Chapter 7

Reconstructing Mycenaean agriculture and subsistence

The final chapter of this thesis discusses the results of the agricultural potential of the LH III Argive Plain in relation to some key questions about the spatial, political, and demographic aspects of the area. The thesis resulted in a range of 18,000-22,000 people in model 1,[1] and 18,000-29,000 in model 2.[2] Combining these two ranges, an average population of *c.* 22,000 could have been sustained by the LH III Argive Plain (excluding neighbouring areas and terracing). The following sections examine how well these figures compare to previous population estimates given for the plain and its settlements, as well as to the production figures presented in the Linear B texts.

The Argive Plain as an agricultural space

Two major spatial aspects influence the LH III Argive Plain agricultural potential, political geography and land use organization, and the exploitation of terraces and areas adjacent to the plain. The following section presents some ideas on these aspects and their potential influence on the sustainability of the area. Terracing is examined in more detail in the third section of this chapter (pp.185-188).

Individual subsistence areas

Part of the process of formulating the agricultural potential of the Argive Plain was to create subsistence land areas, types of 'personal plots' which measure the size of land needed to grow food for one person's annual requirements. Very few previous estimates of the sizes of subsistence plots for prehistoric and ancient households have been given. Although the "personal plots" of this thesis are not meant to be taken as indicatives of the LH III Argive Plain farm sizes, they can, nevertheless, be compared with the previous plot size estimates to see if potential differences in size can reveal something about the sustainability of agriculture on an individual and household level. Plot sizes can also be used to examine specific crop and animal husbandry methods, since different farming activities have different spatial needs.

Based on ethnographic and historical evidence of farm sizes and labour costs of harvesting in the Mediterranean, Halstead (1995a: 15–17) suggests that a prehistoric family would have needed 2-3 hectares of intensively cultivated land for their subsistence. This land area could have supported a farming household of about four to five members, since, according to him, it could have produced some 1500kg of cereal. The subsistence land area for one prehistoric farmer would have, thus, been 0.75 hectares at most. Halstead (1995a: 15-17) argues that a prehistoric farming family would not have had access to large animals such as oxen, which could have been used in ploughing or other heavy agricultural tasks. Therefore, plot sizes reflected the capability of the family to perform each crop management task manually. If the family had draft animals at their disposal, for example a pair of oxen, the size of the farm should have exceeded 3-4 hectares so that keeping these animals was worthwhile economically. Five hectares could have produced considerable surplus for the family. In more recent contexts, up to 10 hectares of land have been managed with the help of oxen (Halstead 1995: 15-16).

For similar reasons to Halstead, Boserup (1965: 37) suggests that two hectares were a suitable size for a plot that was ploughed by a draft animal in pre-industrial societies. According to her, fodder cultivation that was necessary to support the large animals caused additional labour costs, which reduced the size of the subsistence land.

Based on census records and previous estimates of grain production in Classical Attica, Garnsey (1998: 191) suggested that about 10,000 hoplites (military personnel) could have been the landowners of Attica, and that they owned about 10 percent of the land available. This would have created plot sizes of 2.4 hectares per hoplite, which with bi-annual fallow would have meant subsistence land sizes of about 4.8 hectares. Garnsey did not think every Classical farmer practiced bi-annual fallow, and even with 4.8-hectare plot sizes, he argues that the hoplites, and thus the Attican population, would have been below their subsistence level. As a solution he (Garnsey 1998: 192-194) argues that more land was, in fact, under cultivation than previously assumed. However, grain imports supported about half of the Attican population.

Traditional land use in Greece was discussed in Chapter 6. Plot sizes of rural communities in the Peloponnese varied on a similar scale to the examples above, depending on which agricultural strategies the farms

[1] This range is formed by the rounded averages of models 1a and 1b, calculated with 400-600kg/ha cereal yields, lower figures reflecting production potential with pasture included, and higher figures production without pasture.

[2] Calculated in a similar way as with model 1.

practiced. Farms which focused on crop cultivation and mixed agriculture had mean plot sizes of 2-3ha (Forbes 1982: 84, Figure 9; van Wersch 1972: 177-78), while farms with emphasis on sheep and goat herding were on average 7ha (Koster 1977: 248).

Linear B texts mention land area sizes on a few occasions, but the units used by the Mycenaean palatial administrations cannot be translated to modern units. According to some interpretations, land areas in these texts vary from small plots of, perhaps, 1 ha to very large units which could indicate the ownership of some 30ha of land (pp.10-15).

According to sub-models 1a and 1b of this thesis, one LH III person needed a plot of 0.88-1.34ha to grow all crops included in their diet composition. Pasture for the animals which produced them dairy and meat would increase this range to 1.1-1.77ha. In sub-model 2b, which provided the lowest land requirement, the plot ranged from 0.65 to 1.1ha with crop cultivation, and 1-1.99ha with pasture provided from one's own land. For a household of 4-6 members (pp.36-38), the maximum subsistence area could have been 3.52-8.04ha according to sub-model 1a, and the smallest 2.6-6.6ha according to 2b. Most of these estimates exceed Halstead's suggestion of 2-3 hectares for prehistoric households (except the 4 people household and 600kg cereal yields of model 2b), and Boserup's 2 hectares for 'ancient' households. They reflect better the land use of farms managed with the help of oxen or other large animals in the historical examples.

If only cereal land is extracted from the agricultural potential models, one LH III person needed 0.78-1.18ha according to model 1 and 0.42-0.63ha according to model 2 to produce wheat and barley for their personal need, creating household land requirements of 3.12-7.08ha (model 1) or 1.68-3.78ha (model 2). Of these, the latter compares quite well with the previously mentioned 2-3 hectares household requirement. None of the models compare well to Boserup's estimate of a 2-hectare household plot.

Halstead's estimates only consider the production of one or two crops on an intensively managed plot. According to him (1995a:15–17), an intensive cultivation regime included cereal-pulse rotation and weeding, and possibly manuring and hand-watering. If the 2-3 hectares were producing *c*. 1500kg of cereals, the productivity per hectare would have been some 500-750kg, which is not far from the cereal yield estimates of this thesis (pp.144-149). Annual consumption would have been *c*. 300kg per household member, which is a rather high figure compared to the diet models of this thesis, however (pp.159-165). If prehistoric farms used crop rotation as their main cultivation strategy, it means that probably close to half of the arable land was cultivated with legumes each year. Therefore, either the 1500kg per hectare yield should then refer to the joint production of cereals and legumes, in which case the dietary composition of a prehistoric farmer could have resembled diet model 2 of this thesis, or an additional 2-3 hectares was dedicated t legumes besides the already mentioned cereal-land. Either way, more land was probably needed even in the intensive cultivation regime to secure annual subsistence based on a variety of products besides cereals (and legumes).

The subsistence spaces included in this thesis should not be considered directly as plot sizes for the LH III Argive Plain inhabitants, but seen to reflect the space needed to produce the bulk variety of food items sustaining one individual for one year. Comparing the land area sizes yielded in this thesis to those given for prehistoric farms indicate that 2-3 hectares for a household were not enough for their full sustenance if prehistoric diets consisted mostly of cereals. As mentioned above, for similar reasons, Garnsey (1998) had difficulty with establishing secure subsistence for rural landowners in Classical Attica with small plot sizes. Hansen and Allen (2011: 885) also arrive at similar conclusions with the agricultural potential of Early Helladic Tsoungiza: the available *c*. 150ha of land was not enough to support a population of about 200 people with a (wheat) grain consumption of 300kg a year, if fallow years had to be included. As a solution, they (Hansen and Allen 2011: 885) suggest that more barley than wheat was cultivated in the hopes of more reliable harvests, or that little or no land was left for fallow. However, they do not give an alternative strategy to fallowing to prevent soil exhaustion. With cereal-pulse rotation and bi-annual fallow, roughly similar share of land would be growing cereals, while the other half would be sown with legumes or left uncultivated. Only if cereal yields were consistently at or above 800kg, which is the maximum used in this thesis, and annual consumption of cereals was considerably lower than 300kg, for example, the *c*. 180kg used in this thesis, 2-3ha of land (or rather half of it) could have produced enough cereal for the use of an entire household. Even so, the prehistoric farmers as well as the LH III Argive Plain inhabitants included other foodstuffs in their diet compositions, and these needed to be produced somewhere.

Although fragmentary, there is some evidence that could refer to collective farming and communal activities in the LH III period. Firstly, Linear B texts dealing with land division and land use seem to refer to communally owned or controlled land. People belonging to a *damoi* might have committed collective tasks (for example animal herding, tree cropping, or terrace cultivation, although there is no direct evidence of such tasks in the texts) on their land. Mycenaean palaces also considered the *damoi* as collective units (Deger-Jalkotzy 1983: 91-95; see also pp.14-15). Secondly, some texts suggest one individual could own several smaller plots located away from each other (Uchitel 2007; see also pp.18-20) Such land division could refer to a land ownership system where hired labourers worked the land of a wealthier landowner. In either case, it seems that the Mycenaean land use system was gradually moving away from single farmsteads and household-owned subsistence plots. Thirdly, the settlement pattern of the Argive Plain shows the clustering of small sites within close distances of large settlements. In addition, several small and medium-sized settlements have been located across the plain in more remote locations. Even though many sites are represented by cemeteries rather than houses or other domestic structures, their remote location that cannot be connected with already known sites suggests a settlement was located nearby. Sizes of the cemeteries, and the few domestic structures located, suggest the presence of small to medium-sized communities in the LBA Argive Plain.

Within these villages and hamlets, animal pasture, and the cultivation of certain crops, such as olives or figs, could have been arranged on communal land, as has been customary in recent historical rural communities in Greece (pp.54-56). Individual households could have focused on cereal and legume production on their own plots, and maintained small gardens. With this land use plan, the plot managed by a household could have been smaller. Nevertheless, the space needed for one person's sustenance would not have declined with different land use organization. In addition, the LH III Argive Plain rural household may have needed to produce beyond their own subsistence if additional production targets or taxes were placed upon them by the palatial centres. This would have increased the need for arable land on, or in the close vicinity of the Argive Plain settlements.

The figures above bring forth an important notion about subsistence plot size estimates for ancient farms: there need to be more considerations of the production of other foodstuffs besides cereals in dietary and land use models. Furthermore, prevalent agricultural strategies such as fallowing, cereal-pulse rotation, and grazing need to be better incorporated into plot-size estimates. One can be quite confident that the average LH III Argive Plain household consumed olive oil, fruits, and animal products besides their usual cereal and legume meals. Since there is hardly any evidence of the import of these products from other areas in the LH III period (as opposed to Classical Greece), the space to grow them had to be provided by the Argive Plain or its nearby areas. Therefore, using plot sizes based on the production of one main food item to estimate regional carrying capacities, or household or individual subsistence can be heavily biased. Calculating subsistence spaces for a variety of crops and pasture gives a much better understanding of the space needed for food production, and, consequently, of the agricultural potential.

The adjacent valleys as production areas

The nearby valleys and plateaus could have been included in the agricultural area of the Argive Plain to ease the subsistence needs of at least some of its settlement populations. The total amount of production land provided by these areas (*c.* 2800ha, see pp.63-65 and) was little more than ten percent of the total area of the Argive Plain. Before providing agricultural stock to Mycenae or any of the Argive Plain settlements, these areas had to provide livelihood to their own inhabitants. Comparing the available population estimates (pp.36-38), and the agricultural potential of each of these areas (Table 7.1) it seems they could have not provided major production support beyond their potential.

Amounting to *c.* 1355ha (p.64), the plain north of Asine would have been sufficient to support a small occupation of the two LH settlements located close to the coast (p. 29). According to model 1, the plain could sustain a minimum of 770 and a maximum of 1270 people (rounded from sub-models 1a and 1b) if crops and pasture were both provided by the flat plain land (Table 7.1). According to model 2, the agricultural potential of the area would have been about 680-1300 with pasture included (Table 7.2). As with the Argive Plain itself, there is reason to assume that the figures including pasture reflect the actual land use in the area better (see pp.174-178). If the population of Asine was *c.* 300-00 people, as Bintliff (2019) suggested, the plain could have had a small potential for surplus production.

The Berbati Valley was likely able to support only a small population habiting its central settlement Mastos and the small farmsteads around it (p. 29). If cultivated down to its maximum capacity, the valley bottom could support from 300 to 500 people with pasture in model 1, and less than 550 people in model 2 (Tables 7.1 and 7.2). The population of Mastos has been estimated as *c.* 300-900 in the LH III by Bintliff (2019), and if Wright's high population density estimate is used, up to 1300 people (p. 29). As such, the area would have been at its maximum production capacity and therefore incapable of providing notable surplus production to any of the Argive Plain centres. It is also possible that the valley slopes were heavily terraced in the LH III. Terraces could have been used for pasture, or mixed agricultural activities, for example for olive trees, as has been common more recently (Schallin 1996: 172). The uplands of Limnes, east of Berbati, could have been used as summer pastureland, perhaps releasing some more space for cultivation activities. With crop cultivation

Table 7.1. The agricultural potential of the neighbouring valleys and plains to the LH III Argive Plain in model 1, calculated in a similar fashion to the agricultural potential of the Argive Plain (tables 6.16 and 6.17), and expressed as population numbers.

Valleys and the plain of Asine									
Model 1a		CROPS				CROPS AND ANIMALS			
		Low yields	Medium yields 1	Medium yields 2	High yields	Low yields	Medium yields 1	Medium yields 2	High yields
Region	Size/ha	1.3359	0.9439	0.8765	0.6806	1.76562	1.37362	1.09797	0.90207
Asine	1355	1014	1436	1546	1990.89	767	986	1234	1502
Berbati	544	407	576	621	799.29	308	396	495	603
Nemea and Kleonai	900	674	953	1027	1322.36	510	655	820	998
Model 1b		CROPS				CROPS + ANIMALS			
		Low yields	Medium yields 1	Medium yields 2	High yields	Low yields	Medium yields 1	Medium yields 2	High yields
Land area	ha/ person	1.3386	0.9457	0.8783	0.6819	1.72212	1.32922	1.06553	0.86913
Asine	1355	1012	1433	1543	1987	787	1019	1272	1559
Berbati	544	406	575	619	798	316	409	511	626
Nemea and Kleonai	900	672	952	1025	1320	523	677	845	1036

Table 7.2. The agricultural potential of the neighbouring valleys and plains to the LH III Argive Plain in model 2, calculated in a similar fashion to the agricultural potential of the Argive Plain (tables 6.6 and 6.7), and expressed as population numbers.

Valleys and the plain of Asine									
Model 2a		**CROPS**				**CROPS AND ANIMALS**			
		Low yields	Medium yields 1	Medium yields 2	High yields	Low yields	Medium yields 1	Medium yields 2	High yields
Region	Size/ha	**1.1015**	**0.8924**	**0.648**	**0.5434**	**1.99244**	**1.78334**	**1.10554**	**1.00094**
Asine	1355	1230	1518	2091	2493.56	680	760	1226	1354
Berbati	544	494	610	840	1001.1	273	305	492	543
Nemea and Kleonai	900	817	1009	1389	1656.24	452	505	814	899
Model 2b		**CROPS**				**CROPS AND ANIMALS**			
		Low yields	Medium yields 1	Medium yields 2	High yields	Low yields	Medium yields 1	Medium yields 2	High yields
Region	Size/ha	1.103	**0.8933**	**0.6489**	**0.5442**	**1.86937**	**1.65967**	**1.0232**	**0.9185**
Asine	1355	1228	1517	2088	2490	725	816	1324	1475
Berbati	544	493	609	838	1000	291	328	532	592
Nemea and Kleonai	900	816	1008	1387	1654	481	542	880	980

only, the agricultural potential of Berbati valley may have been some 400-800 in model 1500-1000 in model 2. Overall, the valley food production potential stayed below 1000 people without terracing.

Finally, according to model 1, the Nemea and Kleonai valleys could provide subsistence to some 500 to a maximum of 1000 people with crop cultivation and pasture (Table 7.1). In model 2, this number is slightly smaller, around 450 to 850 people. The central settlement of the LH III Nemea Valley, Tsoungiza, had a considerable size of 7.5ha, which suggests it also had a considerable population. Up to 1500 if Whitelaw's 200 people/ha site density is used. Bintliff gives the site a more modest range from *c*. 300 to 900 people (p.37). Nevertheless, it would have been challenging for the local population to be involved with major surplus production beyond their own subsistence needs. As such, the area seems to have been at its subsistence limits. The valley slopes could have been terraced, but there is no evidence of LH III terracing in this area, nor is terracing extensively displayed in the current landscape. However, the gently sloping hill land may have provided more space for fields, if sharper slopes above the 6 degrees used in this thesis could be used without terracing.

In conclusion, all three areas connected to LH III Mycenae and the Argive Plain in previous research were able to sustain a small population inhabiting the more sizeable central settlements of Asine, Mastos and Tsoungiza as well as the farmsteads and hamlets scattered around the valley slopes and bottoms. Populations beyond a few hundred individuals would have had difficulties to sustain themselves in these areas, unless their surface was exhaustively turned into fields and the slopes around them were terraced to provide more agricultural space. Thus, it seems unlikely any of these areas could have helped Mycenae, Tiryns or any of the major Argive Plain settlements to expand subsistence production due the population increase in the LH III period, or to produce crops that could be used to obtain wealth and power by the Argive Plain elites. Therefore, the growth of Mycenae as the largest and wealthiest amongst the Argive Plain settlements cannot be attributed to its ability to exploit its neighbouring regions. These areas might have been important to Mycenae in another way, for example in as locations for specialized production, or workforce aid and political alliances, for example as intermediates towards the areas in the north.

The agricultural potential and the Argive Plain population estimates

The results of this thesis provide the maximum agricultural potential of the Argive Plain and its closest neighbouring valleys. This potential serves as a measure of the region's capacity to sustain a population primarily reliant on farming, and intentionally reshaping their environment for agricultural, economic, cultural, and other purposes. It is important to note that the figures resulting from this analysis represent a range of people sustained by the environment and should not be confused with actual population counts. It is likely that the population of the Argive Plain was lower than its agricultural potential. Nevertheless, it is interesting to compare these results with the previously presented population numbers of the area. This comparison allows for an analysis of regional sustainability, adaptation, and resilience within the Late Bronze Age communities. It also provides an opportunity to critically assess the functionality of the agricultural potential analysis and the methodologies employed in estimating populations in the LBA Aegean context. The following section examines some of these estimates to see how the results of this thesis align with the established population numbers of the LH III Argive Plain and the broader Bronze Age Aegean.

Unfortunately, population estimates for the LH III Argive Plain are rare, as are estimates for single-site populations (pp.36-38). The few existing estimates for regional and site populations might be biased, due to the scarcity of reference data in the LBA chronological context. Typically, population estimates for Mycenaean or Minoan sites rely on the population densities of large, urban settlements in the Eastern Mediterranean. Notably absent are methods for estimating the population of smaller sites and the rural countryside in the LBA Aegean context.

As presented in the beginning of this work (pp.36-38), only a few population estimates have been given for LH III Argive Plain sites. The most frequently used of these are 6400 people for Mycenae (French 2002; Bennet 2007, 2013) based on a population density estimate of 200 ppl/ha by Whitelaw (2001), and 4900 people for Tiryns (Brysbaert 2013) based on the shotgun method by Hansen (2006), in which the Classical Greek poleis and hinterlands are given population densities based on archaeological material, and adjusted with urbanization rates (a method relatively similar to Whitelaw's 2001 contribution). In total, the population of Mycenae and Tiryns alone would give the Argive Plain an 'urban' population of 11,300.

No estimations for the LH III population of Midea, Nafplion, or Argos have been presented outside Bintliff's suggestion, according to which Midea, Nafplion, Berbati, Asine and Tsoungiza also had a population density of 200 people/ha. Furthermore, hardly any estimates exist of the sizes of these sites. Again, Bintliff is one of the few who has suggested a size of 3 -8ha to each of the major sites (listed above) besides Mycenae or Tiryns. Considering that the most notable settlements in the adjacent valleys, Mastos and Tsoungiza, may have been 7.5ha each (pp.29-30, Table 3.3), it could be suggested that the other notable sites of the Argive Plain were at least equally large. If, thus, 8ha is used for the minimum size of the settlements of Midea, Argos and Nafplion and 200 people/ha is used as the population density for these sites, the LH III Argive Plain would have had an urban population of at least 16,000.[3] Adding other sites with characteristics indicating a notable status and size, namely, the Argive Heraion (p. 28), Kokla (p. 30), and Magoula (p. 30), the Argive Plain could have had an urban population exceeding 20,000 people.

The Argive Plain regional population in the LH III period has been previously studied mainly by Bintliff

[3] Including Mycenae 6400; Tiryns 4900; Argos, Nafplion and Midea 1600 each.

(e.g. 1977, 1989, 2020). In his PhD thesis he (Bintliff, 1977: 697, Table 4) used site catchment analysis to divide the Argive Plain into 19 districts, and then defined a carrying capacity for each cell.[4] He suggested that the total (urban) population of the plain reached *c.* 24,000 people. In his most recent paper (2020), Bintliff established a settlement population density of 112-200 people/ha for the Argive Plain sites. According to him (2020: 19), the urban population of the region totalled *c.* 14,700 people. He further suggested a high urbanization rate of 75-85 percent for the region in the LH III. When the urban population of the plain was multiplied by the urbanization rate, a total regional population of 17,300-19,600 people was achieved. In his other papers (1985; 1989: 96 Figure 8; 2002: 158; 2015a: 16 Figure 2), Bintliff has revised these calculations on several occasions by using recalibrated grain yields and by suggesting that the Bronze Age agriculture was 2-3 times lower than in the Classical and Iron Ages.

Despite of the challenges related to Bintliff's methods (it is not always clear where he gets his estimates of crop yields, site sizes, or settlement patterns) his final estimations of the total population of the Argive Plain, especially those of the 2020 paper, compare quite well with the agricultural potential established in this thesis. Here, however, it is suggested that the urbanization level of the plain could have been lower than what Bintliff assumes. Hansen (2006: 66-70) has summarised urbanization rates given to areas in Classical Greece, which generally vary between 60 and 80 percent. It seems unlikely that the rate of urbanization would have been higher in the LBA than in the Classical period when urban settlements were notably larger (see Hansen 2006), although, admittedly, sub-regionally this could still hold true.

Survey data from the Mycenaean mainland points to the presence of small rural settlements, villages, hamlets, and farmsteads in the LH III landscapes (see pp.23-25 for an overview of surveys). Such a settlement pattern is well-attested also in the LBA Messenia, where, besides the Pylian palace, other rather large 'urbanized' sites have been recovered alongside hundreds of known and yet to be recovered small settlements (Davis *et al.* 1997). In their population estimate for the LH III Pylian state, Carothers and McDonald (1979) argued that the settlement pattern of modern Messenia could be used as an analogy to the Mycenaean period, and that the previously suggested LH III settlement population density of 300 people/ha by Renfrew (1972) was too high. The MME survey data indicated that the mean size of a Late Helladic settlement in the area was 1.53 ha and that compared to the population densities of modern villages in the area, it would have hosted a population of *c.* 140 people. Based on this correlation, and the mean LH III site sizes in the survey data, the authors proposed a LH III settlement population density of only 91 people/ha (Carothers and McDonald 1979: 435).

Since the estimates of Carothers and McDonald are based on the MME survey data, their population density cannot be directly used for the Argive Plain, where the lack of surveys has resulted in a scarcity of data on LH III site sizes. Undoubtedly, the Argive Plain could have represented a different type of settlement pattern. With its multiple fortified settlements, it already deviated from the Pylian region and other Mycenaean core areas. However, when survey results from the surroundings of Mycenae and the site data from the plain area are examined together, it seems the LH III Argive Plain did encompass many small settlements, if not as densely distributed. This statement relies on the assumption that those sites where only burials have been found, do in fact reflect the presence of a nearby settlement. Similar to the wider surroundings of Mycenae, independent small settlements could have clustered around other large settlements. Settlements located on the flat plain, as shown by the few examples of Chania, Lerna, Myloi, and possibly Dalamanara. A settlement pattern with small sites distributed outside the urban centres would have resulted in a lower urbanization level, while increasing the total regional population size. Carothers and McDonald (1979: 450) argued that the main workforce of the Mycenaean society lived in dispersed communities outside but within close distance of the palatial centres, and that only the elite and administrative members inhabited the centres themselves. The Argive Plain could have been organized in a comparable way.

If more people did, in fact, live outside the major settlements of the plain in small communities, the total regional population could have been higher than 20,000, which does not compare well with the area's agricultural potential. The lowest agricultural potential of this thesis resulted in a little over 13,500 people in model 1, and some 12,000 in model 2. In this scenario, the total population of Mycenae and Tiryns would have arrived close at the maximum agricultural potential of the plain. Such a situation would have quickly become unsustainable. However, since the major plain settlements show growth in infrastructure, wealth, and size until the crisis at the end of the LH IIIB2 period, there does not seem to be any major unsustainability related to food production (see pp.25-31 for further details).

[4] The carrying capacities varied from 2250 for Mycenae, 1875 for Tiryns, Prosymna, Berbati, Asine, Midea, and 3000 for Argos, to a few hundred to a thousand people for Lerna and the other unnamed districts (Bintliff 1977: 697, table 4).

Only with the highest crop yields (e.g. cereals 800kg/ha) and including pasture or unused space, food production could have supported some 26-27,000 people according to model 1. Even this may not have been enough to sustain both the populations of the large, densely inhabited settlements, and the smaller population of the rural areas. For example, if five major Argive Plain settlements (Mycenae, Tiryns, Midea, Argos and Nafplion) give a combined population of 16,000 (as suggested earlier), and this is considered to represent the 60 percent urbanization level given to Classical Greece by Hansen (2006: 66-70), the total population of the LH III Argive Plain would have been *c.* 26,700. With such a high population level, the region would have continuously met its maximum potential. Since the spatial limitations of the Argive Plain are rather constant, and the evidence of crop yields, in particular cereals, quite unanimously suggests that yields would have stayed low to medium in mostly non-fertilized and rainfed environments, it can be suggested that the high populations of the major Mycenaean settlements of the Argive Plain can be exposed to further scrutiny.

Another attempt to tackle the regional population can be made by examining the relation between non-agricultural and agricultural workforce, even if this exercise remains rather speculative. Farmers likely formed a large share of the population, and it is possible that individuals who mainly engaged in other activities (e.g. crafters, military and religious personnel) also grew food plants or tended animals part-time or on a small scale. Either way, farming communities had the responsibility for the subsistence production of their households, but possibly also for those members of the society who were needed in other activities, for example in the palatial administrations.

Establishing any estimates of the number of farmers in Mycenaean society is challenging when textual records give no indications to their presence or importance. A few efforts for the LBA Aegean world have been made, however. Chadwick (1972: 112-13) used the number of smiths in the Pylos Linear B texts to extrapolate the size of the total workforce. He further added three family members for each worker, arriving at a population of *c.* 800-1200 for an average-sized 'city' in the Pylos area (see Table 7.3). Hiller (1988) suggested that one third, *c.* 1300 people, of the workers in Pylos tablets were dependent labourers sustained by the palace. Padgham (2014: 100-101) defined the agricultural workforce or the LBA Cyprus as *c.* 73 percent of the total workforce, and about 43 percent of the total population.

In the Argive Plain, the labour force needed for the large-scale construction programs in the LH IIIB Tiryns have been examined through Linear B evidence and labour cost studies by Brysbaert (2013, 2015). She calculates (2015: 100-101) that to build the circa 350-metre Lower Citadel wall at Tiryns during the LH IIIB, it could have taken some three years for an average of a little under 100 men (82 during year 1, 96 during year 2, and 109 during year 3), together with five teams of oxen. These figures represent the minimum number of workforces needed and can vary depending on external factors such as the intensity of agricultural and other subsistence work in a given year, and on the timeframe given for each construction task (quarrying, transporting, hauling up the blocks etc.). In her earlier paper (2013: 82), Brysbaert speculates that if the population of Tiryns was some 4900 people,[5] these 100 men could represent 8 percent of the active workforce of the citadel. Boswinkel (2021) suggests that a construction workforce of 200-500 people was needed to put up the massive LH IIIB fortification walls of Mycenae. This construction workforce comprised no more than 10 percent of the total workforce.

As an exercise, these figures can be added up by following Abrams (1987: 493) who, in relation to the Classical Maya population at Copan, Honduras, suggested that the local the labour pool comprised 20-33 percent of the total population. Thus, if the special workforce of 200-500 for wall construction at Mycenae represented a maximum of 10 percent of the local labour pool, the size of the pool was a maximum of 5000 people, and the total population up to 25,000 people (Table 7.3). Same construction workers could have been used at multiple Argive Plain sites, which is shy this number does not necessarily represent the population of Mycenae, but the wider region (Timonen and Brysbaert 2021).

Estimates of the LH III Argive Plain workforce can be presented by following the suggestions of Boswinkel (2021; after DeLaine 1997), Abrams (1989) and Padgham (2014). If the agricultural potential presented in models 1a and b of this thesis, 13,600-27,600[6] indicates the maximum number of people inhabiting the Argive Plain, 20-33 percent of this population would total some 2700-9100 workers. Farmers, but also craftsmen and -women, builders, and other workers would have been included in this group. Following Padgham, the workforce of the Argive Plain would have been *c.* 9900-20,0100 people (73 percent of the total population), and the agricultural workforce 4300-8700 people (43 percent of the total workforce). This range could be seen to represent the population inhabiting rural areas.

[5] The number is based on the estimated site size of 24.5ha (after Shermeldine 2008a) extrapolated by Brysbaert by using Hansen's (2006) shotgun method.

[6] I take the lowest population number of model 1a calculated for plant crops and pasture, 13,600 people, and the highest population number of 1b, 27,600 people, calculated for crops and pasture. The latter is *c.* 1000 people less than the maximum in model 1a. See further figures in table 6.16 of this thesis.

Table 7.3. Extrapolation of special workforce (smiths and constructors) of the total workforce, and the amount of workforce of the total population discussed in the text.

Reference	Special workforce	% of total workforce	Workforce of total population %	Settlement population	Location
Boswinkel 2021	200-500	< 10	20-33[7]	6000-25,000	Mycenae
Brysbaert 2013	100	8	25.5	4900	Tiryns
Chadwick 1972	-	-	24.5-36.8	800-1200	'City' in Pylos
Hiller 1988	-	33	(4000 people)	-	Dependent workers in Pylos
Padgham 2014	(farmers)	73	43	-	LBA Cyprus

Viewed from various perspectives, the LH III Argive Plain agricultural potential seems low compared to its previously estimated settlement population sizes. Since no environment can live at its maximum capacity for extended periods, the number of people actually residing in the area should have been notably lower than the maximum to maintain status quo. In their study of Greek and Roman cities in the Classical period, Hanson and Ortman (2017: 319, Table 6) showed that only cities with a size considerably larger than 150 ha had a population density of 200 ppl/ha or more. Two of the smallest cities in their reference list, Pompeii with 60 ha, and Herculaneum with 20ha had population densities of 115-166 people/ha. In this light, the high densities of 200-300 people/ha presented for the LBA palatial centres in general (e.g. Branigan 2001; Renfrew 1972; Whitelaw 2000, 2001) seem rather high.

More data on the presence (or absence) of small settlements in the Argive Plain is needed to further examine the Argive Plain urbanization rate in the LH III period. Further examination of the size of the workforce in Bronze Age societies, for example through labour cost studies, could provide a better basis for demographic examinations in the Argive Plain and elsewhere in the Late Bronze Age Aegean.

Crops, texts, and people

The Linear B texts mention a few staple crop types that were abundant in the LH III Argive Plain (pp.15-18 and p.95). These included the cereals and figs given as rations to specific palatial workers, and t olive, mostly converted into oil. The last section of this chapter examines the potential impact that the production of these crops had on the agricultural potential of the Argive Plain. The discussion emphasizes the potential role of terraced fields in palatial production.

Both cereals and figs were given to the palatial workers in volumes that have been estimated to amount to 20 litres (Nosch 2003; Palmer 1992;). Translated into kilograms, this would indicate *c.* 150kg of dried figs and 180kg of cereal grain a year. While the quantity of grain fits well with the model 1 dietary estimates which suggest *c.* 186kg annual consumption of cereals, the volume of figs seems too high to be consumed by one person. Model 1 of the Argive Plain agricultural potential indicates that cereal production at these levels was possible for tens of thousands of inhabitants in the region. This seems to suggest sparing cereal aside to be handed out as rations to the palatial or other workers did not make a difference in the agricultural sustainability of the region.

However, if it is assumed that the people supported by grain rations from the palace were not responsible for their personal food production, additional production pressure may have been placed upon the farming communities of the Argive Plain. In addition, Foxhall and Forbes' (1982) suggestion for the later Classical ration system is reasonable also in the LBA context: the quantities mentioned in the Linear B texts might have been standardized and therefore exceeding subsistence needs. These shares could have served as a currency that could be exchanged for other products. A ration could have served as a bonus, perhaps given to the employees to be shared with their families. Especially if the cereal rations were handed out as wheat, probably the more esteemed cereal type, the ration would have made a fine gesture towards gathering of wealth. Wheat rations are not included in the agricultural potential models of this thesis, but given that the region might have been balancing at the high end of its agricultural

[7] After Abrams 1987.

potential, they could have created a significant pressure of production for those who, likely seasonally, were employed to work on the palatial farms.

In models 1 and 2, a 'normal' consumption of dried figs, 18kg per year, or 5 percent of the diet composition, was assumed. In addition, the diet included another 35.5kg of fresh figs. In total, *c.* 53kg of figs would have been consumed annually. It seems reasonable to assume that the average LH III Argive Plain inhabitant did not consume 150kg of (dried) figs in a year as mentioned in Linear B records, but only palatial workers may have received such large payments. The quantity could have further fluctuated according to the annual production rate of the fruit. Such a high quantity was perhaps given to the employee to also support their families, or, similar to cereals, to be used as a type of currency that could be exchanged for other products. As such, the quantity divided by 4-6 members of the household would result in 25-37.5kg of figs per person per year which fits quite well with the estimate for fresh figs in the diet models of this thesis. If, however, the 150kg rations were provided as dried figs, the share of figs produced by the palace would have grown considerably, because more than double would have had to be produced fresh to achieve such quantity in dried form.

Either way, the Mycenaean palatial administrations had to acquire a sufficient stock of figs (and wheat) every year. The palatial fig production targets would have depended on the number of workers included in the ration system. There are many estimates of the number of workers in the LH III palatial settlements (see previous section). The Linear B tablets of Mycenae mention only a few notions related to the number of workers. One tablet (Fo 101) mentions fourteen named women working in the textile industry, and another one (V 659) mentions 25 women working in pairs (Varias Garcia 2012: 159). In Pylos, the number of dependent women and children working for the palace is estimated at 1000, and the total population of the palace a minimum of 2500 (Shelmerdine 2008b: 136). This would indicate that around 40 percent of the population of the palace consisted of workers whose subsistence was provided by the palace. As mentioned earlier, Hiller (1988) suggested that a third of all the personnel listed in the Pylos Linear B tablets were paid in food rations. This would have amounted to *c.* 1300 people. If these figures are used for Mycenae, where the ration payment has been used, and to Tiryns, where craft quarters and linear B texts suggest the presence of a similar palatial system, *c.* 30-40 percent of their populations should have been provided with fig rations. This translates to some 3400-4500 people in total (see pp.36-38 for the population estimates for these settlements).

A convenient place for the Argive Plain palaces to produce additional stock such as tree crops could have been terraced fields. Due to the limited evidence of Mycenaean terraces in the Argive Plain, and the uncertainties related to their dating and use, the areas that could potentially have been terraced were limited by creating a buffer zone of 2.5km around the most notable settlements of the LH III Argive Plain. Terrace cultivation was further examined through terrace usage rate which was defined between 30 and 90 percent. Even with these limitations, the agricultural space of the LH III Argive Plain could have increased by a minimum of about a thousand hectares. This range should, by no means, be observed as an absolute number, but it gives an idea of the scale of agricultural intensification that could have taken place with well-organized terracing.

However, ethnographic data suggest that in Greece, terraces have usually been built by farming households for limited mixed agricultural use rather than by central powers for special uses. According to Foxhall (1996a), building large-scale terraced field systems has not been a widespread practice in Classical antiquity, but only recently gained value as the basis for tree crop cultivation. Cultivated crops and the soil platform of terraced fields require similar care as flat fields. In addition, accessibility to terraced fields may be poorer than to the flat fields. Therefore, the labour costs for maintenance of and cultivation on terraces must be considered in relation to the potential harvest profit. Due to their higher maintenance costs compared to flat fields, an average household maintained only a few terraced fields at the same time. If these examples are applicable to the LH III, for most living within a short distance to the flat Argive Plain, building terraced fields was likely not worth the effort.

When terraced slopes are included in the agricultural space of the LH III Argive Plain, data further suggest that terraced fields did not increase the agricultural potential notably if they were used in a comparable way as fields on flat surfaces, namely for mixed crop cultivation and animal husbandry. However, if they were used to produce specific crops such as olives and figs, they could have probably enabled stock production. This stock could have been used for payment rations, export, or in craft industries (pp.15-18). Therefore, acknowledging the arguments of Foxhall, the following section attempts briefly to examine how well-specialized production on terraced fields would have enabled palatial stock collection.

Fig produces well, at least in modern conditions. With a 30-percent terrace usage rate, fresh figs for almost 60,000 people could have been produced with the 'normal' consumption of 35.5kg per year in both models, 1 and 2

(Table 7.4). Dried figs would have been enough for nearly 46,000 people. According to these figures, there seems to have been enough potential for a considerable fig overproduction. The additional stock of fruit could have been used as rations or as items for export. However, if the same space is used for a 150kg per person annual fig production, only about 5400 people could receive this target figure of dried figs. Terraces could, thus, provide fig rations to the potentially thousands of dependent palatial workers of Mycenae and Tiryns, but not much would have been left for anyone else unless the average farming household produced figs for their own needs elsewhere, for example from scattered, semi-managed trees growing at wastelands as is customary in recent historical Greece.

Olive oil and fresh olives are mentioned in the Mycenae tablets in relation to the same female textile workers as fig rations (as well as to some male employees working with metals, see pp.8-10). The volumes of fresh fruit or oil given to the workers remain unclear. One fragment (Ue 661) mentions 100 units of olives, which has been translated to 1200 litres, or as the total of the rations given to 500 workers in a month (Chadwick *et al.* 1962: 56; Tournavitou 1995: 264). This means one worker would have received *c.* 1.2kg (2.4 litres)[8] of olives, or per month, totalling a 14.4kg annual production requirement. If these rations were used to produce olive oil for personal needs, they would only provide some 2-3kg[9] of oil. Such a quantity would not have been adequate for the annual needs of the palatial employee, if the diet models 1 and 2 of this thesis are followed. In model 1, the need for fresh olives, including those to be converted to oil, is *c.* 27kg, and in model 2 *c.* 52kg. Especially in model 1, in which animal products consumption is low, the intake of fats would have been severely impaired in case of such low consumption of olive oil.

If olive oil was produced for the needs of the palatial textile and perfume industries, the need to produce it would have been considerably higher than what is presented in the agricultural potential models of this thesis. Perfumed oil production is well attested in Pylos (Palaima 2014; Shelmerdine 1985), but not securely in the Argive Plain centres, although the Linear B texts recovered at Mycenae do mention several herbs and spices which could have been used for the making of perfumed oils (Sarpaki 2001). The palace could have focussed olive production on terraces. Terraced platforms are extensively used for olive orchards in modern Greece. Terraced fields with a 30-percent usage rate could produce olive oil for *c.* 18,800-39,300 people in model 1 and 9300-19,600 people in model 2, depending on the yield which likely alternated bi-annually. These figures can be compared to the population ranges produced in models 1 (13-27,000) and 2 (12-26,000). According to model 1 in which the annual consumption of an average farmer is low, there is potential for additional olive harvest for palatial needs on 'good years', assuming that olives were exclusively cultivated on terraces which had to provide for the entire Argive Plain population. In model 2, it seems olive oil production on terraces would not have provided enough for the needs of the population, and the palatial industries and possible rations. If, as would be more plausible, some olive production was additionally practiced on flat fields by local farming communities, it would have probably been possible to provide enough for both purposes in model 2 as well. Considering, however, that figs had to be produced extensively as well, and that the palace likely had a demand for wheat grain too, the LH III Argive Plain appears to have provided a rather limited area for agricultural production beyond its populations' subsistence needs. Furthermore, these figures reflect the possible palatial production, farming of specific products, that took place on palatially owned or controlled land (pp.16-18). They do not include calculations of potential production beyond minimum household subsistence due to taxation, for example. If both systems, the palatial direct production of foodstuffs, and taxations of other staples (and non-staples) from local communities were in use in the Argive Plain, its general production should have been notably above subsistence levels.

The results of the calculations indicate that the LH III Argive Plain had the potential to produce cereal, figs and olive oil beyond immediate subsistence needs unless the palatial workforce consisted of thousands of individuals who all needed to be supported by food rations. The additional harvest of these items could have been used to exchange products with foreign powers or consumed during banquets and other festivities. Some of it was likely used for rations. However, if the workforce of each palatial settlement (even if they were just Mycenae, Tiryns and Midea) consisted of thousands of individuals, all of whom were supported by rations, such production would have not been sufficient. Admittedly, the size of rations may have varied according to the employee and their tasks, but even the standard rations of 20 litres of cereal and figs appear to be high if these needed to be produced for thousands in addition to other subsistence items. Such production could have been made more efficient by focusing it on terraced fields, number and size of which could be changed according to environmental conditions and available workforce.

8 Converted from 2.4 litres with aqua-calc.com conversion tool website, which uses USDA nutrient data to convert food volumes and masses.

9 Approximately 5kg of olives is needed to produce 1 kg of oil according to modern reports by Aschenbrenner (1972: 163; p.141 of this thesis).

Table 7.4. The agricultural potential of specialized production of olives, olive oil, grapevines and figs on terraces in model 1 (a and b).

Model 1 (a and b)		Fresh olives, minimum yield	Fresh olives, maximum yield	olive oil, minimum yield	olive oil, maximum yield	grapes, fresh max	grapes, fresh min	figs, fresh	figs, dried
	ha	0.0043	0.0022	0.0517	0.0247	0.0142	0.0058	0.0177	0.0211
terrace 30	970	**225,581**	**440,909**	**18,762**	**39,272**	**68,310**	**167,241**	**54,802**	**45,972**
terrace 60	1940	**451,163**	**881,818**	**37,524**	**78,543**	**136,620**	**334,483**	**109,605**	**91,943**
terrace 90	2910	**676,744**	**1,322,727**	**56,286**	**117,814**	**204,930**	**501,724**	**164,407**	**137,915**
terrace 100	3300	**767,442**	**1,500,000**	**63,830**	**133,603**	**232,394**	**568,966**	**186,441**	**156,398**

The political distribution of the agricultural space within the Argive Plain affected the potential of each major settlement to provide subsistence to its population. It seems unlikely that one central power would have been in control of the entire agricultural area, and in consequence, responsible for the distribution of the shares of harvest between all other settlements of the plain. Although some have suggested that Mycenae grew to control the flow of goods within the plain, this seems to mainly apply to luxury items and resources instead of subsistence products, and the idea of a centralized, redistributive economic system for Mycenaean core areas has mostly been debunked (pp.16-18). At least for the LH III Argive Plain, the material and textual data refer to relatively independent subsistence systems for each major settlement. This was likely also true for the smaller, more agriculturally focused sites. Therefore, it can be assumed that each settlement and their inhabitants controlled their own share of the total agricultural space available. The people inhabiting areas outside the palaces, and those who were part of the ration system, would have had to arrange their own space for tree cropping. As the calculations of this dissertation (pp.166-174 and Appendix 12) show, this would have been possible for a population of no more than 20,000 people in both models 1 and 2, the inhabitants of the palaces taking up more than half of this number.

As noted by Bintliff (1977), a site catchment analysis of the Argive Plain shows how the surroundings of a few major sites had considerably better potential for agricultural production than others. A major difference is seen for example between the landscape around Argos, which had excellent soils, water reserves, and flat land areas around it to support cultivation, and the landscape around Mycenae, which had little of any of these resources. Thus, the construction of terraces, and the exploitation of the neighbouring areas for agricultural purposes could have taken place simply because it was necessary to fill the basic subsistence needs of Mycenae's large population.

Reconstructing LH III agriculture in the future

It has been established by previous research that crop cultivation and animal husbandry were the main subsistence activities practiced by the LH III Argive Plain people. The selection of the main cultivated crops was established based on the combination of archaeobotanical and textual evidence without much difficulty, although some differences between these two sets were seen in the species variety. What neither set of evidence can produce, however, is the numeric data of how much harvest these crops could produce, and in what kind of quantities these crops were consumed by people (or by their animals). The establishment of the farming practices, physical work conducted by the LH III people, is mainly based on ethnographic analogies instead of material archaeological evidence. It is surprising that in the end we still know so little about these everyday practices of a society that has been researched for two centuries.

Due to the scarcity of evidence, the strong reliance on ethnographic examples is difficult to overcome. However, with targeted research into the available material evidence, this emphasis could change in the future. The issue of crop productivity could be tackled by experiments in which old crop types, such as emmer and einkorn, are grown in different environments. Some experiments have already produced promising results (Bakels 2018; Jenkins *et al.* 2011; Kanstrup *et al.* 2011; Stokes *et al.* 2011), but a larger reference database of the results of these experiments, as well as experiments conducted in the climatic and environmental conditions of the Aegean are needed. Many of these experiments are related to the relationship of isotope values in crop seeds when different cultivation methods, such as manuring and irrigation, are used. More reference data of the isotope values of plants and animals inhabiting

Aegean environments are needed to formulate more reliable analyses on the abovementioned topics. So far, the few isotope studies investigating crop husbandry methods in the Aegean derive from Neolithic contexts and cannot be directly used for the LBA. The isotope analysis of the LBA seeds would require the access to charred seed remains from the Mycenaean contexts, which may turn out to be challenging due to the destructive nature of the method.

Some information on the cultivation methods could also be obtained by looking into the selection of tools, such as sickles and hoes. The selection of tools may refer to the selection of cultivation practice, for example whether crops were cut long or short, or whether stubble was left on the fields after harvest (Halstead and Jones 1997). Unfortunately, tools found in the LBA archaeological contexts cannot always be related to agricultural work, since they may have been designed for construction or other purposes (Blackwell 2011). Usewear analysis on the recovered sickle blades and other cutting tools could help to identify possible crop plants and shed light on the ways they were harvested. Moreover, usewear analysis on storage containers could help to connect the harvested crops to human use. Although some analyses have been already conducted (see Chapter 5), more reference data is needed to reach firm conclusions about LBA agricultural practices.

Another way to examine crop growing conditions and their influence on crop yields could be to use more modern data on experiments related for example to the development of drought resistant crop types, or to find crops that can be grown in poorer environmental conditions in developing nations where reliable harvests are crucial to life. Collaboration between archaeologists and agricultural scientists, but also climatologists and nutritional scientists could bring forth new methods to examine past agriculture and sustainability and enable the formation and use of larger reference databases in archaeology. In this thesis, the databases of the USDA, FAO and WHO were intensively used for the diet reconstruction. Although it is acknowledged that the data is based on modern crop types, which may be genetically different from the ancient crops, the potential of using quantitative data to establish nutritional values of diet compositions is a great advantage in a study such as this which is mostly based on averages of previous estimations.

One of the major aspects that is less discussed in this thesis is the social and cultural dimension of agriculture. Questions about the rules, customs, and restrictions related to landownership and use, for example whether land was inherited, or if cultural conventions such as closeness to a cemetery or sanctuary limited the use of land for agricultural purposes, are important in the reconstruction of past agriculture. Furthermore, human diet is not just related to what is available, but strongly tied to the societal conventions of what is deemed appropriate. As discussed earlier (pp.129-132), some indications to the dietary differences between the Mycenaean elite and non-elite were seen in the consumption of fish and seafood. The studies of Mycenaean feasts (Dabney *et al.* 2004; Hruby 2008; Lis 2008; Morris 2008; Palaima 2004; Walberg and Reese 2008) have further emphasized the limited access to meat and a larger variety of food which was only available to all during these ritual and celebratory events. Finally, a further interesting direction of research could be the effort to connect the agricultural calendar which inevitably existed in some form since crops grown only in specific times of the year, and to ritual, religious and celebratory behaviour in order to see how much these conventions collided with each other, and how that may have influenced in the everyday practices of the Mycenaean farmers.

Overall, the analysis of the agricultural potential forms an interesting comparison to the analysis of the political relationships of the LH III Argive Plain settlements. The issue of land use distribution between these sites remains unresolved in this thesis, but it is certainly a topic that needs further examination. The Argive Plain landscape is versatile, and walking distances to fields may have varied considerably between settlements. This landscape creates challenges to the traditional ways of performing catchment analyses (pp.31-36). New methods to examine the Argive Plain land use have been provided by fuzzy suitability analysis (Knitter *et al.* 2019), and by kernel density analysis (Bonnier *et al.* 2019) of the Berbati Valley. Both methods estimate the suitability of the landscape for different agricultural uses by comparing distance from the site to slope, soil fertility and to other environmental characteristics. These analyses are conducted with GIS tools which can calculate in high accuracy the sizes and locations of the areas in which the best characteristics for agriculture appear in highest densities.

Nevertheless, although computational methods can produce high-definition quantitative data on distances, sizes and agricultural suitability, the input data used in both of the analyses mentioned above is still mostly the same as what is used in this thesis. This means that these computational methods cannot overcome the problems related to the scarcity of the archaeological data of the LH III agricultural practices, population, or small farming sites. Besides creating more analyses on the potential locations for best lands for crop cultivation, the future research concerning LBA agriculture in Greece should, thus, focus on creating new data on these essential aspects.