surrounding villages that paid the price for the fall of one governor and rise of another: their leaders were brutally killed, their crops taken from them, and their households plundered [46].

Peasants were no mere spectators to the troubling events of the period. They lobbied to have corrupt officials removed; made adjustments in their planting strategies and marketing to keep village farmland solvent; relocated, when necessary, for their safety and livelihood;

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42. For earlier periods, see Bernhard Lucke, Ziad al-Saad, Michael Schmidt, Reinhard Bäumler, S.-O. Lorenz, P. Udluft, K.-U. Heussner, and Bethany J. Walker, "Soils and Land Use in the Decapolis Region (Northern Jordan): Implications for Landscape Development and the Impact of Climate Change", *Zeitschrift des deutschen Palaestina-Vereins*, under review.

43. Carlos Cordova, "Pollen samples from Malka, Jordan: preliminary report", Unpublished report of 2004, Grand Valley State University project files, n.d.; Lucke et al, "The Abandonment of the Decapolis Region".

44. Hujjah, *al-Tārīkh al-Siyāsī*, 250 ff. Bethany J. Walker, "Review of al-Tārīkh al-Siyāsī li-Minṭaqat Sharqī al-Urdunn min Janūb al-Shām fī 'Aṣr Dawlat al-Mamālīk al-Thāniyah by Shawkat R. Hujjah", *Mamluk Studies Review* 8.2 (2004): 221-222.

45. Hujjah, *al-Tārīkh al-Siyāsī*, Table 2, p. 168-169.

46. *Ibid.*, 115-116.

and participated, as well, in the endowment of rural properties. As discussed earlier, intensive lobbying by local peasants was key to the removal of Iyās al-Jarkashī from his office in the Jordan Valley and his subsequent arrest and execution. Likewise, the people of Kerak took up arms and refused the new governor entry into the town, forcing the government to appoint someone more acceptable to the residents in his place [47].

As officials of the government, governors and *muqṭā'*s were primarily concerned about maximizing profits. Villagers, on the other hand, viewed land in a different light. Tradition, stability, security, and long-term viability of agricultural land and markets were key factors in the decisions peasants made about how to manage their land. As we have seen, planting strategies, that is what to plant where and on what schedule, were largely left to peasant themselves, except in the case of the large government estates, such as the sugar "plantations" in the Jordan Valley. As state control over rural lands weakened in the late fifteenth and early sixteenth centuries, peasants returned to more traditional cropping, at a subsistence level of production or one organized for local markets, such as the regional marketplaces at Malka, Hubras, and Ajlun in the North [48] and the seasonal markets (*aswāq mawsimīyah*) along the *hajj* route at Ajlun, Zarqa, Salt, and Aqaba [49]. The sixteenth-century Ottoman tax registers indicate the extent to which planting had changed from the late Mamluk period. For example, there are no tax entries for either mills or sugar (in any form) for Nimrin, Kafrin, and Zara'a in either 944/1538 or 1005/1586 [50]. These former "sugar plantations", instead, now produced wheat, barley, and "summer crops" (fruits and vegetables); and oxen, along with sheep and goats, were taxed. This fits more closely the model of traditional Jordanian agriculture, with its oxen-drawn scratch plows, grain base, and two-crop rotation [51].

There is, moreover, some indication that with the collapse of the *iqṭā'* system that land tenure proceeded in two directions: towards individual, private ownership (*khāṣṣ* estates and

47. *Ibid.*, 117, citing al-Maqrīzī's *Kitāb al-Sulūk.*

48. Walker, "Mamluk Investment in Southern Bilad al-Sham", 250; *idem*, "Mamluk Investment in the Transjordan", 130-131.

49. Yūsuf Ghawānmah, "al-Tijārah al-Dawliyyah fī al-Urdunn fī al-'Aṣr al-Mamlūkī", *Studies in the History and Archaeology of Jordan* 3 (1987): 323-330; Fayṣal 'Abdallāh Muḥammad Benī Hamād, "al-Aswāq al-Shāmiyyah fi al-'Asr al-Mamlūkī", M.A. thesis, Yarmouk University, 1992; Sa'īd 'Alī Mūsā Khalīl, "al-Tijārah al-Dākhiliyyah fī Dawlat al-Mamālīk al-Thāniyah (784-922 A.H./1382-1516 A.D.)", Ph.D. dissertation, University of Jordan, 1992, 51-52; Hujjah, *al-Tārīkh al-Siyāsī*, 252-257.

50. Al-Bakhit and Hmoud, *Tapu Defteri No. 185*, 125-126, 242; al-Bakhit and Hmoud, *Tapu Defteri No. 970*, 102, 112.

51. Palmer, "Following the Plow".

mulk transformed into *awqāf*, for example) and towards communal ownership (*mushā'*). The written sources fully support a model of private ownership, which we will consider below. Ethnographic data suggests the latter. Until the British Mandate land registration of the 1930s, much of Jordan's permanently settled land was communally owned by entire villages, who divided the harvest on the basis of shares [52]. While there is no indication of this pattern in the written record for the Mamluk period, there is for the Ottoman, where the tax registers record family shares in common land [53]. The tax registers as a whole indicate that in the late Mamluk and early Ottoman periods Jordanian peasants simply reverted to old patterns of cropping and land tenure that existed before the changes in the *iqṭā'* system created by the cadastral surveys.

While the written sources are ambiguous, at best, about the proprietorship and usufruct status of land in Jordan at the end of the Mamluk period, archaeological methods may be used to differentiate "on the ground", as it were, between individually owned and communally owned land. In her recent ethnographic-historical study of traditional patterns of land use in Jordan, Palmer suggests ways in which the two patterns of ownership and use change the land and mark it physically, comparing them in terms of the organization of work and general use of the land [54]. Communal ownership of land, through social pressure, forces villagers to work hard and cooperate in issues of crop management and maintenance; land is seldom left uncultivated; there are no labor shortages, and the work load and benefits are essentially egalitarian. Nonetheless, tradition dictates the choice of crops grown and how they are rotated, which slows agricultural and economic growth, as such decisions do not necessarily respond to markets; there is little investment in land (few financial incentives to invest effort and resources in terracing and irrigation); villages cannot grow because they are physically hemmed in by communally-owned fields (the borders of which are dictated by tradition); and agricultural production remains, for the most part, subsistence-based. While consolidating the community, the *mushā'* system tends to be, according to this model, less efficient and productive than private ownership.

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52. Martha Mundy, "Village, Lan dand Individual Title: *Musha'* and Ottoman Land Registration in the 'Ajlun District", in *Village, Steppe and State: The Social Origins of Modern Jordan*, eds. Eugene L. Rogran and Tariq Tell (London, 1994), 58-79; Palmer, "Following the Plow", 129-130; Eugene L. Rogan, *Frontiers of the State in the Late Ottoman Empire: Transjordan, 1850-1921* (Cambridge, 1999), 84; Michael R. Fischbach, *State, Society and Land in Jordan* (Leiden, 2000), 41.

53. Al-Bakhit and Hmoud, *Tapu Defteri No. 185* and *idem*, *Tapu Defteri No. 970*, throughout.

54. Carol Palmer, "Whose land is it anyway" An historical examination of land tenure and agriculture in northern Jordan", in *The Prehistory of Food: Appetites for Change*, ed. Chris Gosden and Jon Hather (London, 1999), 300-302.

Private, or individually-held, land follows a different course, according to Palmer. The benefits of this system are that the individual makes decisions about cropping and crop rotation and can base these decisions on market and environmental factors; new crops (or an emphasis on high-profit ones, such as olive trees and summer vegetables) are introduced as local production is commercialized. Grazing land tends to be freed up for cultivation; there are significant financial incentives for the individual to invest in the land (through terracing and irrigation); there is flexibility in the location of fields vis-à-vis the village (and villages can expand and contract accordingly); and farming is intensive. On the other hand, the system tends towards absentee landownership (which can result in land not being cultivated for long periods of time), indebtedness (through forced land sales), labor shortages, and the increase of rented land (leading, in turn, to disinterested oversight and management). It appears, as well, that the state becomes more involved with local agriculture, as more land is owned privately, and that forests gradually come under state control; one could argue that private ownership strengthens the hand of the state in taxation, if nothing else. In short, while private ownership can be very profitable, it can also lead to abandonment of the land, when in the hands of apathetic, distant land owners.

The physical expression of these systems could take many forms. However, the communal system should typically be identified with large tracts of cropped, alternating with tracts of fallow, land. Private ownership on the village level, on the other hand, may be recognized by patchwork patterns of smaller fields and continuous cropping. Archaeologically one could examine archival photos to discern field patterns as one way of differentiating *mushā'* from privately-held land, and theoretically these patterns could be identified during archaeological surveys, if a village and its fields were subsequently abandoned. While such models are only suggestive for venues of future research, they do indicate the variety of ways in which villagers interacted with the state and with their land, given certain patterns of land proprietorship and usufruct. Decisions about how to organize labor and who "owns" the land, therefore, could not only transform the physical surface of the land, in themselves they may also be seen as survival strategies by local farmers to weather the political turmoil of the time by redefining their relationships with each other, agricultural markets, and officialdom.

The decision to stay on the land or to abandon a village and relocate was another way that peasants responded to political and economic insecurity. Abandonment of villages, in this case, was usually temporary, until the crisis had passed. The villagers of Adhri'at, for example, relocated to Ajlun during Timur's invasion of the Galilee and northern Jordan and

returned when his forces left [55]. Similarly, the residents of several villages in the Jordan Valley were forced to leave their land in 802/1399, when the first of several conflicts in Kerak spilled out into neighboring areas [56]. In other instances, it may have been a form of resistance to the state. According to the field results of archaeological surveys, the Kerak Plateau and Madaba Plains, for example, experienced marked depopulation during the fifteenth and early sixteenth centuries. This scenario is supported by the Ottoman tax registers, which refer to many villages in these regions as *khālī* (or empty) by the end of the sixteenth century [57]. Such villages, nonetheless, still pay taxes, either on flocks or small plots of land, which indicates either a resumption of a semi-nomadic lifestyle or relocation to other villages for residence but continued cropping of the land. In the case of the Kerak Plateau, it is possible that villagers of the lowlands simply moved to the highlands, to avoid the political entanglements of Kerak Town [58]. In the case of Hisban, there was a gradual emptying out of the village, after the relocation of the district capital and garrison to Amman in 757/1356 [59]. Both were, in one form or another, responses to state power, which expressed itself, on the one hand, as a threat to personal security and, on the other, as the provider of military and economic security.

The most important expression of the political and economic prerogatives of peasants vis-à-vis the state, however, was in their endowment of rural property that had become their personal property. This property is listed as *mulk* in the Ottoman registers and usually made *waqf*, as early as the late Mamluk period, for a local mosque or shrine or as a family endowment. Such properties include shares in shops, mills, presses, orchards, houses, or land [60]. One documented example exists in *waqfiyyah* form in St. Catherine's Monastery in the Sinai, which was the recipient of an endowment of a house by one Ghānim ibn Salīm ibn al-Yāsī al-Mālikī al-Shawbakī in 882/1477 [61]. There are also several entries in the Ottoman registers of private land acquired in the late Mamluk period and later endowed, primarily properties located

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55. Ibn Qāḍī Shuhba, *Tārīkh*, vol. 4 (1994), 181.

56. Hujjah, *al-Tarikh al-Siyasi*, 116, citing al-Maqrīzī's *Kitāb al-Sulūk*.

57. Hütteroth and Abdalfattah, *Historical Geography*, Appendix.

58. See Robin Brown, "Late Islamic Ceramic Production and Distribution in the Southern Levant: A Socio-Economic and Political Interpretation", Ph.D. dissertation, State University of New York at Binghamton, 1992 for a discussion of archaeological evidence for the move to the highlands at the end of the Mamluk period.

59. Walker, "Mamluk Investment in Southern *Bilād al-Shām*", 245.

60. Al-Bakhit and Hmoud, *Tapu Defteri No. 185*, 31.

61. 'Abdullāh Ibrāhīm, "Thalāthah Wathā'iq Fiqhiyyah", *Majallah Kulliya al-Adab (Jāmi'ah al-Qāhirah)* 25.1 (1963): 95-105.

in Kerak District by local residents. For example, the *waqf* of ʻAlī al-Karakī al-Barīdī for al-Ka'in mosque in Kerak was financially supported by shares of small plots of land (*qiṭaʻ*) in the village of al-Duqayr, purchased in 832/1428 but endowed in 925/1519 [62]. There are several isolated references, as well, to privately-owned land (*mulk*), usually as shares. The pattern that emerges is a growth in land purchase and eventual endowment for family or charitable estates by civilians. This process begins in the late Mamluk period and continues through the sixteenth century. While an analysis of Ottoman land policies is beyond the scope of this study, this shift in land tenure is noteworthy for the opportunities that emerged for peasants with the collapse of the Mamluk regime.

CONCLUSIONS

Today's concern in Jordan with sustainable agriculture through water and soil harvesting, land reclamation, and new markets highlights the symbiotic relationship between the state and farmers. Likewise, in medieval Islam it was through the management of land that the most complex political relationships and responses acquired their fullest expression. Rather than read the Mamluk period in Jordan as one of merely agricultural exploitation and ruin, perhaps we should define it as one where the state and *fallāḥūn* together used land as the basis of power and accommodation.

62. Al-Bakhit and Hmoud, *Tapu Defteri No. 185*, 335.