

## LAND TENURE (TO THE END OF THE PTOLEMAIC PERIOD) حيارة الأراضي (حتى نهاية العصر البطلمي)

*Sally L. D. Katary*

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## LAND TENURE (TO THE END OF THE PTOLEMAIC PERIOD) حيازة الأراضي (حتى نهاية العصر البطلمي)

Sally L. D. Katary

Feldereinteilung (bis zum Ende der Ptolemäerzeit)

Le régime de la propriété foncière (jusqu'à la fin de la période ptolémaïque)

*Land tenure describes the regime by means of which land is owned or possessed, whether by landholders, private owners, tenants, sub-lessees, or squatters. It embraces individual or group rights to occupy and/or use the land, the social relationships that may be identified among the rural population, and the converging influences of the local and central power structures. Features in the portrait of ancient Egyptian land tenure that may be traced over time in response to changing configurations of government include state and institutional landownership, private smallholdings, compulsory labor (corvée), cleruchies, leasing, and tenancy. Such documents as Papyrus Harris I, the Wilbour Papyrus, Papyrus Reinhardt, and the Ptolemaic Zenon and Menches archives provide evidence of various regimes of landholding, the status of the landholders, their relationship to the land, and the way in which the harvest was divided among cultivators, landowners, and the state. Ptolemaic leases and conveyances of land represent the perspective of individual landowners and tenants.*

إن «حيازة الأراضي» هو النظام تملك الأراضي، سواء من قبل ملاك الأراضي، أو القطاع الخاص، أو المستأجرين القانونيين، أو المستأجرين من الباطن، أو واضعي اليد. يشمل نظام حيازة الأراضي حقوق فرد أو مجموعة لإشغال و/أو استخدام الأراضي، والعلاقات الاجتماعية بين سكان المناطق الريفية، وتأثيرات نظم السلطات المحلية والمركزية. يمكن تتبع بعض سمات نظام حيازة الأراضي في مصر القديمة عبر التاريخ، وتكون هذه السمات استجابة لتغيير هياكل الحكومة وتشمل ملكية الأراضي من قبل الدولة أو المؤسسات، خاصة الحيازات الصغيرة، والعمل الإجباري «عمال السخرة»، ونظام الإستيطان اليوناني، والتأجير، والاستئجار. وهناك وثائق مثل بردية هاريس الأولى، بردية «ويلبور»، بردية رينهاردت، وزينون البطلمي وأرشيف «منشيز» تقدم أدلة على مختلف أنظمة حيازة الأراضي، وحالة ملاك الأراضي، وعلاقتهم بالأراضي، والطريقة المتعارف عليها في تقسيم الحصاد بين المزارعين وملاك الأراضي والدولة. وكانت عقود الإيجار البطلمية ونقل ملكية الأراضي تمثل وجهة نظر ملاك الأراضي الفرديين والمستأجرين.

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nowledge of land tenure, i.e., systems of exploitation of the agricultural landscape, is derived from a wide variety of documents and archives spread over some three millennia,

often lacking adequate contextualization. Papyri and ostraca provide the most fruitful sources and include land lists, legal texts, private correspondence, petitions, and land leases. Understanding is often hampered by

obscurities in terminology and language and by interpretative problems frequently rooted in a lack of context and comparative material. Sources tend to focus on landowners and administrators and ignore details concerning the tenure and working conditions of the peasants themselves. Gaps in documentation, both geographical and chronological, and delays in the full publication and discussion of relevant texts are also problematic.

The division of Egypt into two distinct agricultural zones, the 700-km-long Nile Valley and the Delta, as well as the Fayum depression and the oases of the Western Desert, produced regional differences that caused considerable variation in the organization of agriculture and the character of land tenure throughout antiquity (Kees 1961). The village-based peasant society worked the land under a multiplicity of land tenure regimes, from private smallholdings to large estates employing compulsory (*corvée*) labor or tenant farmers under the management of the elite, temples, or the Crown. However cultivation was organized, it was predicated on the idea that the successful exploitation of land was the source of extraordinary power and wealth and that reciprocity, the basis of feudalism, was the key to prosperity.

Since ancient times, Egypt has been blessed by an environment capable of producing large surpluses as a result of the annual renewal of the rich topsoil by the Nile inundation. The extension of a system of basin irrigation during Pharaonic times and canal irrigation in Ptolemaic times allowed Egyptian cultivators to successfully alternate food crops with industrial crops such as flax for both domestic and foreign markets. The proportion of various crops in the domestic and foreign export markets over the millennia is a reflection of the needs and priorities of the underlying system of landholding over time and in different places.

In the context of the broad patterns of settlement and demography, the village is certainly the basic unit in the agricultural regime. The Egyptian landscape underwent

dramatic changes over time in settlement patterns, social culture, and hierarchies of settlements, against a backdrop of tremendous regional variation that was dependent upon local traditions and social organization. While this is not the place for discussions of settlement and demography, these are related topics that require exploration in relation to both land tenure and the urban/rural dynamics that characterize the relationship between local power structures and central power structures.

Consistent features in the mosaic of land tenure were state and institutional landowners, private smallholders, *corvée* labor, and cleruchs, the importance of any single feature varying over time and from place to place in response to changing degrees of state control. Leasing and tenancy are also elements that pervade all periods with varying terms as revealed by surviving leases. The importance of smallholding is to be emphasized since even large estates consisted of small plots as the basic agricultural unit in a system characterized by competing claims for the harvest. However, the exact nature of private smallholding in Pharaonic Egypt is still under discussion as is clear from studies that explore local identity and solidarity in all periods, subject to regional variation; the conflict between strong assertions of central control in the capital and equally powerful assertions of regional individuality and independence in the rural countryside; and the dislocation of the villager and his representatives from the local elites (Eyre 1999, 2000, 2004; Lehner 2000). Land tenure was also affected by local variation in the natural ecology of the Nile Valley. Moreover, variations in the height of the Nile over the medium and long term directly affected the amount of land that could be farmed, the size of the population that could be supported, and the type of crops that could be sown.

The alternation of periods of unity and fragmentation in the control of the land was a major determinant of the varieties of land tenure that came to characterize the ancient Egyptian economy. The disruption in the

balance between strong central control and local assertions of independence that resulted in periods of general political fragmentation or “native revolts” had a powerful effect upon the agrarian regime, economy, and society.

The state’s collection of revenues from cultivated land under various land tenure regimes is also an element of continuity since the resources of the land constituted the primary tax-base for the state. Cultivators of all types had to cope with the payment of harvest dues owing to the state under all economic conditions, from famine to prosperity. These revenues fall under the terms *šmw* and *šyt* and perhaps other terms occurring in economic and administrative texts in reference to dues owing to the state from the fields of the rural countryside.

Recently, a theoretical approach has been applied in studying ancient Egypt that views Egypt as a “complex adaptive system” and embraces the idea of a “bottom up” approach to understanding how authority emerged “through the nome, village, and household apparatus” (Lehner 2000: 320). Central to this understanding is the idea of the disjunction between the central elite and the local elites that manifested itself in “complex inequalities . . . reflected in the embedding of rights to land” (Lehner 2000: 326 [in Eyre 2004: 158]). Using deductive reasoning, the underlying ecological regime may be examined and analyzed on the basis of data of different types from different periods, including the eighteenth and nineteenth centuries CE (Eyre 2000, 2004). These data are to be treated as “complementary” in order “to give context to isolated and incomplete evidence” (Eyre 1994b: 57 - 58). This approach rejects the model of the Pharaonic political economy that superimposes the hydraulic regime of nineteenth-century Egypt onto ancient Egyptian history because of the radical changes in the hydraulic system brought about by the agrarian reforms of Muhammed Ali Pasha (1769? – 1849). Instead, data of the pre-reform Napoleonic atlas of the *Description de l’Égypte* (Eyre 2004: 160 - 161) are considered relevant since they appear to correspond to

the hydraulic regime depicted in Demotic documents from Upper Egypt in the Ptolemaic Period—a system that remained more or less the same prior to Muhammed Ali’s reforms. This comparative method of analysis is an extremely valuable supplement to traditional philological analysis, but, like all deductive approaches, makes some assumptions in modeling that can and should be critically examined (Moreno García 2008: 107 - 114).

### *Predynastic Period and Old Kingdom*

Landholding initially occurred within the confines of the village economy and likely produced no more than a subsistence existence. There was, however, in the Predynastic Period a network of trade bases, settlements, and administrative centers that contributed to government control over limited areas, facilitated trade, and shaped the spatial organization of the landscape (van den Brink and Levy 2002; Moreno García 2007: 316 - 317). With the unification of Upper and Lower Egypt c. 3100 BCE and the establishment of a national capital at Memphis, and its concomitant infrastructure for the administration of agricultural production, large royal estates came into being. Royal institutions known as the *ḥwt* (a kind of royal farm) and the *ḥwt ʿst* (great *ḥwt*) became centers of royal power and institutional agriculture in the countryside serving several purposes, including the warehousing of agricultural goods, as well as their administration and defense (Moreno García 1998a, 1999a; 2007: 317).

*Land Ownership and Tomb Biographies.* Private ownership in the Old Kingdom traces back to land-grants to members of the king’s immediate family and eventually to more distant relatives, as well as officials (Menu and Harari 1974). The desire to secure the personal disposal of landed property for families was eventually achieved by the establishment of permanent mortuary endowments, in which family members carried out the responsibilities of the cult in exchange for a share in the revenue of the

lands that comprised the endowment. These offices became hereditary and brought with them the right to a share in the foundation's property.

Old Kingdom tomb biographies of the elite provide the earliest detailed knowledge of landholding. The autobiography of Metjen, controller of vast Delta estates under Third Dynasty king Djoser, provides the earliest example of private landholding (Sethe 1933: 1 - 5; Baer, K. 1956: 116 - 117; Fischer 1968: 3 - 14; Goedicke 1970: 5 - 20; Menu and Harari 1974; Gödecke 1976; Strudwick 2005: no. 108: 192 - 194; Moreno García 1999a: 233 - 234; 2006: 100 - 101; 2007: 319 - 320). While Metjen's power base was the Delta, he also enjoyed authority over two Upper Egyptian nomes, controlling landholdings and the wealth derived from them as an official of the king. This valuable property consisted of 266 arouras (1 aroura = 0.66 acre) plus a small vineyard, an estate in keeping with the grandeur of his Saqqara tomb (Baer, K. 1956: 116 - 117). Metjen's titles, including *ḥqꜣ-ḥt*, are testimony to the prominence of the institutional *ḥt*-land at this early date and of the royal agricultural centers, the *ḥwt* and the *ḥwt ʿst*, in the rural areas, as well as to the establishment of other agricultural units or types of royal settlement known as *grgt* and *ḥt* (Moreno García 1996, 2006: 100 - 101; 2007: 319; 2010). Moreover, Metjen was the chief of wab-priests and, as such, participated in the improvement of the cultivable land. Elite officials such as Metjen cultivated their large properties through the agency of supervised compulsory (corvée) laborers called *mrwt* (Eyre 1994a: 112; Moreno García 1998b; Allam 2004). Metjen bore personal responsibility for the operations and productivity of the lands entrusted to him and the flow of revenues from the land to the authorities who had a claim upon them.

During the Fourth Dynasty, inscriptions of other officials, including Pehernefer (Junker 1939; Wilkinson 1999: 129 - 131; Moreno García 2007: 320), confirm policies of territorial administrative homogeneity, the dominance of temples, *ḥwt ʿst*, *grgt*, and *swnw*

(defensive towers) in the rural landscape, and the importance the Crown placed upon the production, storage, and delivery of agricultural produce within the Memphite area and elsewhere in Middle Egypt (Moreno García 1996, 1997b, 1998a; 2007: 320).

Temples took on a more conspicuous role in the rural landscape during the Fifth Dynasty, just as the role of provincial governors or nomarchs (*ḥꜣtj-ꜣ*) was also on the ascendant (Moreno García 2007: 321; Kemp 1983: 108). According to an inscription at his early Fifth Dynasty tomb at Tehneh in Middle Egypt, Nikaankh, Keeper of the King's Property and Steward of the Great Domain (*jmj-r pr n ḥwt ʿst*), had control of the royal agricultural centers in his province. He was made Chief Priest of the Temple of Hathor, Lady of Ra-Imet by king Userkaf, with responsibility for temple income. Nikaankh was entitled to bequeath the two arouras in endowments he had received in the reign of Menkaura for cult service to his sons who succeeded him in his offices in the cult of Hathor, and a private mortuary cult, provided they continued their service faithfully and the property was kept intact (Strudwick 2005: No. 110: 195 - 199; Goedicke 1970: 131 - 148; Baer, K. 1956: 115 - 116; Mrsich 1968: 70 - 85; Helck 1974: 31 - 34; Kemp 1983: 105 - 106; Der Manuelian 1986: 1 - 18; Moreno García 2007: 321 - 322).

*Central Government Functions in the Fifth and Sixth Dynasties.* According to the royal annals of the Palermo Stone, kings frequently granted provincial temples donations of land, from royal pastures and riparian land, together with workers and processing centers (Wilkinson 2000; Moreno García 1999 a and b; 2006; 2007: 322; Römer 2001: 256). These donations, especially when large, were significant events in any pharaoh's reign. Especially noteworthy was the donation to the god Ra of at least 1704 arouras and 87 cubits (459.7 hectares) in the Fifth Dynasty—an extremely generous, in fact unsurpassed, donation for the times (Baer, K. 1956: 117; Kemp 1983: 104). Most frequently, the donations were located in Lower Egypt,

where there was great potential for agricultural development (Moreno García 2007: 322).

The rise of true provincial governors over the Fifth and Sixth Dynasties signaled the gradual decrease in central control over provincial government (Kemp 1983: 108). Land in the Delta, as well as most of Middle Egypt north of Abydos, was directly administered by the Crown during the Fifth Dynasty (Moreno García 2007: 323). In nomes one through seven of Upper Egypt, however, powerful local families controlled local sanctuaries, limiting the influence of the Crown in local affairs (Moreno García 1999a: 238 - 241; 2007: 322). The administrators of Crown agricultural foundations are rarely mentioned in this context (Moreno García 1999a: 238 - 241; 2007: 323). Thus, it appears that provincial administrative institutions competed with and increasingly challenged central control, necessitating a strong but calculated response from the central government (Trigger in Wenke 1989: 146; Kanawati 1977: 69 - 77; 1980: 128 - 131).

During the Sixth Dynasty, earlier Crown agricultural centers, *swnw*, *hwt ʕt*, and *grgt*, were replaced by the *hwt*, leaving the *hwt* the sole surviving type of royal agricultural center in the southernmost nomes of Upper Egypt (Moreno García 2007: 323 - 324). Temples and *hwt* formed a country-wide network of agricultural production, their produce subject to collection on demand by royal officials (Moreno García 2007: 325). Established dynasties of local elite families in control of temple sanctuaries challenged Crown centers in their local influence. Temples, such as that of Min at Coptos, also continued to establish and maintain agricultural domains, using peasants from nearby villages. They also benefited from royal land transfers and exemption decrees that protected them from many taxes and the corvée (Hayes 1946; Goedicke 1967; Helck 1975; Moreno García 2007: 324 - 325).

*Landholding by the Hntjw-š.* In the royal pyramid cities, smallholders called *hntjw-š* were often able to develop their holdings into

profitable estates (Eyre 1987a: 35; 1994a: 111 - 112; 1999: 47 - 48). These smallholders had roles in the cult and served the estate of the funerary institution, enjoying access to endowment land and royal exemption from the corvée or any unlawful seizure. The exemption decree enacted by Pepy I on behalf of the pyramid town of Seneferu at Dahshur restricted the cultivation of fields belonging to a pyramid town to the *hntjw-š* of that town (Helck 1959: 17 - 18; Goedicke 1967: 55 - 77; Malek 1986: 72 - 73; Eyre 1987a: 35; 1999: 47 - 48; Strudwick 2005: No. 20: 103 - 105). The *mrwt* of any elite party or official were forbidden to cultivate those holdings. This protected the status of the *hntjw-š* as small farmers with an elevated standing among the peasantry.

*The Aswan Nomarch Pepinakht-Heqaib.* The Aswan nomarch, Pepynakht called Heqaib, *jmj-r ʕww* (overseer of scouts) in the Sixth Dynasty and holder of multiple positions in the pyramid cults of Pepy I, Merenra, and Pepy II, is an example of a provincial noble who played a leading role in the organization of the rural landscape at this time and accordingly received estates cultivated by *mrwt* (Lichtheim 1988: 9, 15 - 16; Habachi 1985). The endowments of land granted to Pepynakht-Heqaib with his offices were highly valuable sinecures (Eyre 1994a: 112 - 113; Mersich 1975b).

Although landownership was the key indicator of wealth in the Old Kingdom, inscriptions fail to distinguish between private property and property that went with an office (Menu and Harari 1974: 134 - 135; Gödecken 1976; Eyre 1987a: 33). In most cases, the principle of usufruct applied to the estates of foundations; estates were held by office-holders during their lifetime and did not pass from father to son. After the office-holder's death, a small residual offering continued to be paid (Jacquet-Gordon 1962: 21 - 25). The idea that private property originated in income-producing holdings attached to the performance of mortuary cults as the holders of ritual office ceased to fulfil their ritual obligation (Menu and Harari 1974:

145; Helck 1959: 19; Jacquet-Gordon 1962: 24 - 25; Allam 1974: 146; Drenkhahn 1976: 136 - 137) may, however, be simplistic (Mrsich 1975a; Gutgesell 1983), since the restrictions placed upon heirs in the way they made use of attached property often resulted in their inability to delegate the performance of the offering cult to any other party than the specified mortuary priest (Eyre 1987a: 33 - 34). The attached property and the duties of the mortuary cult were thereby inseparable.

*The End of the Old Kingdom.* Changes to the agricultural landscape at the end of the Old Kingdom derived in part from the increasing power struggle between the central government and the provincial nobility (Kanawati 1980: 128 - 131; Müller-Wollermann 1986). The *ḥwt* went into decline at the end of the second millennium BCE as new concepts of the *spꜣt* (district, nome) and *njwꜣt* (city, town) came into play (Moreno García 2007: 327). When the reorganization of the state was achieved with the Eleventh Dynasty, a new system replaced the old network of the *ḥwt*.

### *The Middle Kingdom*

When pharaohs from a Theban line of princes stabilized the country from north to south, they ended the political, social, and economic fragmentation of the First Intermediate Period and reunited Upper and Lower Egypt in a regime that allowed the orderly management of the land and its resources. The Eleventh Dynasty was followed by the Middle Kingdom, a new period of cultural flowering in which a “middle class” came into increasing importance in the land tenure regime (Callender 2000; Katary 2009). According to Papyrus Brooklyn 35.1446, by the Middle Kingdom, royal agricultural units (*wꜣrt*) administered lands described as *ḥbsw*, “plowlands,” likely cultivated by corvée labor organized into work teams through conscription (Hayes 1955: 27 - 29; Menu 1973; 1981; Roth 1991; Eyre 2004: 182). Temples controlled vast holdings of *ḥt*-lands for cultivation under *wab*-priests responsible for the payment of taxes as described in the

*Instructions for Merikara* (Helck 1977: 51 - 52; Quack 1992: 48 - 53, 182; Vernus 2001: 146; Moreno García 2006: 115 - 116) and documented in the Lahun archives (Griffith 1898; Luft 1992; Collier and Quirke 2002, 2004, 2006; Moreno García 2006: 113 - 115). These priests, along with *ḥrꜣw* (agents/administrators), were intermediaries between the peasant producers and the temple administration, paying large quantities of grain as income to the temples. The agricultural model we detect in the Lahun archives, in which temples administered cultivable land, greatly resembles that of the Old Kingdom (Moreno García 2006: 114).

*The Letters of Hekanakht.* During the Middle Kingdom, smallholders (*nds*) cultivated *šdw*-fields and were relatively independent. The correspondence of the Twelfth Dynasty *kꜣ*-priest (mortuary priest) and farmer Hekanakht regarding the operation of the family’s farm properties, south of Thebes, is crucial here (James 1962; Baer, K. 1963: 1 - 19; Menu 1970b; Goedicke 1984; Allen 2002; Eyre 2004: 171 - 172; Kemp 1989: 240; 2006: 323). Although family-run, Hekanakht’s farm properties were dispersed over a number of villages rather than centrally located. The farms were a joint, extended-family enterprise: the father and sons made decisions on both the crop and required labor. Family members were assisted in the operations by wage-laborers who became the family’s dependents. Capital from the work of weavers and a herd of thirty-five cattle supplemented the farm income (Eyre 2004: 172). The letters give the impression of an autonomous economic life, free of interference by any outside system or authority, even though Hekanakht certainly functioned within the constraints of an economic system that he shrewdly manipulated to his best possible advantage (Kemp 1989: 240; 2006: 323).

Hekanakht, the *kꜣ*-priest turned entrepreneur, acquired his landholdings through inheritance, purchase, in payment of a debt, and/or as remuneration for services rendered (Eyre 1994a: 111). It is likely that some of his property was endowment land

since, as a *k3*-priest, his labor would have been rewarded with a land grant that provided the right to use the land in perpetuity (Eyre 1994a: 111; 2004: 171 - 172). The regular payment of taxes on his land guaranteed Hekanakht's freedom to cultivate it exactly as he wished (James 1984: 242 - 243). The occurrence of the word *qdb*, "to rent," in Letter I, 3 - 9 (James 1962: 13, 19 [10], [11]; 114 [9]; Baer, K. 1963: 3 - 4; Goedicke 1984: 43, 49 [f]; Eyre 1994a: 129) and also in Letter II, vs. 1 - 3 (James 1962: 33, 44 [57]; 114 [9]; Baer, K. 1963: 9 - 10; Goedicke 1984: 19, 36 - 37 [ab]) is evidence of Hekanakht's leasing of land through the payment of a share of the crop or various commodities (copper, cloth, barley). Well-capitalized family farms such as those of Hekanakht provided an efficient form of agriculture (Eyre 2004: 172; Kemp 1989: 240; 2006: 323).

*The Nomarch Hapdjefa of Assiut.* The Twelfth Dynasty tomb inscription of Hapdjefa (I) of Assiut, a high priest of Wepwawet and of Anubis, and a nomarch (*h3tj-ḥ*) in the reign of Senusret I, provides crucial data on income from landed property. It very clearly demarcates between lands and their income that Hapdjefa possessed by virtue of his official roles, and income, consisting of lands, tenants, and cattle, he inherited as a private individual from his paternal estate. The latter properties were alienable, while the former were not (Erman 1882; Griffith 1889: pls. 1 - 9; Reisner 1918; Helck 1958: 159 - 162 and 210 - 211; Théodoridès 1971; Beinlich 1975; Spalinger 1985; Eyre 1994a: 123 - 124). As nomarch, Hapdjefa inherited from his predecessors lands, as well as the temple offerings that went with the office and would be inherited by the next nomarch. As high priest, Hapdjefa was paid in kind for his services, but these payments occurred only during his tenure. He had no right to alienate any of the properties of the cult or to benefit from them or their income during his lifetime (Spalinger 1985: 9). What he did with his patriarchal inheritance was, however, up to him as we learn from a series of ten contracts that relate to the establishment of a pious

foundation on behalf of his cult statues (Kemp 1983: 106; Spalinger 1985: 9 - 18).

*Food Shortages or Famine?* There are frequent allusions to low Nile levels that led to drought and famine in texts of the First Intermediate Period and the early Middle Kingdom (Vandier 1936; Bell 1971; Butzer 1976: 51 - 56; Eyre 1995: 178 - 180, 185 - 186; Hassan 1997; Moeller 2005). Autobiographical inscriptions of nomarchs of the First Intermediate Period and early Twelfth Dynasty depict these high officials as the saviors of their people in times of crisis, using rhetoric that goes back to Old Kingdom recitals of virtue in mortuary texts (Moreno García 1997a: 46 - 52). Khety I, nomarch of Assiut during the First Intermediate Period, claims credit for a ten-meter-wide canal, providing irrigation to drought-stricken plowlands through planned water management (Griffith 1889: pl. 15; Brunner 1937: 11 - 12, 64 - 67; Butzer 1976: 51 - 56; James 1984: 115 - 116; Lichtheim 1988: 26 - 29). In his Beni Hassan tomb-autobiography, Amenemhet (Ameny), nomarch under Senusret I, claims that he preserved his nome in "years of hunger" through wise and fair policies of land management (Newberry 1893: pl. 8; James 1984: 113; Lichtheim 1988: 135 - 141). There is also mention of a food shortage in the Hekanakht Papers (Allen 2002: 171, 182, 184).

These texts suggest that abrupt climate change led to frequent famines, and that nomarchs took a leading role in saving their people because of their access to emergency food supplies, control over the management and conservation of existing food supplies, and access to the engineering skills needed for effective land and water management. Food shortages certainly occurred at times of drought or spoiled harvests, as stored commodities were used up and the new harvest was not yet ready or fit for consumption (Adamson 1985). What is not clear is whether the texts refer to true famines or temporary shortages in the food supply. There is no evidence that any action was taken on the part of the central government

to intervene in local affairs; solutions presumably were left to the local officials, water management and the distribution of food being controlled locally (Moreno García 1997a: 15; Eyre 1999, 2000, 2004). The piety typical of autobiographical inscriptions led officials to boast of virtuous acts that they may not have actually performed. Thus, there is probably much exaggeration in their claims of having saved the populace in times of disaster. While there were certainly occasional food shortages, there is no evidence for the dire conditions described in these autobiographies. There is also no evidence that drought and famine were unique to this period or were of such magnitude that they played a significant role in destabilizing the government at the end of the Old Kingdom (Moreno García 1997a; Moeller 2005). Climate change toward drier conditions at the end of the third millennium BCE was likely gradual rather than catastrophic (Moeller 2005: 167).

#### *New Kingdom*

*The First Land Grants: Ahmose son of Abana.* New Kingdom pharaohs regularly rewarded high achievers land in recognition of their service to the state. According to the inscriptions from his tomb at Elkab, the crew commander Ahmose son of Abana received extensive estates, including one comprising 60 arouras in Hadja, as “favours” of the king (Loret 1910; Lichtheim 1976: 12 - 15). Five arouras of land were located in his hometown of Elkab as was customary in the case of veterans being rewarded for service to king and country. In addition, Ahmose received both male and female slaves (*hm*, *hmt*) (Menu 2004), some of whom may have worked his land. Since by the end of Ahmose’s life, his estates would likely have been widely dispersed geographically, and the family probably preferred to reside comfortably in town, slaves or local cultivators would have worked distant holdings as individual income-producing units. Shares (*psšt*) in the cleruch’s holding would be inherited, generation to generation, and this would reinforce the relationship between the state and the heirs in

a land tenure pattern that would shape the New Kingdom economy (Eyre 1994a: 114 - 115). As veterans entered into the agricultural economy as landholders, the stage was set for an increased involvement of the military in landholding that would reach its fullest expression in the Ptolemaic cleruchy.

*The Donation of Si-mut called Kyky.* While real estate was granted to individuals by the state, individuals also turned property over to the management of temple estates by means of funerary endowments. The endowment of Si-mut, called Kyky, scribe and inspector of cattle in the stalls of Amun in the reign of Ramesses II, exemplifies the custom of the donation of personal property to temples by individuals who entered into contracts with temples for the deity’s protection (Muhammed 1966; Wilson 1970; Vernus 1978; Assmann 1975: 374 - 378, No. 173; Brunner 1975: 63 - 65; Menu 1980; Negm 1997; Hodel-Hoenes 2000: 227 - 240; Froid 2007: 84 - 91). Si-mut’s act of endowment comprises a long inscription covering three walls of his Theban tomb (TT 409) and summarizes a legal contract. Not having any children or siblings to care for him in his old age and organize his funeral and mortuary cult, Si-mut donated all his worldly goods to the temple of Mut, likely in return for a pension that would enable him to live out the remainder of his days comfortably, secure in the knowledge that his obsequies would be carried out by the temple. Unfortunately, the lower part of the inscription that contains details concerning the endowment is poorly preserved. Nevertheless, it was by such benefactions that temples gained control over even more property, and more distant relations of the donor were excluded from any possibility of inheriting from the estate (Janssen and Pestman 1968; Pestman 1969; Vernus 1978; Menu 1980).

*Papyrus Harris I.* Papyrus Harris I attests the preponderant role of the temples as distinct economic entities in their own right, with authority over cultivation and landholding. This royal document enumerates the land-wealth of the temples of Amun, Ra, Ptah, and

smaller less well-known temples: a total of 1,071,780 arouras (289,166.24 hectares), comprising some 13 to 18 percent of the available cultivable land (Römer 2001: 257). It is very likely that the temple holdings enumerated here were donations made by Ramesses III, with priority going to his own mortuary temple at Medinet Habu (Haring 1997: 174 - 179, 188 - 191).

Papyrus Harris I supports the idea that temples were an integral part of the state, yet not a branch or department of the state administration, providing legitimacy to the government in exchange for which the king granted them all necessities and then some (Warburton 1997: 300 - 302). The separate but interlinked bureaucracies of temples and government assured the temples control of their own production but made it possible for the government freely to remit part of its own wealth to the temples. Temples commanded the labor of large numbers of royal subjects to till the land in various arrangements the temples themselves controlled. The cultivators of temple lands were themselves taxed by the state to provide for the temples, thus completing the circle that, in theory at least, connected temples, populace, and the state in a mutually beneficial relationship (Janssen 1979; Kemp 1989: 185 - 197; 2006: 248 - 260).

*The Wilbour Papyrus.* The Wilbour Papyrus is our most valuable and extensive Pharaonic document for regimes of land tenure. It details the assessment of both private smallholdings and large, collectively cultivated domains in Middle Egypt, administered by temples and secular institutions in year four of Ramesses V (Gardiner 1941 - 1948; Faulkner 1952; Menu 1970a; Stuchevsky 1982; Janssen 1986; Katary 1989, 1999, 2000, 2001, 2006, 2009, *fc.*; Haring 1997: 283 - 326, 326 - 340 *passim*; 1998, 2006; Warburton 1997: 165 - 169). The importance of the Wilbour Papyrus is that it elucidates the administration of cultivable land by temples and secular institutions in cooperation with the state, while raising important questions about the relationship between temples, the state, and the cultivators that are still not easily answered

(Janssen 1986; Gasse 1988 II: 233; Warburton 1997: 165 - 169, 300 - 302; Haring 1998: 77 - 82).

While the precise purpose and context of the Wilbour Papyrus is still unclear, the document may have been an archive copy of the field survey ordered by the *ꜥꜣ n šꜥ*, “Chief Taxing Master,” responsible for temple finance (Janssen 1991 [b]: 83 - 84; Warburton 1997: 165; Haring 1997: 299 - 301). The limited extent of the agricultural holdings recorded in Wilbour (approximately 17,324 arouras = 4674 hectares, according to Fairman 1953: 119) led one scholar to speculate that it was the *jpw*-register of Amun (Warburton 1997: 167, n. 483)—that is, the (comprehensive) land survey document of the House of Amun. The abundance of towns and villages in the measurement lines of both Text A and Text B, identifying the locations of plots, reflects the underlying hierarchies of towns and villages as the fundamental units of agricultural organization. The lack of specificity in the location of the plots of smallholders perhaps argues in favor of the smallholdings representing individual right of access to land and the right to profit by its exploitation rather than “ownership” *per se* (Eyre 2004: 168 - 169, 176).

Smallholders of all occupations cultivated heritable plots, most often three or five arouras in size, on institutional “apportioning domains,” a plot of five arouras supporting a family of some eight persons (Gardiner 1941 - 1948 II: 24 - 25, 95 - 96). These private possessors paid dues on a tiny portion of their fields at a nominal fixed rate (Haring 1998: 84 - 85). Whether this extremely small amount represents a tax (*šmw*) or a management fee to the temple on whose land the plot was situated is difficult to say.

It is possible that holdings in apportioning domains originated in land grants such as those received by Ahmose son of Abana (Eyre 1994a: 121). Larger tracts of cultivated land in “non-apportioning domains,” worked by field-workers (*jhwtj*) under supervisors (also *jhwtj*), incurred a tax of 30 percent of the harvest (Janssen 1986: 358 - 360). Also

detailed are holdings of Crown-land (*kbato* [ḫꜣtꜣ]-land and minē [mjnt]-land of pharaoh), located upon the domains of institutions, supervised by institutional staff and cultivated by field-workers (*jhwtj*) (ibid.). It is possible that plots apportioned for individual smallholders reverted to the status of *kbato*-land when the smallholder gave up rights to the property (Gardiner II: 59, 182; Eyre 1994a: 125, n. 78).

*Disputes over Rights to Land: The Tomb Inscription of Mose.* The Memphite tomb-chapel inscription of Mose traces the history of a land grant awarded by Ahmose to Mose's ancestor, the ship-master Neshi, veteran of the wars against the Hyksos, and the litigation that ensued among the heirs over the control of the undivided estate down to the reign of Ramesses II (Gardiner 1905; Gaballa 1977). This text confirms the New Kingdom tradition of pharaohs awarding land grants to veterans, celebrated in the early Eighteenth Dynasty inscriptions of Ahmose son of Abana, and documented in the Wilbour Papyrus, where military men hold small plots as virtual private property. The estate, located just south of the Fayum in Wehit-Neshi, was kept intact but interest in it was represented by shares (*psšt*) distributed among Neshi's family members and managed by a representative (*rwḏw*) of the heirs, acting as de facto head of the extended family. As such, this manager was responsible for securing income from the cultivation of the land and distributing this income among the shareholders. He also enjoyed the power to decide who in the family was a legitimate heir and therefore entitled to shares in the estate.

The concept of shares occurs in the Wilbour Papyrus with respect to land that was divided among smallholders enjoying the right of access to institutional land as their shares in the *rmnyt ps* ("apportioning domain") of an institution. While the apportioning plots were generally small and their smallholders modest in wealth and status, Mose's family is probably representative of a class of extremely well-off beneficiaries of the king's largess who became landlords themselves when they hired others

to cultivate their holdings after choosing to live in town themselves (Eyre 1994a: 116 - 117, 121; Haring 1998: 77).

The inscription reveals that when the rights to inherited land were contested, the case was first submitted to the court at Memphis, where the family likely lived, evidence for the case being collected from witnesses in Wehit-Neshi who may have been descendants of the original cultivators of Neshi's land grant (Eyre 1994a: 116 - 117). Eventually the case was submitted to the vizier and his Great Council (Haring 1998: 81). The national archives of the Treasury of Pharaoh and the Granary of Pharaoh at Pi-Ramesse in the Delta were consulted to trace the payment of taxes.

The official record of tax payments (*šmw*) on the land likely provided *prima facie* evidence of tenure (Eyre 1994a: 132). The documentation of taxes rendered in the records of both the Treasury and Granary of Pharaoh is to be expected in light of the origin of the property in a royal grant of land and the continued interest of the state in the land (Haring 1998: 81). The Inscription of Mose makes it clear that the registers were not inviolable since Mose claims that they were tampered with by members of his extended family for their own benefit.

*Disputes over Rights to Land: Papyrus Berlin 3047.* While the Inscription of Mose provides evidence of land inherited by private holders via land grants to veterans, Papyrus Berlin 3047, a poorly preserved record of a lawsuit dating to year 46 of the reign of Ramesses II, details the transfer of privately held land to the management of a temple (Erman 1879; Helck 1961: 263 - 264, 271 - 273; Baer, K. 1962: 36 - 39; Helck 1963; Katary 1989: 223 - 225; Théodoridès 1983: 28 - 42; Eyre 1994a: 118 - 119, 121). The plaintiff, the scribe of the Royal Offering Table Neferabet, went to the court (*ꜣrryt*) of pharaoh at Thebes to plead his case before a tribunal (*qnbt*) under the high priest of Amun. Neferabet claimed a share in an estate of more than 140 arouras and its income that was administered by Niay, the Chief of the Workshop (*šnꜣ*) of the House of Amun. As the representative, manager, or

agent (*rwḏw*) of the co-heirs, Niay had had charge of the management of the estate for some years, probably managing the estate on a profit-sharing basis, and Neferabet was disgruntled that he had not received his legitimate share. Serving on the court was the Prophet of the House of Mut Wennenefer who took a special interest in the property at issue since Neferabet was willing to hand over his share to him for an annual rent of one-third the crop. The court decided in favor of the plaintiff, ordering Niay to recognize the claim of Neferabet and, moreover, to hand over (*swḏ*) the property to Wennenefer. The transfer of Neferabet's share to Wennenefer was not a transaction between two private parties but rather a transfer of shares to temple management for the benefit of both the temple of Mut and Neferabet. With the transfer, Neferabet could obtain a good income from the property as an absentee landlord while carrying on his life in town with the assurance that the fields would be both securely and profitably managed by experts in cultivation (Baer, G. 1969: 50 - 52; Eyre 1994a: 118 - 119, 121 - 122; Haring 1998: 77). The arrangement safeguarded the property by establishing a tie of dependence with the managing institution for the generation of income of vital interest to both parties.

### *The Third Intermediate Period*

We know about smallholdings called *ḏḥwt nmḥw*, “fields of freemen,” from sale documents and other texts from the late Twentieth Dynasty (Baer, K. 1962: 29; Römer 2001: 257 - 258). The word *nmḥ*, originally “orphan,” was understood by the late New Kingdom as an individual whose status was the complete opposite of *bḥk*, “servant,” or *ḥm*, “slave.” *Nmḥw* were independent of any lord and therefore did not fall under such an individual's protection, nor were they dependent on any temple or other landowning institution in a client capacity (Eyre 1987b: 209). However, the *nmḥw* were dependent on the king; they were therefore called “*nmḥw* of the land of pharaoh” and owed taxes and services to the state.

*ḏḥwt nmḥw in Papyrus Valenciay I.* The term *nmḥw* is encountered in Papyrus Valenciay I (c. Ramesses XI), which constitutes a letter from Meron, the disgruntled mayor of Elephantine. Meron complains about taxes he was assessed on *kbato*-land for which he claims *nmḥw*, “who pay gold to the Treasury of Pharaoh,” were actually liable (Gardiner 1951: 115 - 124; Katary 1989: 207 - 216; Porten 1996: 57 - 59). These *nmḥw* paid taxes to the Treasury as virtually independent landowners with tax liability regardless of who actually cultivated the land (Haring 1997: 339 - 340; 1998: 77, 82 - 86). While denying responsibility for the land of *nmḥw*, Meron does not hesitate to assume responsibility for taxes on other property he readily admits to owning. This is therefore not a simple case of tax evasion.

Farming by *nmḥw* in the New Kingdom perhaps represents a natural evolution from the Twelfth Dynasty model represented by Hekanakht (Eyre 2004: 171 - 172). *ḏḥwt nmḥw* may have been a new variety of landholding derived from the privatization of larger estates managed under bureaucratic exploitation or, alternately, a new designation for the kind of land held by such absentee landholders as Mose or Neferabet, or even the type of smallholdings that are documented in the Wilbour apportioning paragraphs (Eyre 1994a: 120 - 121, 128 - 129; Römer 1994: 412 - 457). It was a secure kind of land tenure since the land was heritable and transferable and could be leased to whoever actually wanted to cultivate it, the payment of assessed harvest duties remaining the responsibility of the owner (Eyre 1994a: 128; Katary 2001). The smallholdings remained under the control of the temple even as sales among smallholders took place and land was leased to other parties for actual cultivation. Private smallholding was evolving into a kind of private ownership that would eventually require legal protection.

*ḏḥwt nmḥw in the Abydos Donation Text of Shoshenq.* Just prior to his accession to the throne, Shoshenq, Great Chief of the Meshwesh, allegedly in collaboration with Psusennes II, established a funerary

endowment for the statue of his father Nimlot that he erected in the temple of Osiris at Abydos in order to obtain for him the goodly benefits of rituals carried out at Osiris's most holy place (Blackman 1941; Menu 1979; Eyre 1994a: 125 - 126; 2004: 178). A red granite stela commemorates this endowment, which included 100 arouras of *šḥwt nmḥw*, located in two places, the value of which is given in silver. The management of the land by a "cultivator" (*ḥwtj*) who supervised the work of four slaves (*ḥm*) is reminiscent of the situation of the *ḥwtjw* in Wilbour who acted as managers on non-apportioning domains under the direction of landowning/administering institutions. The earlier part of the text in the missing upper portion of the stela likely once contained vital details of the management of the endowment. It suggests that *šḥwt nmḥw* could be transferred from the supervision of one institution to another, here a newly instituted cult.

*šḥwt nmḥw in the Stèle de l'Apanage.* The shifting status of *šḥwt nmḥw* also comes into play in the so-called "Stèle de l'Apanage," from year ten of Osorkon I. This document is concerned with an endowment consisting of a number of rural properties northwest of Thebes, of various sizes, eventually totaling some 556 arouras of arable land (half of it orchards), acquired by purchase by Osorkon I's son, the High Priest of Amun and General Iuwelot, from *nmḥw* (Legrain and Erman 1897; Menu 1989, 1998: 181; Kitchen 1996: §265; Eyre 1994a: 125; 2004: 170, 178). The *nmḥw* holdings, typically varying in size from two to ten arouras, may be compared with the smallholdings of the apportioning domains in Wilbour. The workforce of 35 slave-laborers (*ḥm*, *ḥmt*) was acquired from *nmḥw*, 32 of these likely being peasant farmers who were probably already employed on the land (Eyre 1994a: 125; Menu 1989: 352 - 354; 2004). The stela therefore documents the movement of *šḥwt nmḥw* from the management of individuals to the management of large endowments. Clearly the consolidation of land and labor on such an estate would have

provided security and stability for the cultivators and steady income for the endowment.

*Land Registers.* The second most important land register in Pharaonic history comes to light some two-hundred years after the Wilbour Papyrus in the form of Papyrus Reinhardt (Vleeming 1993: 8 - 9), a rare example of a Third Intermediate Period secular papyrus. This fragmentary, tenth-century register of fields belonging to the Amun Temple of Thebes details the yields of fields cultivated by landholders in a system that calls to mind the Wilbour Papyrus but adds new elements in the form of corvée lands and accounting methods unknown in Wilbour (Vleeming 1993: 1, §§12, 17). Although the papyrus was destroyed in the bombing during World War II, photographs survive that have made possible the rearrangement of the fragments into the lower portion of a continuous text.

The documentation of local land-registers plays a key role in Shoshenq I's adjudication of a dispute concerning land and water rights in the Dakhla Oasis in his year five (Spiegelberg 1899; Gardiner 1933; Edwards *CAH* 2<sup>nd</sup> ed. III: 1, 548; Kitchen 1996: §247). The inscription suggests that the owner of a well had title to the land flooded by that well and affirms the private "ownership" of the land and water at issue. This is further documentation of the continuous development of precision in the conception of rights of access tantamount to private ownership during Pharaonic history.

Data of the Griffith and Louvre fragments (Papyrus Ashmolean 1945.94 + Louvre AF 6345), of Twenty-first to Twenty-second Dynasty date, are invaluable to our understanding of the history of smallholdings (Gasse 1988 I: 3 - 73, pls. 1 - 31; II: pls. 78 - 98; Vleeming 1993: 8 - 9, 79; Haring 1997: 326 - 342; Katary 2006: 151 - 153, 152: date with note 74 references). These fragments detail the revenues of grain-bearing fields located in the tenth nome of Upper Egypt, in the vicinity of modern-day Qaw el-Kebir. The plots belonged to the domains (*rmnyt*) of

various institutions that are listed in the same order followed in Text A of the Wilbour Papyrus as well as in Papyrus Harris I. As in the Wilbour Papyrus, distinctions are made between three categories of land: *qꜣyt*, *nḥb*, and *tnj* (*tnj?*). The fields detailed in the recto of the fragments consist of *kbato*-land (of pharaoh), donated land (*hnk*), as well as *ꜣhwt nmḥw*. These fields may have been cultivated under a system comparable to the regime underlying Text A of the Wilbour Papyrus, but without a distinction being drawn between apportioning and non-apportioning domains. The fields may well have been “apportioning” fields (Janssen 1975a: 149; Haring 1997: 334, 339; Katary 2006: 151 - 152). Since the smallholders of the apportioning paragraphs of Wilbour were “virtual owners” or “private possessors” of plots, with freedom to convey and dispose of them, and the plots ascribed to them were likely plots in the process of becoming *ꜣhwt nmḥw*, it is likely appropriate to compare the plots of the Griffith and Louvre fragments to the Wilbour apportioning plots as fields with the same status (cf. Janssen 1975a: 149; 1986: 362; Katary 2006: 152 and n. 72 to Haring 1997: 339).

*ꜣhwt nmḥw* were in the hands of persons whose status was likely very modest. They were rather small plots—usually less than two arouras (between 0.5 and 1.5)—but a few, especially those of priests, are between two and five arouras. Members of the priesthood benefited from a tax reduction more significant than that of other landholders with the exception of scribes (Gasse 1988 I: 70). Thus, *nmḥw* were not all treated equally in their tax assessment; priests and scribes, occupying the lower tier of the elite, secured more favorable treatment from the authorities in deciding how much of the land was taxable (Katary 2009).

*Donation Stelae.* Donation stelae that commemorate gifts of land made to temples both as royal gift and by private persons were extremely common from the Twenty-second to the Twenty-sixth Dynasties (Caminos 1969: 45, n. 2; Meeks 1979a; Fazzini 1988: 16).

These stelae suddenly disappear with the arrival of the Persians at the fall of the Saite Twenty-sixth Dynasty (Meeks 1979a: 653 - 654) when Cambyses put severe limitations on the wealth of temples. They reappear in the Thirtieth Dynasty, the Great Donation Text of Nectanebo I marking a celebrated return to the custom of recording for posterity generous royal land grants (Meeks 1972). Nectanebo II continued in his father’s footsteps, donating 1500 arouras (about 405 hectares) to the temple of Horus at Edfu; however, he died before bringing his grand temple construction projects to fruition (Meeks 1972: 52, 76\*; 1979a: 654 - 655).

Donation stelae are predominantly a phenomenon of the east and west fringes of the Delta, which had over a long time become increasingly independent of Upper Egypt, both economically and politically (Meeks 1979a: 611). Differences in terminology between Delta and Upper Egyptian donation stelae suggest different underlying juridical customs (ibid.: 613). Donation stelae are not attested in the central Delta until the Twenty-fifth Dynasty when Kushite rulers took advantage of the lack of development there (ibid.: 618 - 619).

Donation stelae were frequently placed at the boundaries of donated fields (Meeks 1979a: 608 - 609). Occasionally, the very same donation text has been preserved on several stelae that mark the limits of the donated property at different geographical reference points (ibid.: 609). Thus, it is clear how donation stelae provide invaluable information concerning newly undertaken agricultural enterprises in the Libyan dominated Delta (Meeks 1979; Vernus 1991; Perdu 1990, 1992; Taylor 2000: 351).

Cairo Stela JE 36861 is a Twenty-fifth Dynasty endowment stela that details the endowment process. It commemorates the founding and endowment of a temple of Amun undertaken by Taharqo near the great temple of Ptah at Memphis (Meeks 1979a: 607 - 608; 1979b). The inscription explains the provisioning of the temple with all material goods required by the cult and its

priests, sets up funding to be derived periodically from local taxes, provides for the on-site manufacture of finished goods (incense, oil, honey, and clothing) under the charge of a temple official, and grants the temple fields that could be cultivated. Such Third Intermediate Period donation stelae augment the picture presented by Papyrus Reinhardt and related documents concerning the land wealth of temples and testify to attempts to maximize agricultural production, especially in the Delta where steady progress had been made in reclaiming the land for cultivation ever since the Ramesside pharaohs took interest in their natal land.

### *The Late Period*

For Saite kings the agricultural economy was a primary focus in the reconstruction of a sound reunified state and required the re-establishment of close and binding ties with the Theban House of Amun in Upper Egypt. The Karnak Adoption Stela of Nitocris, from year nine of her father, the Saite pharaoh Psammetichus I (Caminos 1964), is the ultimate monument of Saite propaganda celebrating Psammetichus I's diplomatic coup when he appointed his daughter Nitocris to the powerful position of God's Wife of Amun to seal his newly achieved sovereignty over a unified Egypt. Acting in full recognition of the Thebaid's status as the most important politico-economic unit of Upper Egypt (Lloyd 1983: 303), Psammetichus I realized control over the virtual temple-state with the appointment of a daughter to the office of High Priestess. The Adoption Stela details the prodigious wealth vested in the future God's Wife, including a royal endowment of 2,230.21 acres (3,345.315 arouras) of cultivable fields in both Lower Egypt and the northern reaches of Upper Egypt (James *CAH* 2<sup>nd</sup> ed. III: 2, 709; Myśliwiec 2000: 112 - 116). To celebrate his victory over Thebes and the reunification of Upper and Lower Egypt, Psammetichus I made his daughter the wealthiest God's Wife of Amun in history and her estates the most extensive (cf. Gitton 1975, 1976a, 1976b, 1981). Psammetichus II emulated his father's example.

Under the Saites, sizeable estates were donated to temples and leased to their dependents. According to evidence of the Mit Rahina Stela of Apries, the temple of Ptah at Memphis received a substantial tax-free perpetual endowment in the form of a district estate with both cultivable land and marshland. The temple was also given compulsory laborers (*mrt*) to work the land, along with cattle and produce intended for the estate (Gunn 1927; Lloyd 1983: 288 - 289, 302, 315; Donker van Heel 1998a). The priesthoods continued in the traditional role of privileged landowners while peasants at the bottom bore the burden of the labor in a feudalistic system that also gave wide scope for private smallholding.

Political unity and agricultural prosperity went hand in hand as temples and state once again successfully coordinated the agricultural economy in tandem. Saite rulers were so successful in managing the agricultural economy that Herodotus (*II*, 177) went out of his way to praise the sound agricultural practices that contributed to the high productivity of the land.

*Land Leases.* Abnormal hieratic and early Demotic land leases, dating to the Kushite Twenty-fifth Dynasty and the following Saite Period, shed light on the activities of Theban choachytes (*wšh-mw*), mortuary priests, as both lessors and lessees in the leasing of temple endowment lands (Malinine 1951, 1953; Hughes 1952, 1973; Menu 1995; Donker van Heel 1996, 1997, 1998a, 1998b, 1999: 135 - 144). Some of the choachytes discovered ways of making profit as middlemen in land transactions by managing endowment land (Eyre 2004: 174). The choachytes were very similar to the *hmw-kz* priests of the Old Kingdom, providing offerings for the dead in return for remuneration, and usually passed their office down from one generation to the next (Lloyd 1983: 307; Donker van Heel 1996). Many fields were located on domains of the temple of Amun, the lessors likely to be clerics of Amun acting in an official rather than an individual capacity. It is noteworthy that

among these Saite leases there appears to be a reference to fields belonging to the temple of Ramesses III at Medinet Habu. This indicates that this vital Ramesside mortuary temple survived as a “living” institution into Saite times (Hughes 1952: 28 - 44, esp. 28 - 29; Haycock 1964).

In Kushite and Saite land leases, there is no mention of the size of the fields. The location of the fields is also generalized, it being thought sufficient to mention what other plots were in the vicinity. The lack of specificity in the location of the plot is another indication that the holding involved the right of access to land for purposes of cultivation and profit from the income generated rather than actual “ownership” per se. “Ownership” should probably be understood as control over a particular plot of land involving “rights” that a political authority would be willing to back up with whatever force was considered necessary (Eyre 2004: 168 - 169, 173, 176; Manning 1999: 99 - 101).

The Saite Demotic land leases suggest that the lessors simply were unable to personally cultivate their own plots or had no interest in doing so, especially if the plots were scattered. The delegation of work to lessees who would share in the harvest was probably judged the best approach (Eyre 1994a: 130). Share-crop agreements for a one-year term made the lessor, a tenant smallholder, usually of middle social status (including soldiers, scribes, priests, and women), responsible for the payment of the harvest dues (*šmw*) (Baer, K. 1962: 30 - 31, n. 43; Janssen 1975a: 174, n. 217; Eyre 1994a: 129 - 130; Römer 1994: 378 - 382; Haring 1998: 85). The lessee, usually a person of similar middle social status, provided all that was required for the actual cultivation. The lessor traditionally received one-third of the crop, whereas the lessee, the actual cultivator, received two-thirds. While the size of the plot is never given, the location of the plot is indicated in a general way. The emphasis is clearly upon the division of the crop. While the amount of tax is uncertain, payment was a binding obligation of the

smallholder or his lessee according to their agreement.

According to Diodorus Siculus (*I*, 73), military men, including many descended from Libyan mercenaries of the New Kingdom, comprised a major class of free landowners during the Late Period, alongside priests representing temples and the Crown itself (Lloyd 1983: 301, 309 - 310, 327 - 328). Their importance is indicated by the fact that warriors (*machimoi*) were one of the three classes consulted when Darius sought to codify Egyptian law (Ray *CAH* 2nd ed. IV: 270). The warrior class was settled primarily in the Delta where they were at the beck and call of the Crown to perform military service when called upon, playing a significant role as militia in Egyptian history to the end of the Pharaonic Period. Herodotus (*II*, 165 - 166) gives a population estimate of 410,000 warriors and claims that the Crown awarded each warrior a tax-free holding, 12 *stšt* in size (about 8 acres or 3.2 hectares), enough land to support a family of five persons (Lloyd 1983: 300, 310). Military men likely cultivated about two-thirds of the Delta agricultural land, which constituted more than half of the cultivable land in Egypt. The prominence of the military in landholding is in no way surprising in light of the prominence of *wšw* (soldiers) and higher military ranks among the Wilbour smallholders and the possible origin of some of these holdings in land grants such as those of Ahmose son of Abana (Katary 1999: 77; Eyre 1994a: 121).

*The Petition of Petiese and the Property Attached to Office-Holding.* Knowledge of landholding in the Saite and Persian Periods is greatly amplified by the extraordinary Demotic document known as the Petition of Petiese. During the reign of Darius I, the aged temple-scribe Petiese filed a petition to take legal action against the priests of Teudjoi (el-Hiba) in a probably futile last-ditch effort to settle a grievance on the part of his family going back generations to his ancestor Petiese I (Papyrus Rylands IX in Griffith 1909; Lloyd 1983: 284, 302, 304 - 305, 307 - 308, 336 - 337; Ryholt 1999; Ray 2002: 97 - 112). According to this

horrific tale of woe, the Master of Shipping Petiese (I) increased the wealth of Upper Egypt exponentially by excellent administration. He also became interested in remedying the sad finances of the Teudjoi temple of Amun because his family had their origins in the area. Petiese enjoyed great success and received a share in the temple revenues that was to pass from father to son. Subsequently, however, his heirs were robbed of their office income by temple priests who resorted to bribery, arson, and torture to get their way. With the passing of generations, no justice was received.

The greed of the corrupt priests at Teudjoi in seizing income from the family of Petiese proves that the financial benefits of priestly office were so compelling that some priests did not hesitate to pursue their own financial interests recklessly, whatever the costs to their integrity and despite the risks of getting caught and severely punished by the authorities (Lloyd 1983: 308 - 309; Ray 2002: 105 - 111). In the case of Petiese, there appears to have been an underlying conflict between what was understood as income attached to an office and income that really did belong to the individual. Hapdjefa of Assiut would have understood this problem all too well, the clear differentiation between the sources of his income in his tomb inscription revealing a precision extraordinary for his time.

The Teudjoi temple of Amun, a rather obscure institution, had received extensive royal landholdings, and the priests granted income and often land-allotments on temple estates that could be leased out to tenants (Griffith 1909; Lloyd 1983: 302, 307 - 309; Ryholt 1999). It is clear from the Petition of Petiese that the donation of tax-free estates to temples by Saite rulers was an effective enough fiscal strategy to be emulated by the Persians. Thus, temple estates continued in their vital role in the agricultural economy without contributing to state finances in proportion to their wealth.

*Attempts to Reduce Temple Wealth.* In the First Persian Period, temple wealth was so

attractive that rulers confiscated temple land and other property by right of conquest (Ray *CAH* 2<sup>nd</sup> ed. IV: 259 - 261). According to the third century BCE Demotic Chronicle, in order to defray the costs of the conquest, Cambyses reduced the income enjoyed by temples prior to the conquest by issuing a decree that wisely excluded the great Temple of Ptah at Memphis (Spiegelberg 1914: 32 - 33; Lloyd 1983: 302; Ray *CAH* 2<sup>nd</sup> ed. IV: 260). Xerxes seized the immense wealth of the temples of Buto in the northern Delta, known from the Satrap Stela of 311 BCE to have consisted of extensive estates (“the Land of Wadjet”) (Lloyd 1983: 302; Ray *CAH* 2<sup>nd</sup> ed. IV: 271), later restored by Khababash (Spalinger 1978). Nectanebo I’s son Teos imposed ad hoc levies on temples in order to finance a satraps’ revolt against Artaxerxes II and subdue Syria (Myśliwiec 2000: 169). Artaxerxes III Ochus also seized temple wealth when he came into power in 343 BCE. Although the Persians did not hesitate to seize whatever property they wanted and redistribute it as they wished, they seemed reluctant to interfere with the existing agricultural system and made its operation a top economic priority (Ray *CAH* 2<sup>nd</sup> ed. IV: 271; Herodotus *II*, 99.3).

### *The Ptolemaic Period*

Although the Ptolemies changed the language of administration to Greek, they were wise enough to use the pre-existing administrative structure. While Egyptian officials remained in charge at each level, Greek overseers (*epistatai*) were appointed to supervise them (Verhoogt 1998: 103).

The Ptolemies sought to secure the efficient functioning of the administration to maximize the productivity of the agricultural regime, the guarantor of economic well-being (Manning 2003: 99 - 108; Préaux 1939; Verhoogt 1998: 103). Ptolemy I Soter firmly controlled the fiscal and bureaucratic aspects of the agricultural economy, mandating the execution of land surveys and crop schedules in order to maximize agricultural profits with as little risk as possible (Crawford 1971: 139).

Ptolemy I Soter and Ptolemy II Philadelphus were responsible for highly successful land reclamation in the Fayum, experimentation with crops sown, and expert land management. However, later Ptolemies were unable to sustain this high level of economic development in no small part because the system of land tenure failed to offer long-term incentives for growth (Manning 2003: 232; Thompson *CAH* 2<sup>nd</sup> ed. VII: 1, 365 - 369; Thompson 1999a; 1999b).

New patterns of landholding in the Fayum included gift-estates (*doraei*) to high-ranking officials favored by the monarch. These, however, did not involve hereditary rights and returned to pharaoh's control upon the official's death. There were also heritable land grants (*keloms*) awarded to Greek soldiers (cleruchs) for services rendered, while the Pharaonic tradition of small-scale landholding on temple lands, with right of inheritance, continued in the Nile Valley (Kehoe 2010: 314 - 319). The settling of roughly 6500 Macedonian soldiers on the land under Ptolemy I Soter gave the king a readily available source of warriors who were more than willing to defend the land to which they had become attached as loyal landholders (Crawford 1971: 53). New waves of cleruchic settlement came during the mid-third, late third, and second centuries BCE as a result of renewed military activity that generated new demands for land grants (Manning 2003: 108 - 109). Moreover, landholding by soldiers in the Delta and elsewhere in Egypt was valued because it helped to establish a Greek presence and provided an opportunity to experiment in the amalgamation of Greek and Egyptian landholding. This in turn helped to blur the ethnic divisions and encourage cultural diversity (Clarysse and Thompson 2006: 123 - 205). Plots received by cleruchs consisted of land that needed to be reclaimed and brought into cultivable condition. The strategy of reclaiming land in the Fayum by means of cleruchic settlement and the awarding of *doraei* was motivated by the need to avoid the ill will and hostility that would have resulted from the seizure of temple land in the Nile Valley (Manning 1999: 86). This

land allotment policy had one troublesome consequence for the state: the establishment of such estates would inevitably lead to their treatment as private property.

*Ptolemaic Archives from the Fayum.* Two major archives from the Fayum provide a picture of Ptolemaic land tenure. The earlier and the larger is the collection of Zenon Papyri from Philadelphia in the northeastern part of the Fayum. This collection comprises the records of Zenon, the Carian estate-manager of Apollonius, minister of economic affairs (*dioikētēs*) under Ptolemy II Philadelphus during the mid-third century BCE (Rostovtzeff 1922; Préaux 1947; Pestman 1981; Orrioux 1983, 1985; Vandorpe and Clarysse 1995; Thompson 1999b: 125; Manning 2003: 110 - 122). The papyri provide an invaluable window on the “économie royale” of the Ptolemies over the years 261 – 29 BCE by focusing on a gift estate of 10,000 arouras (about 6700 acres)—that is, more than 2711 hectares (Manning 2003: 111 - 112). Most of the texts are petitions, contracts, and correspondence relating to the *dorea* of Apollonius at Philadelphia; others concern his Memphite *dorea*.

While cleruchs worked land on both estates, it is only in the case of the Memphite *dorea* that we can better understand the relationship between the cleruchies and the estate because of the strong tie between estate activities and the military (Manning 2003: 114). Moreover, as regards land use and tenure we have to consider the fact that the Philadelphia estate was a single large holding in contrast to the Memphite estate, which consisted of fragmented holdings dispersed around a number of villages (Manning 2003: 113). This concession near Philadelphia likely owed its size to successful large-scale land reclamation (Kehoe 2010: 316). Plots were leased on contract to both Greek and Egyptian cultivators; these plots were often subdivided and sublet to lessees. Zenon himself managed some of the land with hired Egyptian labor, experimenting with the planting of new crops to increase productivity (Kehoe 2010: 316; Manning 2003: 114). In an area where

experiments were necessary to improve productivity, in an economic climate perceived to be risky, tensions inevitably arose between the landowner and his cultivators that required skillful negotiation. It was necessary to recognize and respect the ancient Egyptian traditions of farming (Manning 2003: 114 - 115).

The archive of the village scribe (*komogrammateus*) Menches, in the Egyptian settlement of Kerkeosiris, not far from Tebtunis, is the other major resource for Ptolemaic agriculture and land tenure (Crawford 1971; Shelton and Keenan 1976; Lewis 1986: 104 - 123; Verhoogt 1997, 1998). This archive, discovered at Tebtunis, comprises documents dating from 120 to 110 BCE (Grenfell et al. 1902: v - x), a period that experienced severe economic decline (Manning 2003: 119). The village of Kerkeosiris was likely founded in the mid-third century BCE when land was being reclaimed in the Fayum under Ptolemy II Philadelphus (Crawford 1971: 42 - 43; Verhoogt 1998: 105). With the resulting vast increase in the amount of cultivable land available for the production of crops, additional cultivators had to be brought to the area and settled in villages such as Kerkeosiris.

The Menches Archive gives details of the use of land in Kerkeosiris, including the names of landholders, the sizes of their plots, the fiscal category of the plots, the crop(s) cultivated, and the revenues payable to the state. Menches kept records of all aspects of the economic life of his village and also bore responsibility for taking action in local affairs from time to time when intervention was required. This “bottom up” account of the Ptolemaic bureaucracy’s administration of the land reveals that about two-thirds of the arable land was actually cultivated (Verhoogt 1998: 108; Manning 2003: 102 - 103). Landholders who possessed more than ten arouras could easily allow part of their land to lie fallow and still have enough grain for their sustenance and to meet their harvest dues to the Crown.

*Royal Land.* Royal land (*basilike ge*) was available for cultivation at a cost, payable to the Crown, of about half of the crop (most of this being rent: *misthosis*), because of the high productivity of the land (Verhoogt 1998: 109). Even when this land was in a condition unfit for cultivation, it could be leased out to cultivators at a nominal rent so that they would be encouraged to bring it back into cultivation, whereupon the rent was raised to a commensurate level (Crawford 1971: 118 - 120; Verhoogt 1998: 109). The 148 “royal farmers” (*basilikoi georgoi*) in Kerkeosiris leased their land from year to year with varying terms depending on the quality and condition of the land. Other expenses included low fixed taxes such as the “scribe tax” (*grammatikon*) intended to finance the village administration, and the “survey tax” (*geometria*) that financed annual land surveys on royal land (Shelton and Keenan 1976, text 1105: intr.). Royal land in Kerkeosiris constituted 52 percent of the 4,000 arouras of cultivable land; in comparison, cleruchic land accounted for about one-third, temple land comprising another 16 percent. These figures are extremely valuable but likely not representative of Egypt as a whole. We can expect temple control of agricultural land to have been much greater in Upper Egypt, where temples traditionally had far greater clout, having their own well-functioning infrastructure and trained personnel (Manning 2003: 123; Kehoe 2010: 317).

Land cultivated by cleruchs, as well as temple donations, was assessed for taxation at but a fraction of the rate for royal land, the status of the individual landholder determining the exact valuation. Among the cleruchs of Kerkeosiris were descendants of the soldiers who had been allotted land grants centuries earlier (Crawford 1971: 55 - 57). This indicates that the cleruchy had become hereditary, though the actual cultivation was often delegated to others, as lessees, as happened so often in Pharaonic history (Crawford 1971: 77).

*Landholding in Upper Egypt.* While it was relatively easy for the Ptolemies to impose

their administrative system upon the newly reclaimed lands of the Fayum, it was an entirely different matter in Upper Egypt, where temples were long-standing landowning institutions with complex inter-relationships that pre-dated the Ptolemies and had to be respected (Clarysse 1979: 735; Manning 1999: 102). Temples, as local centers of power strongly valued by the Egyptian people, thus maintained their privileged administrative role in land management; however, the state strictly monitored temple finances (Clarysse 1979: 735; Bowman 1986: 96; Manning 1999: 100 - 101; Rowlandson 2003). The Ptolemies had no reason to seize the assets of temples and could not have done so for lack of manpower (Manning 1999: 100). Temple land was managed by the temples themselves, rather than by the Crown, with royal officials—the *epistates* and the *praktor*—supervising the work.

The Egyptian-born aristocracy, consisting of administrators, officials, and priests, for the most part continued to enjoy the privileges of their ancestors as is evident from the great quantities of stone sculpture commissioned for them (Bothmer 1960: 152; Clarysse 1979: 735). However, well-to-do Egyptians appear to have been on a par with the Greek middle class in terms of the modest extent of their landholdings, never able to compete with the Greek elite with their plots of anywhere from 100 arouras to thousands of arouras (Clarysse 1979: 735). Small plots of ten arouras or fewer were common among Egyptian estate-holders; larger plots were usually much smaller than 100 arouras (Clarysse 1979: 731 - 743).

*Documents from Upper Egypt.* Documents from Upper Egypt provide an unusual glimpse into landownership in the nome of Edfu from the Persian Period down to the third century BCE. The Edfu Donation Text, a cadastral survey from the third century BCE, inscribed on the walls of the temple of Horus at Edfu, celebrates the royal ritual of donation of the temple's sacred domain by Nectanebo II, as well as the Persian kings Darius I and II (Meeks 1972). The act of donation was a

purely religious act carried out in honor of a stable, well-established institution that had successfully survived difficult political and economic conditions during the second Persian domination and also at the conquest of Alexander. About 70 percent of all the land possessed by the temple domain (*htp-ntr*) in the four most southerly Upper Egyptian nomes was situated in Edfu (Meeks 1972: 147; Manning 2003: 77 and figs. 4, 78, 81 - 82). The donation text provides a valuable picture of the extent of the temple estate following a land survey conducted when Ptolemy I was still a satrap and therefore is evidence of pre-Ptolemaic land tenure.

The subsequent history of some of the same fields located in the same temple domain can be traced in the third century BCE family archive known as the Hauswaldt Papyri (Manning 1997). This archive details conveyances of land among men who lived in the same area and bore the title “herdsman (*ꜥꜣm*), servant (*bꜣk*) of Horus of Edfu.” The family therefore enjoyed private tenure on the temple estate where they worked as herdsmen attached to the estate.

During the second and first centuries BCE, a gradual weakening of the Ptolemaic political system drastically affected the rural countryside. Many peasants fled the land, often seeking the protection of the local elite, with the result that local governors rather than temple priesthods wielded power. Despite all their efforts to maintain a vigorous agricultural regime, the Ptolemies had a difficult time keeping tenants on the land, finally resorting to land grants, auction, and tax reduction to prevent land from lying uncultivated. At the heart of the problem was the priority the Ptolemies gave to the uninterrupted flow of agricultural revenues to state coffers at the expense of the increased agricultural productivity that could have resulted from giving landowners greater freedom over their land and the necessary incentives to increase its productivity. Moreover, although there was a concept of private ownership in the Ptolemaic Period, the Ptolemies failed to institute a guarantee of

private ownership in law. This failure would be remedied by the Romans when they initiated the juridical concept of full private ownership after the Roman conquest at the

end of the first century BCE and thus facilitated the increasing development of private land.

### *Bibliographic Notes*

In addition to general presentations of the subject (including Römer 2001, whose calculation reveals rounding up) there are several works on land tenure during specific historical periods. These include monographs by Katary (1989) on the Ramesside Period and Manning (2003) and Felber (1977) on the Ptolemaic Period, as well as recent collections of papers on access to land (Haring and de Maaier, eds. 1998) and institutional agriculture (Moreno García, ed. 2006, 2009). These are supplemented by studies of specific texts that are either land registers or involve the working of land. They include the studies of Menu (1970a), Stuchevsky (1982), and Katary (1989) of the Wilbour Papyrus; Gasse (1988) of the Prachov, Grundbuch, and Reinhardt papyri, as well as the Griffith and Louvre fragments; and Vleeming (1993) of Papyrus Reinhardt and Papyrus Hou (1991). The work of Katary (1989) is primarily concerned with the statistical analysis of the Wilbour Papyrus but also considers related texts. Moreno García (1997a, 1999a) has written two monographs on the rural Egyptian economy in the third millennium BCE. The above studies are supplemented by many other works on various aspects of land tenure and related topics and include the contributions of K. Baer (1956, 1962, 1963, 1966), Beinlich (1975), Bleiberg (1999), Caminos (1954 1964, 1969), Chauveau (2006), Clarysse (1979), Der Manuelian (1986), Donker van Heel (1996, 1997, 1998 a, b, and c, 1999), Edgerton (1947), Endesfelder (1994), Erman (1879, 1882), Eyre (1987a and b, 1994a and b, 1997, 1999, 2000, 2004), Gardiner (1905, 1933, 1937, 1941, 1948, 1951, 1952), Gitton (1975, 1976 a and b, 1981), Gunn (1927), Gutgesell (1983), Haring (1998, 2006), Helck (1955, 1959, 1963), Janssen (1975a, 1975b, 1979, 1986, 1991), Janssen and Pestman (1968), Junker (1939), Katary (1999, 2000, 2001, 2006, 2007, 2009), Kemp (1983, 1970), Kruchten (1979), Legrain and Erman (1897), Lehner (2000), Lloyd (1982, 1983), Malinine (1951), Manning (1999), Meeks (1979a and b), Menu (1970b, 1971 a and b, 1973, 1977, 1979, 1980, 1981, 1988, 1989, 1995, 1998, 2004), Menu and Harari (1974), Moeller (2005), Moens and Wetterstrom (1988), Moreno García (1996, 1997b, 1998a and b, 1999b, 2000, 2006, 2007, 2008, 2009), Muhammed (1966), Müller-Wollermann (1986), O'Connor (1972a and b), Pantalacci (2006), Perdu (1990, 1992), Pestman (1969), Pflüger (1946), Quirke (1988), Reisner (1918), Rowlandson (1985, 2003), Seidlmayer (1996), Spalinger (1985, 1991), Spiegelberg (1899), Théodoridès (1971), Thompson (1984, 1988, 1999a, 1999b), Tresson (1931), Vandorpe (2006), Verhoogt (1998), Vernus (1978, 1991), Wenke (1989), and Wilson (1970). Many administrative texts and government documents are also relevant to the subject, including such texts as the Palermo Stone (Wilkinson 2000), Papyrus Brooklyn 35.1446 (Hayes 1955), the Decree of Horemheb (Pflüger 1946; Helck 1955; Kruchten 1981), Papyrus Harris I (Erichsen 1933; Schaedel 1936; Grandet 1994 – 1999), the Nauri Decree (Griffith 1927; Gardiner 1952), the Dakhla Stela (Gardiner 1933), the Adoption Stela of Nitocris (Caminos 1964), the Mit Rahina Stela (Gunn 1927), and the Great Edfu Donation Text (Meeks 1972). Various Ramesside texts relating to the collection and transportation of grain as published by Gardiner (1941) and Janssen (2004) should also be mentioned. Private documents and inscriptions are also crucial to the understanding of the use and distribution of land. These include the tomb autobiographies of elite officials such as the Delta nomarch Metjen under Djoser (Goedicke 1970; Gödecken 1976), Pepynakht-Heqaib, the Sixth Dynasty nomarch of Aswan (Lichtheim 1988), and his son Sabni (Lichtheim 1988), the nomarch Khety I of Assiut in the First Intermediate Period (Griffith 1889; Brunner 1937; Lichtheim 1988), the nomarch Amenemhat (Ameny) of the Oryx nome under Senusret I

(Newberry 1893; Lichtheim 1988), and Hapdjefa, nomarch of Assiut under Senusret I (Erman 1882; Griffith 1889; Reisner 1918; Théodoridès 1971; Spalinger 1985). Other tomb inscriptions are also worthy of note, including those of the Fifth Dynasty official Nikaankh; the Elkab tomb inscription of Ahmose son of Abana (Loret 1910; Lichtheim 1976); the Memphite tomb chapel inscription of Mose (Gardiner 1905; Gaballa 1977), as well as the letters of private landowners such as the early Twelfth Dynasty *k3*-priest Hekanakht (James 1962; Goedicke 1984; Allen 2002). There is also the important Petition of Petiese in the First Persian Period (Griffith 1909; Lloyd 1983; Ryholt 1999; Ray 2002) that sheds light on the property attached to priestly office-holding. We should also mention the publication of major archives including: the Lahun Archives by Collier and Quirke (2002, 2004, 2006) and Luft (1992); the Petrie Papyri from Kahun and Gurob (Griffith 1898); Demotic papyri in the John Rylands Library by Griffith (1909); the dossier of Papyrus Hou by Vleeming (1991); the Zenon Archive by Préaux (1947), Pestman (1981), Orrioux (1983, 1985), and Vandorpe and Clarysse (1995); the Menches Archive by Shelton and Keenan (1976) and Verhoogt (1997); and Elephantine papyri from all periods edited by Porten (1996). There are also studies of leases from the Saite Period (Malinine 1951, 1953; Hughes 1952; Donker van Heel 1996, 1997, 1998 a, b, and c, 1999) and the Ptolemaic Period (Rowlandson 1985), including the Hauswaldt Papyri (Manning 1997). Also noteworthy among relevant monographs published within the past twenty years are the studies by Roth of Egyptian phyles in the Old Kingdom (1991), Haring (1997) of administrative and economic aspects of the operation of the West Bank New Kingdom mortuary temples, Eichler of the administration of the House of Amun in the Eighteenth Dynasty (2000), and Moreno García of Old Kingdom administration (1997a, 1999a) that update and supplement the older studies of Helck (1975) and Kanawati (1977). See also Gundlach's 1994 study of the compulsory resettlement of foreign populations as a policy of the Egyptian government to the end of the Middle Kingdom; Quirke's 1990 study of the Egyptian administration during the late Middle Kingdom; Warburton's 1997 study of fiscal vocabulary in the New Kingdom; Donker van Heel's 1996 study of the Theban choachytes in the reign of Amasis; and the collections of articles edited by Vleeming in 1995, by Moreno García in 2006, 2009, and *fc.*, and by Menu in 2004. The 2005 publication by Strudwick of Old Kingdom texts in translation is an invaluable source for all researchers. As a final note, the approach of Eyre (1999, 2000, 2004) to understanding the hydraulic regime underlying the ancient Egyptian economy through deductive methods of inquiry that make use of eighteenth and nineteenth century CE documents is also recommended reading. These articles provide an alternative approach to the philological method of inquiry. Since administration, taxation, and agriculture are such closely related subjects, the reader is referred to those bibliographies for additional titles.

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