

CHAPTER THIRTEEN

Environments and Landscapes of Greek Culture

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1 The Mediterranean: The Geographical Parameters of the Greek World

By the beginning of the fifth century BCE the Greek heartland, the territory which now comprises mainland and island Greece and the west coast of modern Turkey, was only a small portion of the Greek world. From the eighth century onward Greeks had established communities spreading east–west across the Mediterranean from the Levant to southern France and Spain, and north–south from southern Russia to north Africa. Although most of these Greek communities were set in environments which were broadly ‘Mediterranean’ in terms of their climate, geography and vegetation, there is a huge range of local variation even over very short distances. The consequence is that though some practices were common over a wide area, Greeks exploited the environments they inhabited in many different ways, depending on both local traditions and local conditions.

2 Mediterranean Climates

In both the northern and southern hemispheres all areas with Mediterranean-type climates are on or close to the 35° latitude lines and bordering the sea (Grove & Rackham 2003: 11 and fig. 1.2). Ancient Greek settlement in fact ranged somewhat beyond the fringe of land surrounding the Mediterranean Sea. Mediterranean climates are characterized by relatively mild, wet winters and hot, dry summers. Except in the high mountains, few areas suffer from intense and regular frosts. Often the limits of the olive’s cold tolerance are perceived as defining the extent of Mediterranean zone, though this is something of an over-simplification (Grove & Rackham 2003: 11). Certainly it is true that the olive and Greek culture have flourished in most of the same places.

Summers are largely sunny with temperatures often over 30 degrees C, and in many areas at altitudes under 200 m above sea level even dew is rare. This is wonderful for the modern tourist trade, which can usually guarantee its customers a vacation uninterrupted by rain, though humidity can be high in locations close to the sea, but it places severe constraints on other kinds of human activities. Summer temperatures are generally cooler at higher altitudes, and places only a few kilometres distant from each other but differing by several hundred metres in altitude can also differ perceptibly in temperature.

Precipitation in the Mediterranean is characterized by its unpredictability, and this has important implications for agriculture in the region. Generally the bulk of the year's rainfall occurs between mid-September and April and rainfall events may be very unevenly distributed over this time. Even over the summer, occasionally a sudden, violent thunderstorm may result in flash floods or damaging hailstorms. In addition, rainfall in any particular area may vary dramatically from year to year. And, often over short distances, especially over changes in altitude and aspect (the direction a place faces and to which it is exposed), rainfall can vary quite substantially from one place to another. Generally, precipitation increases (and the length of the dry season decreases) with altitude. West-facing locations such as the island of Kerkyra (modern Corfu) are usually wetter than east-facing ones such as the peninsula of Methana in the Saronic Gulf. Absolute amounts of annual precipitation rarely exceed 1,000 mm except in the more northerly parts of the region, and at high altitudes. In most parts of southern Greece, Italy and Spain average annual rainfall ranges from 400 to 650 mm, though in some significant places this figure is lower. Athens averages 385 mm per year, Thera (modern Santorini) 357 mm, close to the limits for un-irrigated cereal cultivation (Grove & Rackham 2003: 24–8).

3 Mediterranean Environments

Mediterranean environments and ecosystems are both fragile and resilient. For the most part they are creations of human culture. Many parts of the region have been cultivated for at least 8,000 years, and were inhabited and exploited by people for many thousands of years previously. It is therefore impossible to point to pristine 'natural' environments unaffected by human activities.

Although mountains in the region are often covered with forest, many of the slopes which are bare rock today were probably also bare in antiquity. The oak, chestnut and pine forests of the mountain zone are not the only kind of 'climax vegetation', insofar as the term is even appropriately applied to Mediterranean plant communities. In many areas maquis and garrigue (*phrygana*)—the scrubby, prickly plants adapted to arid conditions, regular fires and rocky soils—constitute the largest portion of the 'natural' vegetation. Wild or feral varieties of olive and pear, several species of oak (especially *Quercus coccifera*, prickly oak), juniper, cypress and wild pistachio (*Pistacia lentiscus*) are common. Along with these grow shrubby plants such as brooms (*Sparticum* and *Genista spp.*) and *Cistus spp.* (rock rose), and numerous smaller, short-lived perennials (mints, thyme, oregano, caper, bryony, smilax), annuals (*Inula viscosa*, vetches, wild carrot, wild fennel), tough grasses (esparto grass), bulbs (crocus, colchium, asphodel, squill, cyclamen) and the large and ubiquitous thistles.

This is vegetation with attitude. Equipped with vicious spines, toxins, hairy leaves, exploding seeds, heat-stimulated germination, extensive root systems, vigorous growth habits, aromatic resins and other features, these plants are well adapted to withstand earthquakes, drought, fire, grazing, cultivation and other natural disasters and human activities. Although Mediterranean vegetational communities are unstable and easily damaged, they also possess extraordinary powers of recovery. The ‘Ruined Landscape’ theories of Mediterranean environments promoted by many scholars from antiquity to the present to explain past and present ‘environmental degradation’, i.e. the notion that human impact on the landscape has been solely destructive to the pristine ‘natural’ environment, is far too simplistic. Historical and environmental evidence suggests that virtually all parts of the region have suffered repeated phases of ‘destruction’ (from both human and natural causes) and recovery over the long term (Grove & Rackham 2003: 60–5). In our present era, non-sustainable development and misuse of resources may have permanent environmental impact, but ancient Greek culture was not technologically equipped to inflict this level of damage.

Plato’s depiction of the Attic landscape (*Critias* 110C–112E) is often cited by modern scholars to support the ‘Ruined Landscape’ paradigm. This imaginary account, however, set 9,000 years before his own time, is as much philosophical fantasy as is his description of the ‘ancient’ socio-political system in which the citizens were divided into classes by occupation and the elite military class held their property in common and were supported by the rest (an arrangement suspiciously similar to that of Plato’s ideal state as portrayed in the *Republic* and the *Laws*).

[110C] Now at that time there dwelt in this country not only the other classes of the citizens who were occupied in the handicrafts and in the raising of food from the soil, but also the military class, which had been separated off at the commencement by divine heroes and dwelt apart. It was supplied with all that was required for its sustenance and training, and none of its members possessed any private property, but they regarded all they had [110D] as the common property of all; and from the rest of the citizens they claimed to receive nothing beyond a sufficiency of sustenance; and they practised all those pursuits which were mentioned yesterday, in the description of our proposed ‘Guardians’. Moreover, what was related about our country was plausible and true... [110E] that all other lands were surpassed by ours in goodness of soil, so that it was actually able at that period to support a large host which was exempt from the labours of husbandry. And of its goodness a strong proof is this: what is now left of our soil rivals any other in being all-productive and abundant in crops and rich in pasturage for all kinds of cattle; [111A] and at that period, in addition to their fine quality it produced these things in vast quantity. How, then, is this statement plausible, and what residue of the land then existing serves to confirm its truth? The whole of the land lies like a promontory jutting out from the rest of the continent far into the sea and all the cup of the sea; round about it is, as it happens, of a great depth. Consequently, since many great convulsions took place during the 9000 years—for such was the number of years [111B] from that time to this—the soil which has kept breaking away from the high lands during these ages and these disasters forms no pile of sediment worth mentioning, as in other regions, but keeps sliding away ceaselessly and disappearing in the deep. And, just as happens in small islands, what now remains compared with what then existed is like the skeleton of a sick man, all the fat and soft earth having wasted away, and only the bare framework of the land being left. But at that epoch

the country was unimpaired, and for its mountains it had [111C] high arable hills, and in place of the stony soil as it is now called, it contained plains full of rich soil; and it had much forest land in its mountains, of which there are visible signs even to this day; for there are some mountains which now have nothing but food for bees, but they had trees no very long time ago, and the rafters from those felled there to roof the largest buildings are still sound. And besides, there were many lofty trees of cultivated species; and it produced boundless pasturage for flocks. Moreover, it was enriched by the yearly rains from Zeus, [111D] which were not lost to it, as now, by flowing from the bare land into the sea; but the soil it had was deep, and therein it received the water, storing it up in the retentive loamy soil and by drawing off into the hollows from the heights the water that was there absorbed, it provided all the various districts with abundant supplies of spring waters and streams, whereof the shrines which still remain even now, at the spots where the fountains formerly existed, are signs which testify that our present description of the land is true. [111E] Such, then, was the natural condition of the rest of the country, and it was ornamented as you would expect from genuine husbandmen who made husbandry their sole task, and who were also men of taste and of native talent, and possessed of most excellent land and a great abundance of water, and also, above the land, a climate of most happily tempered seasons. And as to the city, this is the way in which it was laid out at that time. In the first place, the akropolis, as it existed then, was different from [112A] what it is now. For as it is now, the action of a single night of extraordinary rain has crumbled it away and made it bare of soil, when earthquakes occurred simultaneously with the third of the disastrous floods which preceded the destructive deluge in the time of Deukalion. But in its former extent, at an earlier period, it went down towards the Eridanos and the Ilissos, and embraced within it the Pnyx; and had the Lykabettos as its boundary over against the Pnyx; and it was all rich in soil and, save for a small space, level on the top. [112B] And its outer parts, under its slopes, were inhabited by the craftsmen and by such of the husbandmen as had their farms close by; but on the topmost part only the military class by itself had its dwellings round about the temple of Athena and Hephaistos, surrounding themselves with a single ring-fence, which formed, as it were, the enclosure of a single dwelling. (Plato *Critias* 110C–112B, trans. Lamb (Loeb) modified by Foxhall)

This is not a story that we should take at face value. What it does show is that classical Greeks recognized the general phenomena of deforestation and erosion. What it cannot prove is that Attika was *ever* a land of deep soils, abundant rain and forested hills: this is Plato's view of the 'golden age' of his homeland, as mythological as the tale of Atlantis which follows this passage in the dialogue (Plato *Critias* 113B–121C). Significantly, in both Plato's Attika of the remote past and Atlantis a decline in the moral calibre of the inhabitants and a breakdown of what Plato perceived as a desirable social system resulted in environmental degradation and disaster. It is therefore highly unlikely that this picture of ancient Attika is accurate.

As well as forests and maquis, marshes were a crucial resource for human communities in the region, their importance often underestimated by modern scholars (Horden & Purcell 2000: 186–90). Marshes offer different plant communities from much of the rest of Mediterranean vegetation, and are important resources for human communities, especially for grazing, hunting and gathering. Plants such as the giant reed (*Arundo donax*) were used for items from spears to roofing material. Marshes are important habitats for many birds, animals and fish. Near the sea, salt marshes were important for salt panning.

4 Polis and *Chora*: Greek Countrysides

In the world of classical Greece, the polis, both in the sense of city-state and in the sense of urban centre, was the main focus of political and social life. Most Greeks lived in towns. However, the inhabitants of the polis exploited the whole range of the landscape by cultivating the land, keeping animals, hunting, fishing, gathering wild plants for many purposes, collecting wood and felling timber, mining, quarrying and extracting clay for pottery and building materials. Greek cities were largely dependent on their rural territories for the necessities of life (and many luxuries as well). Nonetheless, the impact of classical Greek cities on their environment was probably not great compared to the impact of Roman occupation or modern tourism. Most Greek poleis were small and few had territorial ambitions on any scale. Even in mining areas such as southern Attika, exploited for silver and lead, the individual mining operations were small, and the environmental impact was relatively short term and limited.

5 Land Ownership and Citizenship

Citizenship and the ownership of land were closely linked (see Oliver below, Chapter 14). In most cities, citizens and land owners were the same people: only citizens could own land and only land owners could be citizens. Democratic Athens was unusual in this respect: only citizens could own land, but citizenship was not limited to land owners. The effect, however, even in Athens, was to assign a high moral and social value to land ownership and farming, as an activity worthy of a politically empowered and active man. This positive view of farming appears in many Greek texts of the fifth and fourth centuries (for example Plato *Critias* 111E, quoted above, and Xenophon *Oikonomikos* 5.1–11).

In that case, Sokrates, he [Ischomachos] said, you shall hear now about the beneficence of this craft [farming]. For it is most profitable and pleasant to work at, as well as the most lovely and dear to gods and men. Besides, it is very easy to learn—how could it not be noble? (Xenophon *Oikonomikos* 15.4)

Here, in Xenophon's Socratic dialogue about household management, the *Oikonomikos*, Sokrates has asked Ischomachos, the hard-working gentleman farmer with the ideal estate, to teach him farming and Ischomachos explains to Sokrates why he spends as much time as he can on his farm. In his answer, financial profit and moral gain are interlaced. Moreover, the characters in this dialogue assume that farming is central to the lives of most Greeks and that the basic techniques and principles are familiar to all:

And I think, he said [Ischomachos to Sokrates], you know a great deal without realizing it. For other craftsmen conceal the most critical elements of their craft, but among farmers the one who is best at planting trees would be pleased if someone were watching him, so too the one who is best at sowing. Whatever you were to ask him about the things he does well, he would conceal nothing whatsoever. So, Sokrates, he said, farming appears to produce the most noble characters among those engaging in it. (Xenophon *Oikonomikos* 15.10)

The implication is that the good and noble citizen is a land owner and a farmer. In Xenophon's words (put into the mouth of Sokrates):

Those who are able not only to manage their own households, but also to put something by so that they can adorn the city and back their friends, how could they not be deemed solid and sound? (Xenophon *Oikonomikos* 11.10)

6 Ordered Landscapes: Land Division and Land Holdings

From at least the eighth century BCE Greeks imprinted their culture on the landscapes they occupied by measuring out land into ordered plots. Although many of the best-known examples are 'colonial' cities, the phenomenon appears in old Greece as well. Sometimes these land divisions are visible on the ground, as in the countryside of Metapontion in southern Italy (Carter 1990). Sometimes they are revealed by archaeologists as the framework for urban landscapes, as at Megara Hyblaia and Selinous in Sicily, or Halieis in the southern Argolid (Figure 13.1 a–d). Even in an urban setting land divisions may have been inspired by rural principles and practical-

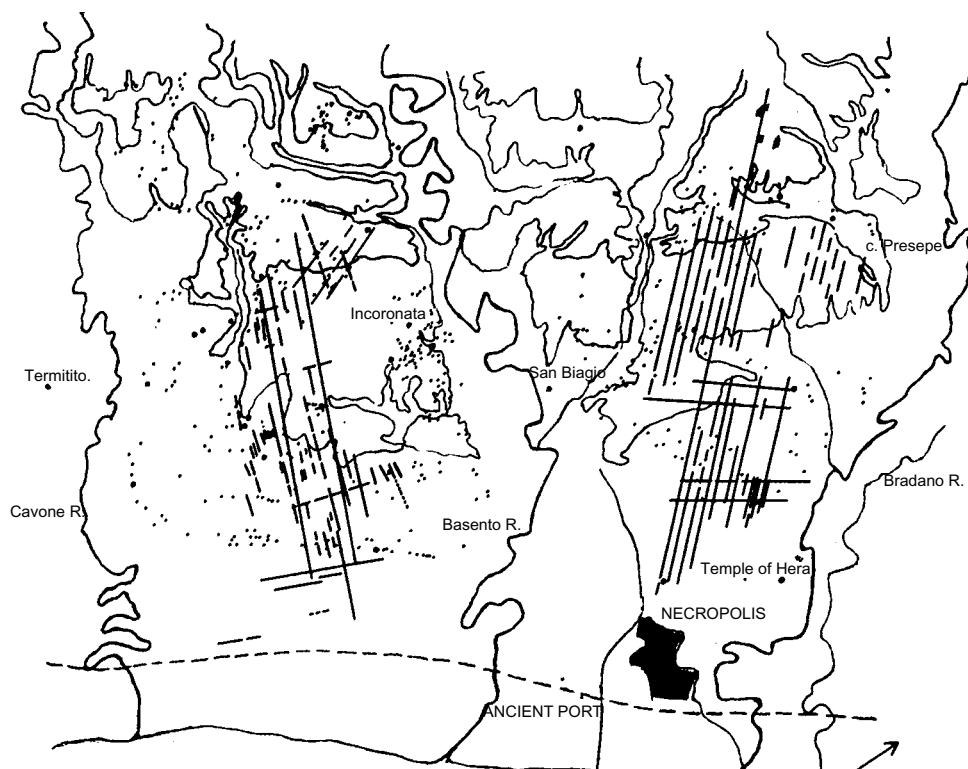


Figure 13.1a Urban and rural land division: Metapontion.

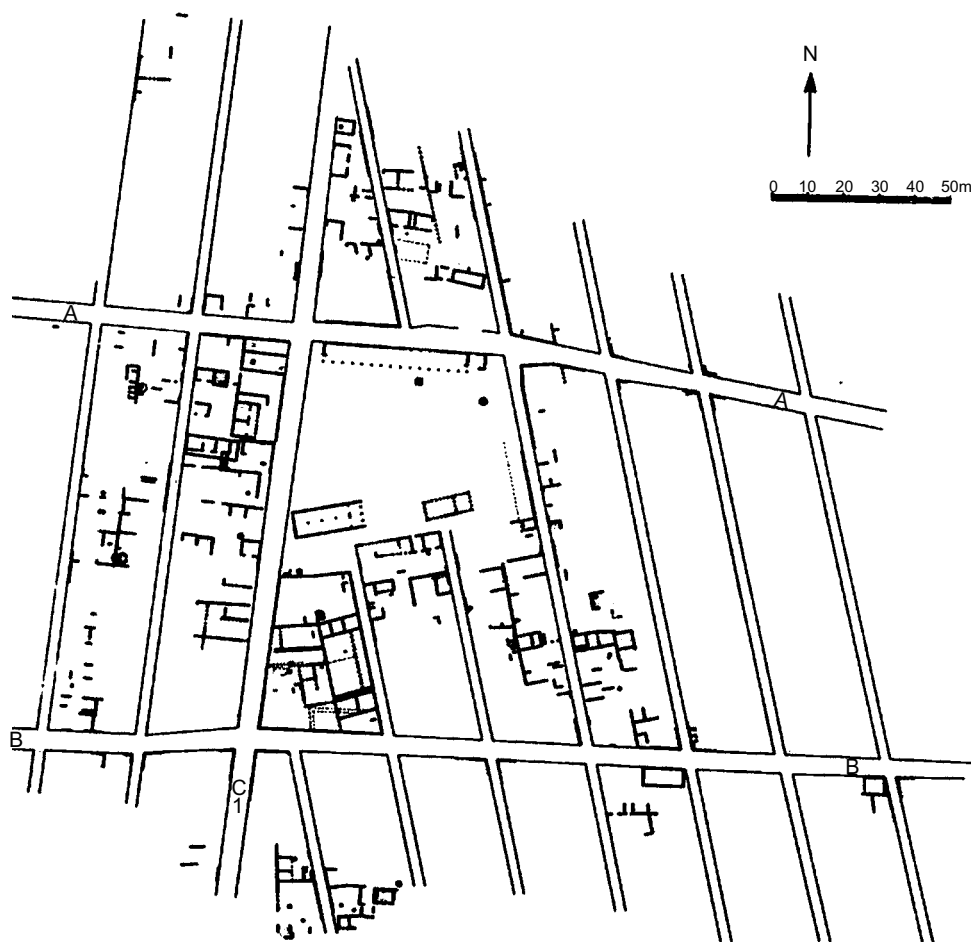


Figure 13.1b Urban and rural land division: Megara Hyblaia area around 'agora'.

ities: the earliest land divisions at both Megara Hyblaia (eighth century) and Halieis (sixth century) result in plots of about the right size for a day's ploughing. This suggests that these structured landscapes may originally have been intended as plots for farming rather than as part of an urban planning scheme (Foxhall 2003: 86–8).

Frequently, land divisions are understood by modern scholars to imply equality of land holdings (at least at some point in the city's past) as part of the egalitarian ethos of the polis community (Morris 1994: 362–5; Hanson 1999: 182, 186–96). This is most probably a mistake. Most Greek cities were not democratic and even in those that were, political egalitarianism certainly did not imply economic equality, as is well attested in classical Athens. Land was bought, sold, rented and leased in classical cities, but most people probably acquired most of their land through inheritance. Although there were many minor variations in inheritance customs, partible inheritance was practised throughout Greece. This means that sons inherited equal shares of their father's estate. How women fared was more variable, but generally they received



Figure 13.1c Urban and rural land division: Selinous.

smaller portions of the patrimony than the sons, often as dowry at marriage. If land were divided among siblings every generation, a man's holdings would almost inevitably consist of a collection of small plots scattered around the countryside, rather than a single, contiguous 'farm'. It is also likely that most people owned plots of land close to those of relatives, especially brothers or cousins. These plots did not necessarily become infinitely smaller over time: they might be 'rationalized' to some extent by selling land in less convenient locations or recombining plots by acquiring neighbouring ones. Similar traditions of partible inheritance fragmenting plots have persisted in many parts of Greece and elsewhere in the Mediterranean up to the present day (Figure 13.2). At Metapontion there may be archaeological evidence for the sub-division of plots (Carter 1990). Therefore what appear to be equal-sized plots in systems of land division do not automatically imply equal-sized holdings, since a single landholder might have possessed more than one plot or small fragments of plots.

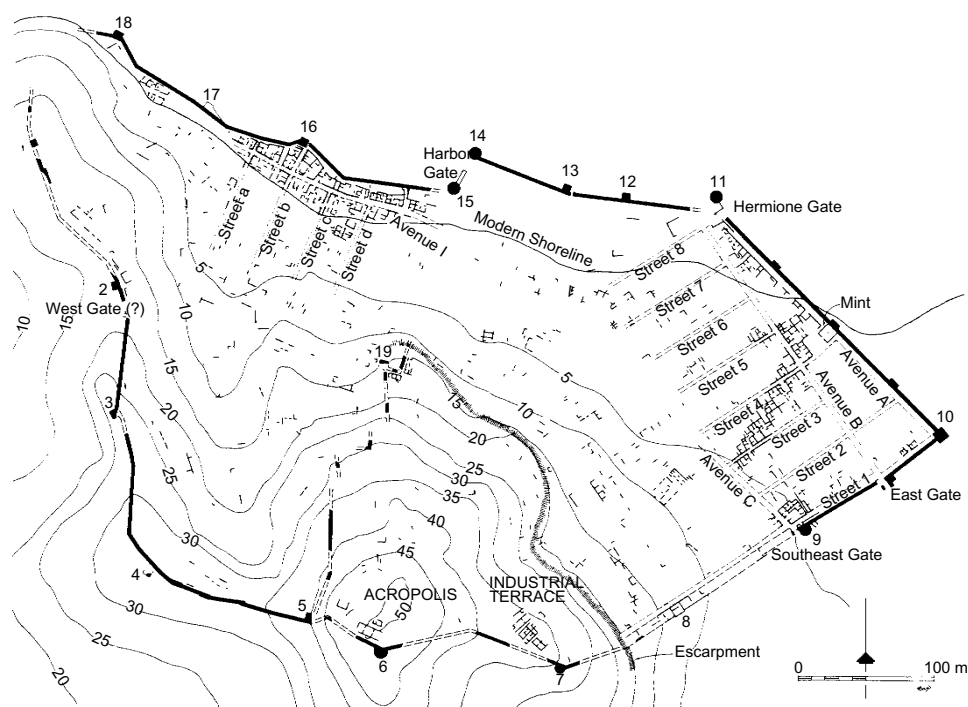


Figure 13.1d Urban and rural land division: Halicis.



Figure 13.2 Methana, Greece: several families ploughing plots of vines in the 1970s. Here there are no visible field boundaries, but what appears to be a single large area of vines is actually divided into small plots owned by many different households.

Inevitably, the land holdings of wealthy farmers are far better attested than those of small-scale farmers. One of our most important documents for demonstrating the scattered land holdings of rich men is the so-called 'Attic Stelai' of fifth-century Athens. This is a series of Athenian inscriptions (*IG*1³ 420–430; Amyx 1958; Pritchett 1956) published by the *poletai*, the magistrates responsible for selling property confiscated by the state. The reason for full publication of their records on this occasion was the political and religious controversy surrounding those accused of mutilating the herms just before Athens' expedition to conquer Sicily embarked in 415, and subsequently accused of parodying the Eleusinian Mysteries (Thuc. 6.27–9, 60–1). Some of Athens' wealthiest and most eminent citizens and metics were implicated in these scandals, and their property was confiscated by the state and sold at auction. The 'Attic Stelai' contain inventories of the property sold and the price fetched at auction. However, the culprits had ample warning of their impending arrest and most appear to have disposed of or hidden as much of their property as possible before they fled Attika. It is likely therefore that the preserved lists represent only the relatively worthless items or property which they could not hide, not the full extent of their estates. Even so, it is possible to catch a glimpse of the wide range of agricultural and other property which a wealthy citizen might own, and its geographical spread.

Figures 13.3 and 13.4 show the property listed in the 'Attic Stelai' under the names of two different men, Adeimantos son of Leukolophides of Skambonidai and Axiochos son of Alkibiades of Skambonidai. Adeimantos owned land in at least two different parts of Attika, and it appears to have been divided into a minimum of six different plots. He also owned land abroad in Thasos, which itself may well have been divided into smaller plots. Axiochos owned land in at least seven different places in Attika (and some of these holdings must have consisted of several separate plots), as well as land overseas in Abydos, Klazomenai and elsewhere. However imperfect our knowledge of the full range of their property, it is clear that in both of these estates, agricultural land and enterprises were extremely important sources of wealth and income for these men, and that the range of their agricultural activities was diverse.

7 Rural Settlement and Land Use

From literary and epigraphical sources it has long been clear that classical Athenians valued and exploited the Attic countryside. Our understanding of rural settlement throughout Greece and the Greek world, however, has been transformed over the past twenty-five years by the prolific discoveries of intensive archaeological survey. Important field projects in Boiotia (Bintliff & Snodgrass 1985; 1988; Bintliff et al. 2004), Keos (Cherry et al. 1991), Lakonia (Cavanagh et al. 1996; 2002), Megalopolis (Lloyd et al. 1983), Aitolia (Bommeljé et al. 1987), Pylos in Messenia (Davis et al. 1997), Methana (Mee & Forbes 1996), the southern Argolid (Jameson et al. 1994), Berbati-Limnes near Mycenae (Wells & Runnels 1996), Attika (Lohmann 1992; 1993), Sphakia in Crete (Nixon et al. 2000) and elsewhere have revealed dynamic and complex countrysides. Outside Greece, archaeological projects in areas of Greek settlement such as the Crimea, Sardinia, Sicily and southern Italy have also clarified our picture of rural settlement.

IG 1³ 422

- 187–90 4 shadufs and a large trough on land in Xypetnaion
- 182–6 land (specifications and location lost)
- 178–81 land (specifications and location lost)

IG 1³ 426 [skilled slaves and equipment – prices missing]

- 10–39 Phrygian man
 - a man, Apollophanes
 - Charias, *obeliskopoios* [spit or nail maker]
 - Aristarchos, *skutotomos* [leather worker]
 - his equipment: small table, 2 couches, table, sleeping pallets, building timber, and 8 unpreserved and unidentified items
 - Satyros, *skytotomos* [leather worker]
 - [3 lines missing and 3 lines that seem to have been equipment]
- 44–51 [Thasian farm specializing in vines]
- 44 man, Aristomachos [bailiff?]
- 45–6 land and *oikia* in Thasos in I–
 - large numbers of good and bad *pithoi* with lids
 - 590(?) *amphorai* of wine (capacity: 3 *choai*) = 8.64 l each = 5,098 l wine total
- 106–7 income from rents on land that had been owned by Adeimantos: 1,632 drachmai, 4 obeloi [if a rent of around 8 per cent of the capital value is assumed, this makes for a capital value of about 3 talanta, 2,408 drachmai]
- 142 something unidentifiable worth 520+ drachmai

IG 1³ 430 a

- 1–4 ‘oakery’ and ‘pinery’ and *oikia* in B–, 8 *pithoi* in the *oikia*, and Kydimakhos, slave of Adeimantos [who presumably managed the ‘oakery’ and ‘pinery’].
- 10–12 harvested crops [cereals or other arable?], worth 50 drachmai, from land in Ophryneion.
- 27–8 sale of slave, Satyros, 170 drachmai

Figure 13.3 Adeimantos son of Leukolophides of Skambonidai: surviving possessions in the ‘Attic Stelai’.

Archaeological survey is the process of closely scrutinizing a known area for remains of human occupation and use on the surface, generally in the form of broken bits of pottery (sherds) (Figure 13.5). Most of these are in poor condition, but some are sufficiently well preserved for it to be possible to assign a date, and to determine the shape and sometimes the function of the pot. In most areas many small sites (concentrations of sherds and sometimes architectural remains) with plain, coarse and fine pottery for cooking, storage, eating and drinking and roof tile have been found scattered across the landscape. Generally they have been identified by archaeologists as ‘farmsteads’, although their precise functions may have varied considerably and are not always clear from surface survey alone. In some areas smaller installations of agricultural equipment such as olive presses or treading floors for making wine are found out in the fields, isolated from residential housing (Figure 13.6a–c). These might have been similar to the kinds of rustic ‘sheds’ which appear in the ‘Attic

IG 1³ 422

194–204 [slaves]

Arete, Thracian woman (361 drachmai, for all 3?)

Grylion, Thracian man

Habrosyne, Thracian woman

Dionysios, Scythian bronze smith (155 drachmai)

income from rents on fields (*choria*) in Tho– which had been owned by Axiochos, 150 drachmai [if a rent of around 8 per cent of the capital value is assumed, this makes for a capital value of 1,875 drachmai]IG 1³ 424

10–16 apartment house

total of houses [*oikiai*] – large sum of money not preserved.

foreign agricultural land – details not preserved

IG 1³ 426

101–2, income from rents on land owned by Axiochos

108–11 1,633 drachmai 2.5 oboloi [if a rent of around 8 per cent of the capital value is assumed, this makes for a capital value of about 3 talanta, 2,417 drachmai]

item not preserved, more rents? 250 drachmai

item not preserved, more rents? 162 drachmai, 4 oboloi.

IG 1³ 427

52–85 [equipment and fittings from a country house]

5 *phidaknai* [small *pithei*]: 9 drachmai; 11 drachmai; 4 drachmai, 4 oboloi; 4 drachmai, 3 oboloi; 4 drachmai

funnel [no price, goes with next item?]

lead pipe 2 drachmai, 2 oboloi

written board/picture 60 drachmai

another small one 6 drachmai, 4 oboloi

painted(?) picture 5+ drachmai

land which had belonged to Axiochos ... [further details missing]

[poorly preserved entry] 2,040 drachmai (?)

[poorly preserved entry] 1,590 drachmai (?)

area of land (in *plethra*) with *oikia*, another to the metics/merchants [no price]3 *plethra* arable land with vines 1,900 drachmai [goes with last item?]*oikia* in the countryside [*agroï*]another piece of arable land, with olives(?), 3 *plethra* 6,100 drachmai

[something unidentifiable] with vines; [something unidentifiable] in

Abydos 310 drachmai

[something unidentifiable] in Klazomenai 200 drachmai

IG 1³ 430

6–7 a man, Olas 195 drachmai

8–9 Messenian man 130 drachmai

24–5 Keph–, slave 195 drachmai

33–5 crops in the field(?) 20 drachmai.

Figure 13.4 Axiochos son of Alkibiades of Skambonidai: surviving possessions in the ‘Attic Stelai’.



Figure 13.5 Archaeologists on survey in Bova Marina, Calabria, Italy.

Stelai’—storage buildings for tools and agricultural produce (Figure 13.3 ~ *IGI*³ 422.187–90, shadufs and trough; Figure 13.4 ~ *IGI*³ 427.52–85, equipment and fittings from a country house). In addition, particularly in lowland areas, high levels of ‘background’ scatter (low levels of sherds found outside ‘sites’) suggest very intensive use of the fields, perhaps indicating regular manuring or other activities



Figure 13.6a Lever press on black figure skyphos (Boston Museum).



Figure 13.6b Rock-cut press located in Methana countryside.

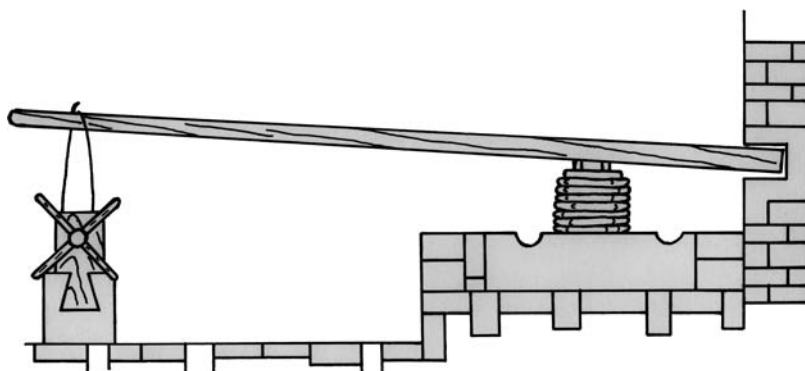


Figure 13.6c Reconstruction of ancient olive press.

(Alcock et al. 1994; Pettegrew 2001, 2002 with discussion by Osborne 2001, Foxhall 2001, and Bintliff et al. 2002).

The most striking feature of classical countrysides of Greece is the pattern of dispersed settlement found in most parts of Greece and the Greek world in the fifth and especially the fourth centuries (Figure 13.7). Although most people plainly lived in towns and villages, these rural landscapes were intensively farmed. Some people probably lived out in the country all year round, but there is much debate on the extent to which some of these ‘farmstead’ sites many have been occupied for only part of the year. It is also possible that in some cases the owner lived in a town or village and commuted out to his fields in the countryside. In the case of wealthy farmers, slaves may have lived in the country house all year round, while the owner and his

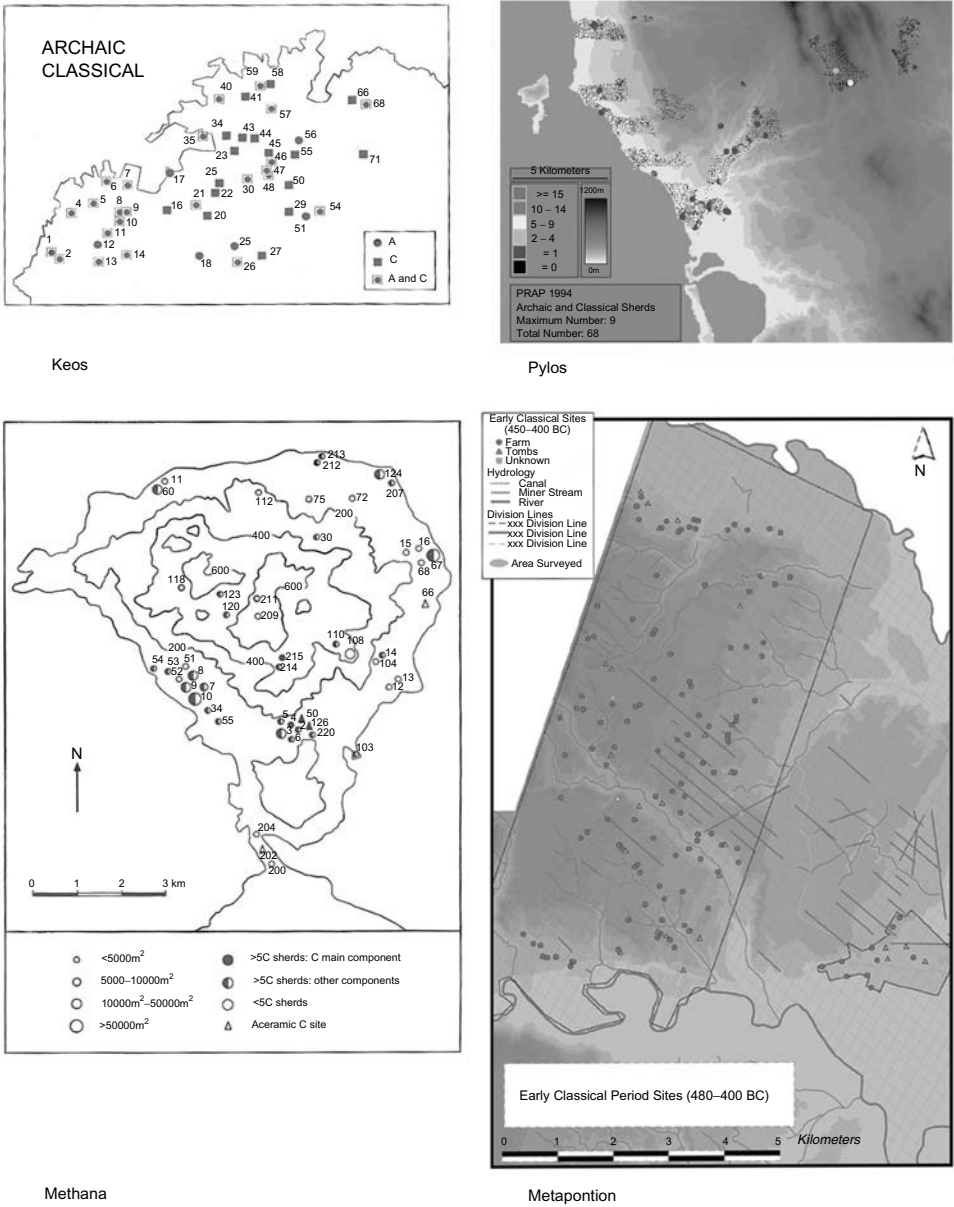


Figure 13.7 Rural sites of the classical period as discovered through archaeological survey.

family spent only some of their time in the country, as suggested by the descriptions of country house management in Xenophon’s *Oikonomikos* (11.14). It is clear from archaeological survey that during the classical period the rural territories of cities in most parts of Greece were intensively exploited compared to other periods. Of course, not all of the sites dating to the 100 or so years of the time

span were necessarily occupied simultaneously, nor on the other hand have archaeologists discovered all of the sites in use at any one time. However, only in the late Roman period and the late nineteenth–early twentieth centuries CE does the extent of use of the countryside rival that of classical times. There are some interesting exceptions to this general pattern. The territory of Messenia, conquered by Sparta and worked by helots of slave status (perhaps as sharecroppers), is an empty landscape compared to those of other cities (Figure 13.7), and it is likely that the unusual political situation was the cause (Alcock 2002). In other areas, for example, on the peninsula of Methana (Figure 13.7), it is clear that the remote uplands (areas over 500 m above sea level) were less intensively exploited than the lowlands (altitudes of 200 m above sea level and below). However, it is clear that all types of land in the territories of Greek cities were exploited for their productive resources, even those areas which were uncultivable.

Although the information provided by survey has proven immensely valuable to our understanding of rural Greece in antiquity, many questions remain unanswered by surface remains alone. There are few excavated rural houses of the period, but the two best examples are in Attika: the Dema House and the Vari House.

The Dema House, dating to the last quarter of the fifth century BCE, was located north of Athens near the Dema Wall (Jones et al. 1962) (Figure 13.8). A large, residential courtyard house with a tiled roof, it may have been abandoned in the later stages of the Peloponnesian War, with some re-occupation in the fourth century. Part

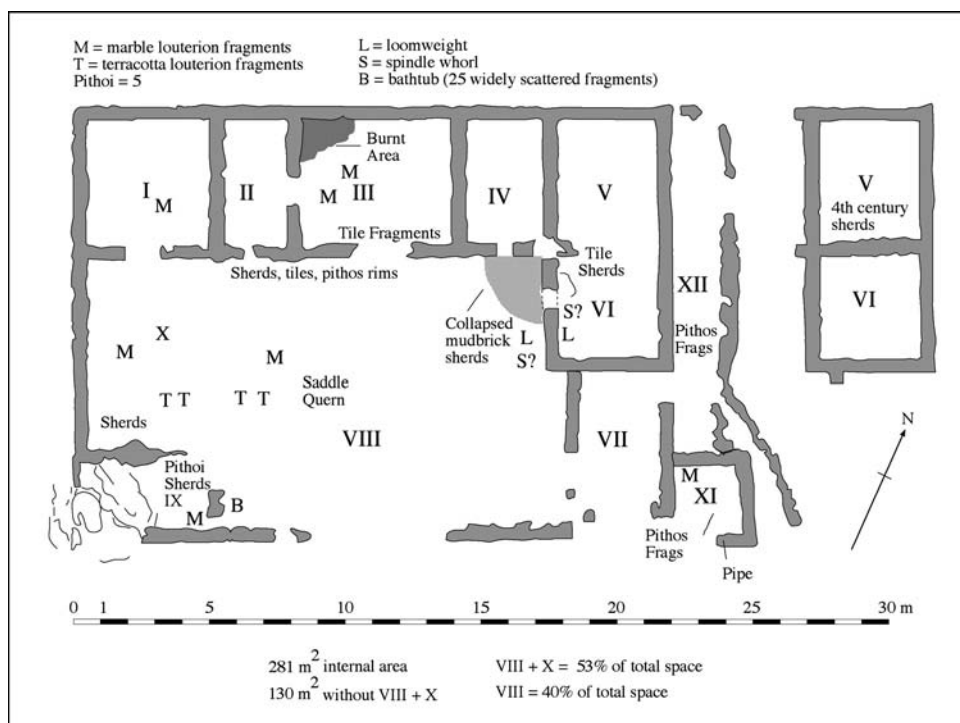


Figure 13.8 The Dema House: plan.

of the house may have had a second storey, but there is no tower, a feature regularly documented for other farmhouses (Figure 13.9). The courtyard was an important working area—note the saddle quern for grinding grain found in it. The stone bases were for (wooden?) columns, around which a vine might have grown, to provide shade in summer. The house faces south so that the courtyard and the northern rooms would catch the sun in winter, when the vine would have lost its leaves. The range of artefacts found is similar to that of contemporary urban houses, and there is no agricultural processing equipment or evidence of other kinds of activities to suggest that it was a working farm. It might have been the kind of country house portrayed in Xenophon's *Oikonomikos*, in which the character Ischomachos lived—part farm and part holiday home. If so, the farming activities must have been physically separated from the comfortable residential accommodation.

The Vari House was sited on the road up to a remote rural sanctuary (the Cave of Pan, a god special to shepherds and their flocks) on Mt Hymettos, above the ancient deme village of Anagyrous (Figure 13.10). Though the main period of the house dates to the early fourth century, there is some evidence of earlier fifth-century occupation on the site. This is also a courtyard house with a tiled roof, but smaller than the Dema House. The range of finds is closer to those of the rural sites discovered in survey than to those of the Dema House and urban houses, and there is more evidence for agrarian activities. The Vari House is set within a large enclosure wall, probably because livestock (most likely to have been sheep or goats) were kept in the yard. The area is highly suitable for summer grazing. The beehive sherds found near the door in the yard suggest that the occupants kept bees on the thyme-covered



Figure 13.9 Classical period farmhouse (?) tower, Methana.

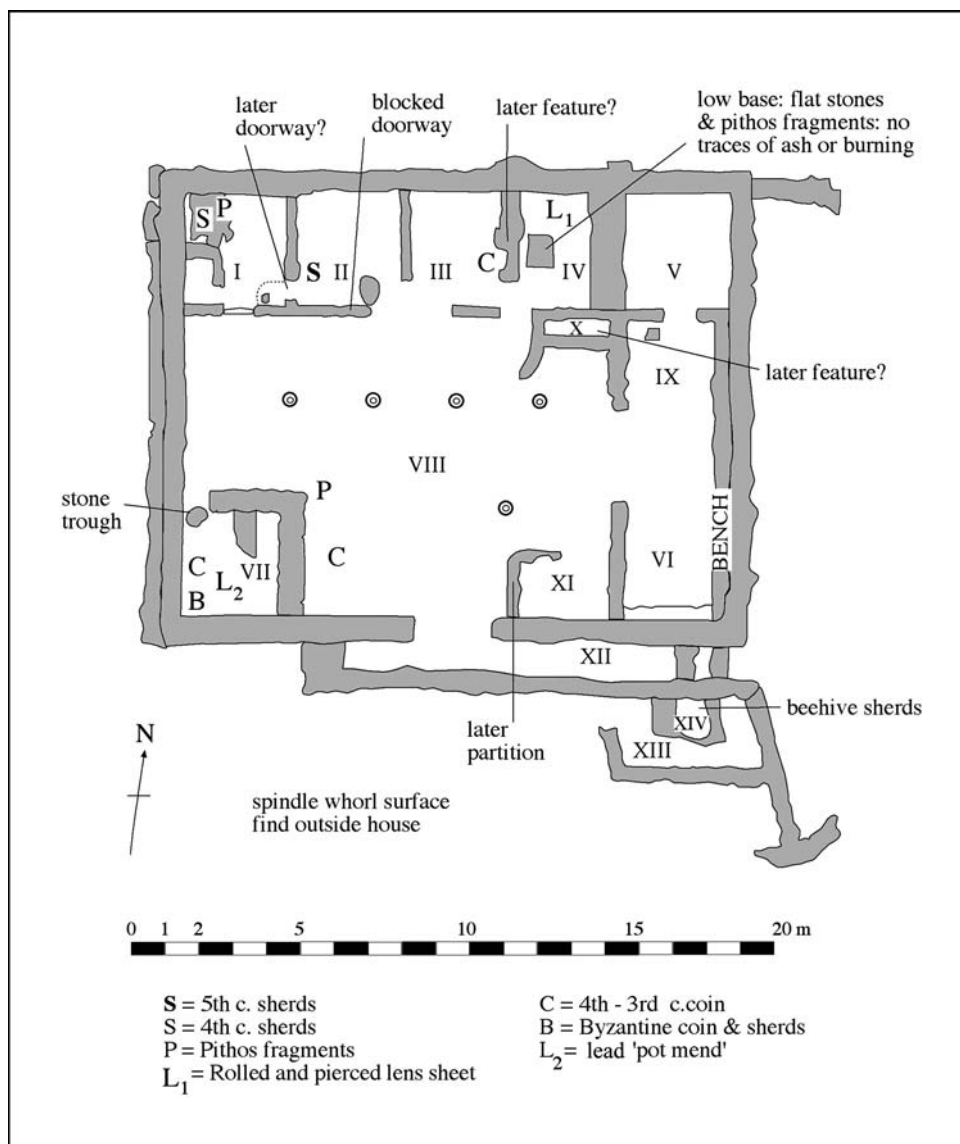


Figure 13.10 The Vari House: plan.

slopes of Mt Hymettos, famous for its honey from antiquity to the present. Keeping bees by the back door seems highly unlikely and rather dangerous, and the broken beehives must have been thrown into the yard for the animals to lick once the honey had been removed. Grazing in the mountains and bee keeping are both summertime activities so it is probable that the occupants lived here only for only part of the year, at the time when the sanctuary would have been most regularly visited. As is the case for many farmers today, tourists might have provided a welcome stream of customers for honey, cheese and other farm products. In winter the occupants probably moved

themselves and their animals down to the coast to where the ancient village of Anagyrous was located.

It is likely that, as in the written sources, the wealthier end of the socio-economic spectrum is over-represented in the archaeological record. Nonetheless, the archaeological evidence for the countryside of classical Greece offers a picture of a diverse and busy rural landscape, directly linked to urban centres and providing the livelihood for the citizens of the poleis. The following sections will explore in more depth the ways in which Greek farmers worked the land.

8 Farming the Land

In ancient Greek the word *chora* meant a piece of land of any size from the entire territory of a polis to a tiny field. Today and in the recent past, the agrarian landscapes of Greece and many other parts of the Mediterranean have been characterized by fields in small areas of plains land combined with a patchwork of terraces on the hill slopes (Figure 13.11). It is not clear, however, that the fields of classical Greece were farmed in the same way. Although several scholars claim to have discovered terraces dating to the classical period (Lohmann 1992), the chronological evidence for these is dubious. Indeed, it is not certain, except in very unusual circumstances, that an agricultural terrace from classical times would easily survive to the present day. Terraces are continuously built and re-built, even in more recent periods. These are landscapes which have been repeatedly re-sculpted by a combination of the people who worked the fields and natural forces such as tectonic activity, forest fires, floods, wind, erosion and alluviation. Among the few descriptions that we have in ancient literature and inscriptions of ancient fields, there are no unambiguous references to



Figure 13.11 Terraced landscape in modern Methana.

terraces or terrace walls (Foxhall 1996). In contrast, there are numerous references to other techniques for soil management on steep slopes.

The main purposes of terracing are not only to get rid of the rocks, but also to hold soil in place, to create a level area for cultivation and to slow run-off from the winter rains. Many of these aims can be achieved by other means. In the absence of terraces, many hill slopes were planted with all kinds of fruit trees and vines (Theophrastos *De Causis Plantarum* 3.6.7). The trees themselves helped to hold the soil in place. Wealthy farmers who had slave labour available were able to dig trenches around trees, shaped like basins sloping in towards the trunk, which caught precious rain-water and kept it where it would most benefit the tree. In areas where drainage was a problem in winter, these basins around trees could be connected by ditches dug across the slope (Theophrastos *De Causis Plantarum* 3.6.3–4). Repeated digging around trees also removed weeds which would compete for moisture and nutrients, and kept the top layer of soil dry and crumbly, thus reducing the loss of water from lower soil levels via capillary action and evaporation. Theophrastos, writing about plants in the fourth century, was clearly familiar with this practice and recommended a regime of regular digging around trees three times throughout the year (Theophrastos *De Causis Plantarum* 3.12.2; 3.16.2, 3). Indeed, repeated ploughing and digging were considered the best way to work land for arable crops as well as for trees, though this would have needed much labour, possibly more than a poorer household could manage on its own without the help of slave labour.

Cultivation consists of ploughing in both seasons, both in summer and in winter, so that the soil may be exposed to winter and to the sun, a point we also made in treating the planting of trees. For by being turned up often the soil becomes open textured, light and free of woody plants, so that it can easily bring up the crop... Snow is considered excellent for fields ploughed in winter, and hoar frost no less, for they say it eats through the ground and gives it an open texture. Again when farmers after the first ploughing plough again in spring they turn the earth to destroy the weeds that come up, and then plough in summer and plough lightly once more just before sowing, with the idea, as we said, that one must work the land before sowing and make this one's chief task. This is why the authorities prefer working the land with a mattock, and consider that working it with the plough misses much. (Theophrastos *De Causis Plantarum* 3.20.7–8)

It is therefore probable that such ideal regimes of cultivation reflect the practices of the rich and that less well-off farmers did not follow them closely, even though they may have aspired to them. Greek farmers were adept at managing to make the most of a wide range of soil types and conditions.

The tools of ancient farming were basic, as the passage of Theophrastos quoted above shows. Simple arid ploughs, appropriate for the shallow soils of the Mediterranean region, mattocks for digging (they did not have spades or shovels), sickles, axes and adzes, pruning knives, winnowing forks and baskets, and sometimes basic threshing sledges comprise virtually the entire repertoire (Figure 13.12). Very little metal was used in their manufacture, and even implements such as ploughs might be almost entirely made of wood. Though sickles were sometimes made of metal, the teeth could also be triangular flakes of obsidian (volcanic glass) set in a wooden haft—even stone tools still had their place (Figure 13.13). Transport and other motive power was supplied by cattle, donkeys and mules. Much of the agricultural machinery of



Figure 13.12 Farming tools and technology: (top) ploughing scene from a black figured Attic vase; (bottom) agricultural tools: mattock/hoe for digging and pruning knife. Kerameikos Museum, Athens.



Figure 13.13 Obsidian flake, probably from a sickle, found in a classical Greek farmhouse, Bova Marina, Calabria, Italy.

classical times, such as wine and oil presses, was simple and modular—assembled for the job in hand then taken apart so that the components could be used for other tasks (Figure 13.6c).

9 Crops and Choices: The Agricultural Year

The major crops of ancient Greece are often called the ‘Mediterranean trinity’: cereals, olives and vines, to which legumes and figs should be added. Cereals were the main staple crop, mostly processed as bread. Olives were probably eaten as table olives as much as they were pressed for oil—always a luxury product, and used for industrial purposes (in a petroleum-free world) as well as culinary ones. The vine was of course mostly used for wine, though table grapes were eaten too. Many other fruit trees, especially the fig, were important: figs produce far more calories per hectare than either cereals or olives. Almonds, quinces, apples, pears, walnuts, pomegranates and medlars were also commonly grown. Important leguminous crops were broad beans (fava beans), lentils, chickpeas, vetch and lathyrus pea (related to sweet peas and used for both fodder and human food). Garden vegetables included marrows, cucumbers, leeks, onions, garlic, and various leafy crops such as chicory and black nightshade (*Solanum nigrum*). However, many of the plants familiar in Mediterranean cooking today were unknown in classical times and were introduced from either the Near East (aubergine) or the Americas (tomato, sweet and chilli peppers, potato, and many types of beans).

The exploitation of a wide range of crops helped reduce risks for farmers since whatever the weather in any particular year, something was likely to do well and other things were likely to fare less well. Moreover, in a regime where farmers owned plots of land in different places, with different soils, aspects, altitudes, etc., farmers could choose crops and varieties (and there were many varieties of the major cultigens) which best suited specific situations.

Thucydides’ (2.1) choice to organize his history of the Peloponnesian War by summers and winters was not a capricious one, but reflects the rhythm of the agricultural year (Figure 13.14). Summer was a relatively slack season, when men had time for war, sailing, craft work, building and all the other jobs that were difficult to fit into the busiest times in the agricultural year, but also a time for rest and enjoyment of seasonal pleasures:

When the golden thistle is in flower and the noisy cicada sitting in the tree pours down its clear song thick and fast from under its wings in the fatiguing summer season, then goats are fattest and wine is best, women are most lustful, but men are weakest, because Sirios parches their head and knees, and their skin is dried out with the heat. Then you want rocky shade and wine from Byblos, barley bread made with milk and the goats’ last milk, and meat of a scrub-grazed heifer and of firstling kids. (Hesiod *Works and Days* 582–92)

The Greek agricultural year begins in the autumn:

When the keen sun’s strength stops scorching and sweltering, after mighty Zeus begins the autumn rain, and human skin feels the change with relief—for then the star Sirios

MODERN MONTH ATTIC MONTH	Sept-Oct <i>Boothrotion</i>	Oct-Nov <i>Pyanopsion</i>	Nov-Dec <i>Maimakterion</i>	Dec-Jan. <i>Poseideon</i>	Jan-Feb. <i>Gamelion</i>	Feb-Mar. <i>Anthesterion</i>	Mar-Apr. <i>Elaphebolion</i>	Apr-May <i>Mounichion</i>	May-June <i>Thargelion</i>	June-July <i>Sirophorion</i>	July-Aug. <i>Hekatombaion</i>	Aug-Sept. <i>Metagelthion</i>
AGRICULTURAL JOBS	manuring & field clearing	ploughing & sowing cereals & legumes trenching, manuring, pruning vines trenching, manuring, pruning other fruit trees: planting new trees			fallow ploughing	weeding cereals vine & tree digging and pruning		earthing up trees	cereal & winter legume harvest barley	fallow ploughing wheat threshing & crop processing for storage		
	vintage & pressing						grafting		earthing up tree & vine trenches fig fertilizing			fig harvest fresh
	fig harvest											fig harvest dried
	watering	olive picking & pressing (every other year) trenching, manuring, pruning olive trees trenching, manuring, pruning other fruit trees: planting new trees	lanting & kidding		lanting & kidding			watering young trees		watering young trees & vines		
FESTIVALS & RITUALS					sheep & goat milking & processing				milk & milk processing			
	Greater Mysteries 13-24 or so	5 - Proerosia announced at Eleusis 9-13 -Thesmophoria 9 Siania 10 Haimous 11 Athens (1) 12 Nesteia (2) 13 Kalligeneia (3) Apatouria 19-21 or 26-8	only 1 known Attic festival this month (Pompaea)	25/26 - Halica (Rural Dionysia)	12-15 - Lenalon	(Chicala) Lesser Mysteries (mid-month)	10-15/16 - City Dionysia	6 - procession to Delphinion	6 - Thargelion (Apollo)	12 - Skira 14 - Dipoleia		Eleusinia - exact date unknown between 28 Hek. & 6 Boe. 28 - Panathenaea

Figure 13.14 The Greek agricultural year. (The Attic calendar year begins with Hekatombaion.)

goes but briefly by day above the heads of men who are born to die, having a larger share of the night. (Hesiod *Works and Days* 414–19)

This is the busiest time of the agricultural cycle, when the demands of ploughing the fields and sowing cereals, legumes and other arable crops; pruning, digging around and planting fruit trees and vines; and harvesting and pressing olives put enormous pressure on farmers' time and labour resources. At this period, access to labour beyond the family, notably slaves, could be crucial for Greek farmers. Given the limited window for ploughing, a family working with one yoke of oxen probably could not have worked more than five to six hectares of land per year (Foxhall 2003: 83). Even the business of religion and city politics sometimes had to be swept aside—during the height of the Attic sowing season in the month of Maimakterion (November/December) there were no major religious festivals in Athens and few recorded meetings of the Assembly and Council (Mikalson 1975: 86). In midwinter, when it was too cold and wet for farming tasks, there was a short lull when jobs such as woodcutting could be done. By February, however, the weather was usually suitable for planting spring-sown crops and for any pruning that had not been finished before the onset of winter. Hand weeding the autumn-sown cereals was a high priority. This is also the season for the second ploughing. Later in the spring vines needed to be dug again when the weather warms up, to encourage growth—this is one of the most arduous tasks of the year. Spring is also the season when sheep and goats begin giving milk, as lambs and kids are born, so animal husbandry and cheese-making are important tasks. The cereal harvest begins in May and, depending on the type of grain and the location of the field, may run as late as early July. Threshing and processing the crops for storage is less frenetic, as the onset of summer generally guarantees dry and sunny weather. At this time comes the third ploughing (called the 'dusting' by Theophrastos), to kill weeds and conserve soil moisture, and earth is heaped up around the trunks of trees and vines to protect them from the summer sun. Late in July and through August come the fig harvest, which is not particularly hard work, followed by the exuberance of the vintage and winemaking in September, finished before the winter rains start again in October.

10 Arable Crops

Cereals and other arable crops were generally grown in a two-year rotation system: one year the field was sown with a crop and the next year nothing was grown and the land was left fallow. In temperate regions fallowing is used primarily to conserve and restore soil fertility, and to prevent the build-up of pests and diseases. In the drier parts of the Mediterranean, the main purpose of fallowing is to conserve soil moisture. Sometimes fallow land was ploughed so that weed growth did not consume soil moisture and the dry top levels of soil acted as a blanket to stop the loss of water by capillary action and evaporation. However, fallow land with weeds growing on it could also be an important resource for grazing.

The most important cereal in much of the Greek world was barley. It is tolerant of drought, salt and alkaline conditions, and though it is sensitive to cold this is not generally a problem in the southern Mediterranean. The drawbacks are that (1) most

types of barley grown in classical Greece had hulls which took considerable pounding to remove (although they protected the kernel from pests in storage) and (2) it makes truly terrible bread. Wheat was considered a much more desirable cereal by Greeks, because of its bread-making qualities, and several species were grown in classical antiquity. Because it does not produce as prolifically in less than optimal conditions, it was something of a 'luxury' cereal—perhaps not eaten as an everyday food by poorer people. One variety of wheat was spring sown, and was sometimes used as an emergency crop if the autumn rains had been inadequate. In damper areas millet (sown in the spring) was also grown, though it was not as important as wheat and barley. In addition to legumes (see above), other field crops regularly grown included sesame, fenugreek and, in damp areas with good soil, flax both for linseed and for rope and textiles.

For arable crops the field was ploughed and sown in the autumn, after the onset of the winter rains had sufficiently softened the ground. In Figure 13.12 (top), the sower is walking in front of the ploughman scattering the seed broadcast, while the plough breaks up the soil and covers it over. Cereals sown at higher altitudes and/or in warmer locations need up to two months more growing time than those planted at lower altitudes and/or in warmer locations. This is where the Greek habit of fragmenting plots could be advantageous: farmers could spread out the work of the busy sowing and harvest seasons by having plots in both cooler, wetter, higher places and warmer, drier, lower ones. This also incidentally spread the risks of crop failure: in dry years grain on damper plots grew better, while in wet years drier plots might produce more.

Important by-products of arable crops included chaff and straw which were used for animal fodder, and in the latter case also for stable bedding. Grain was normally harvested close to the ear, so the straw left in the field was generally quite long. This could be gathered separately, or it could have been used for grazing as stubble. The haulms (stalks) of leguminous crops also made nutritious fodder. Unsuccessful crops of cereals or legumes might be harvested early for fodder or hay, though sometimes crops such as vetch were grown specifically for hay. (Hay was never meadow grass, as was traditional in temperate Europe.)

11 Arboriculture

Although polycropping, growing trees with arable crops in between, has regularly been practised in the recent past in the Mediterranean, it may have been less common in classical antiquity, at least on the plots of wealthy farmers, because of the habit of trenching around trees, discussed above. Theophrastos certainly understood that repeated digging around trees throughout the year to direct water to the roots retained soil moisture and eliminated weed growth, improving the productivity of the tree. In consequence he did not generally recommend polycropping.

Digging benefits all [trees], since it removes the things which block and intercept the food supply and makes the earth itself damper and lighter. Moreover, air gets mixed in with the soil, as it must when the earth is turned up, and gives some moisture and so provides food. This is why one must dig even dry and waterless ground and turn it up

frequently (as said earlier). However, digging is also good for land that is marshy and has surface water. (Theophrastos *De Causis Plantarum* 3.10.1)

Indeed, plants also that are planted or sown as neighbours are all of them injurious for this reason, some actually destroying a tree, except where they serve a curative purpose, for example when people sow barley or some other dry plant among vine cuttings to reduce the moisture, or sow bitter vetch (*orobos*) among radishes (*raphaneis*) so that they are not devoured [by caterpillars], and the like. (Theophrastos *De Causis Plantarum* 3.10.3)

Olives, vines and figs, like most fruit trees, do not grow true to type from seed. The Greeks propagated them vegetatively using cuttings, ovules (growths at the bases of old olive trees) and grafting. Theophrastos (*De Causis Plantarum* 1.6.1–10) has a long and detailed discussion of grafting techniques, which farmers clearly used with considerable sophistication (Figure 13.15, top).

It is rightly recommended to keep the bud and bark from getting torn and to trim the inserted scion so that no core wood is exposed at the join. This is why people also first bandage the join with layers of lime bark, then plaster mud over it mixed with hair, to keep it moist and to prevent damage from sun, rain and cold. So too after slitting the stock and making the scion wedge-shaped, they drive it in with a mallet to make the fit as tight as possible. (Theophrastos *De Causis Plantarum* 1.6.7–8)

Sometimes farmers used the wild forms of olives, figs or pears as rootstock because they were so vigorous, and grafted choice domestic varieties onto them.

It is also reasonable that trees so grafted should bear finer fruit, especially when the scion is from a cultivated tree and the rootstock from a wild tree of the same bark, since the scion is better fed because the stock is strong (this is why it is recommended to plant the wild olives first and later graft them with cultivated buds or twigs). (Theophrastos *De Causis Plantarum* 1.6.10)

Of course, tree crops were cultivated primarily for their fruit. However, there were many important by-products of arboriculture. Branches pruned from olives, vines, almonds and other fruit trees were an important source of fodder for animals. When all the leaves had been eaten, the branches could then be cut and stored for fuel. Vine prunings in particular made excellent fuel for kilns and ovens. Fallen fruit (e.g., maggot-infested olives and figs) and almond husks were also important supplements for animals in late summer when grazing was scarce. The residue from the pressing of grapes made nutritious fodder, and the residue from olive pressing could be used for either fodder or fuel.

12 Garden Crops and Gardens

Despite their focus on urban life, Greeks loved plants and flowers, and grew them ornamentally in gardens (Figure 13.15). Unlike Roman or modern gardens, Greek gardens were not attached to houses, but were simply small, accessible plots of land,



Figure 13.15 Ancient Greek gardens: (top) detail of a krater by the Meidias Painter (British Museum, London E224), showing top-grafted tree; (bottom) women picking quinces, Attic red figured vase.

often situated along roads and surrounded by trees. They also differed from our gardens in that they contained mostly ‘economic’ plants, but grown in an ornamental way. Just as Greeks were partial to grid-planned towns and rural landscapes where this was possible, they also preferred grid-planned gardens: timber or fruit trees arranged in orderly rows, sometimes with vines or other climbing plants growing up them and flowers growing in between, protected by the shade from the burning summer sun. Flowers, such as roses, violets and lilies, also had economic uses, for perfume, garlands and flavouring.

Small garden plots were one of the few settings in which small-scale irrigation might have been possible, using a spring, well or cistern, perhaps in combination with

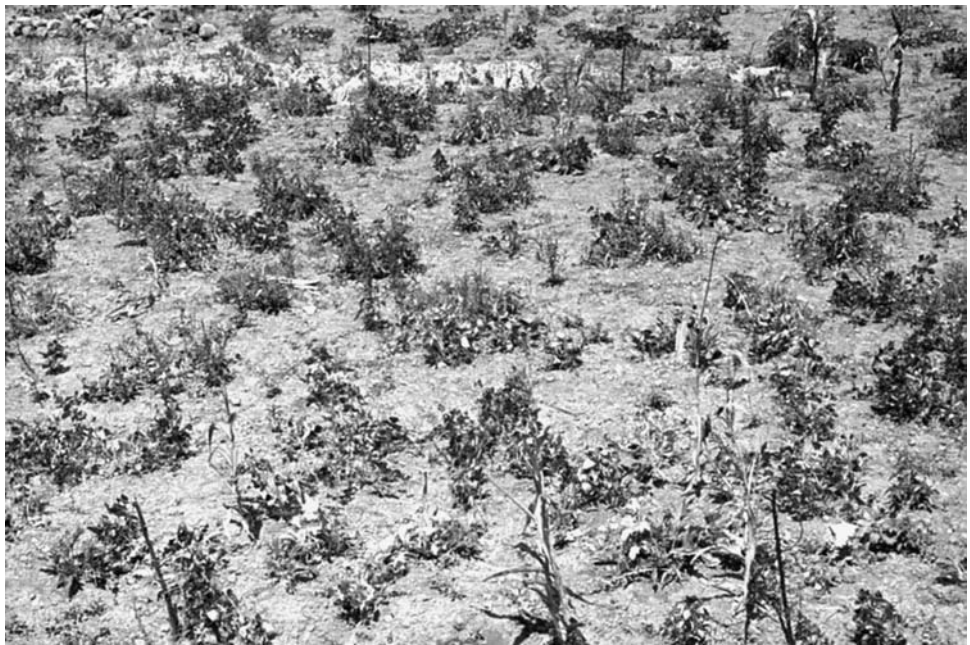


Figure 13.16 Dry garden (*xeriko bostani*) for summer vegetables in Methana in the 1980s.

some kind of water-lifting device, such as the shadufs mentioned in the ‘Attic Stelai’ above (Figure 13.3). This would have allowed the cultivation of cucumbers, flax, greens and other vegetable crops over the hot summer. However, judicious use of ploughed fallow on deep soils would allow the summer vegetables to exploit two years of rainfall, if planted far apart and constantly weeded (Figure 13.16). Theophrastos (*Historia Plantarum* 2.7.5; *De Causis Plantarum* 3.16.3, 4) describes the technique of ‘dusting’ dry-farmed summer vegetables, which seems to be similar to the dry gardens (*xerika bostania*) of modern Greek farmers.

13 Rivers, Springs and Water Management

Springs and wells, year-round sources of water, were always a precious resource in the Mediterranean, for humans and animals alike. In most parts of Greece and southern Italy rivers are seasonal, ranging from raging torrents in winter to dry beds used as roads in the summer. This is almost certainly the problem in Demosthenes 55, a speech from a fourth-century Athenian court case in which the speaker has been accused of obstructing a dry riverbed with a wall so that it flooded the field of his neighbour in winter:

For the space between my property and theirs is a road, and as a hilly country encircles them, unluckily for the farms, the water that flows down runs, as it happens, partly into the road, and partly on to the fields. And in particular, that which pours into the road, whenever it has free course, flows down along the road, but when there is any stoppage,

then it of necessity overflows upon the fields. Now this particular piece of land, as it happened, was inundated after a heavy downpour had occurred. As a result of neglect, when my father was not yet in possession of the land, but a man held it who utterly disliked the neighbourhood, and preferred to live in the city, the water overflowed two or three times, wrought damage to the land, and was more and more making itself a path. For this reason my father, when he saw it (so I am informed by those acquainted with the circumstances), inasmuch as the neighbours also began to encroach upon the property and walk across it, built around it this enclosing wall. (Demosthenes 55.10–11)

Even the mighty Eurotas of Lakonia shrinks to a sluggish stream lurking in the reed beds around the sanctuary of Artemis Orthia in high summer. In some areas it is possible to slow down the flow of water in winter so that more sinks into the ground. Riverbeds may even then be used as plots for cultivation, though these are exposed to the risk of summertime flash floods. In areas where there were few permanent springs and wells, such as Methana, the inhabitants depended upon cisterns to collect rainfall in winter, often exploiting the runoff from tiled roofs. It is not surprising that springs may become sacred places, as in the case of the Pantenello spring at Metapontion. Equally understandable is the way in which rights of access to water may become a matter of contention.

14 Pastoralism

The role of livestock in Greek farming regimes has been much debated (Skydsgaard 1988; Hodkinson 1988; Forbes 1995). Certainly it is clear that the keeping of animals was closely integrated with other agricultural activities, and as noted above, animals exploited resources which humans could not otherwise use directly, such as plant growth on fallow and uncultivated land and agricultural by-products. The evidence is scanty for specialized transhumance, that is the movement of flocks seasonally from one environmental and/or climatic zone to another, and some scholars (Hodkinson 1988: 51–8) thus think that it was not widely practised. Certainly the kinds of long-distance transhumance routes found in later periods in some parts of the Mediterranean world seem inherently unlikely given the territoriality of classical Greek poleis, and the relatively constrained sizes of their territories (Hodkinson 1988: 53). In areas where borders were relatively clear-cut shepherds would have been unlikely to graze animals or walk them through land that was not deemed to be part of their own polis. On the other hand, there are indications that the movement of flocks over short distances from winter lowland grazing to upland summer grazing was regularly practised, as suggested in the discussion of the Vari House (see above). From the Temple of Athena Alea, located in the mountains of the central Peloponnese near Tegea, an early fourth-century inscription (*IG* 5 2) lays out the regulations for grazing livestock on both the land owned by the sanctuary and land within the sacred precinct. Certain officials of the temple are allowed grazing rights for restricted numbers of animals. However, there also seems to be provision for people who are not citizens of Tegea to stop overnight at the sanctuary with their flocks while moving animals from one area to another. This could imply that the sanctuary was located on a well-established transhumance route in the broken upland landscapes of Arkadia.

In [the sanctuary of Athena] Alea there is to be no grazing [of animals] by either foreigners or citizens unless they are coming for a feast, but for foreigners leading down [flocks?] it is permitted to graze the animals for a day and a night, and if they should graze for longer they will owe a drachma per sheep for each day more, and their right of grazing will be revoked. (IG 5 2.11–15)

Similarly in Sophokles' tragedy *Oidipous the King*, the secret of Oidipous' (Oedipus) adoption is revealed by an old shepherd who explains how he met a fellow shepherd from the territory of an adjoining city when both were grazing their sheep (presumably in summer) up in the mountains in the no-man's-land between the two poleis (Sophokles *Oedipus Tyrannus* 1026–50; 1121–40).

I am sure he knows well of the time we dwelled in the region of Kithairon for six month periods, from spring to Arktouros he with two flocks, and I, his comrade, with one. And then for the winter I used to drive my flock to my own fold, and he took his to the fold of Laios. Did any of this happen as I tell it, or did it not? (Sophokles *Oedipus Tyrannus* 1134–40)

The animals most commonly kept were sheep and goats, well adapted as they are to the rugged landscapes and the harsh, dry conditions. Flocks were probably relatively small—generally 50 animals or fewer—because of high mortality rates from disease and parasites in the absence of modern veterinary medicine. They were versatile and were exploited for wool, milk and meat, though it is clear that a number of specific breeds were recognized. Contrary to popular belief, goats are much fussier eaters than sheep, but both can survive on rough Mediterranean grazing when desperate in the dearth of midsummer, even consuming desiccated, prickly thistles. Nonetheless, they must have considerable amounts of water to survive.

Cattle were important as traction and transport animals, but are more difficult to maintain in the drier parts of the Mediterranean as they need good-quality grazing and/or browsing as well as very large amounts of water, far greater than the quantities needed by sheep and goats. Beef was a luxury as only small numbers of cattle were kept, except in localities where appropriate resources were available, such as marsh lands. Pigs were useful in areas of upland forests, as they could be left to forage for acorns, beech mast, arbutus and cornel fruits and a wide range of other foods. Sows and piglets could be kept in pens, but boars may have been too wild and dangerous to keep as domestic animals. Chickens arrived in Greece from the Near East in the eighth century and were ubiquitous by classical times.

15 Exploiting Uncultivated Landscapes

Greeks often represent the wild landscape as a scary place, far from civilized life in the city and, unlike cultivated fields, untamed by men. It is a place inhabited by wild powers, such as the god Dionysos and his followers, the maenads and satyrs, who, through the power of wine and the sacred mysteries of the god, overcome the normal rules of social behaviour:

O Thebes nurse of Semele crown yourself with ivy, flourish, flourish with the verdant smilax bearing sweet fruit, and crown yourself in honour of Bacchos with branches of oak

or pine. Adorn your garments of spotted fawn-skin with fleeces of white sheep, and sport in holy games with outrageous thyrsos. At once all the earth will dance—whoever leads the sacred band is Bromios—to the mountain, to the mountain, where the crowd of women waits, goaded away from their weaving by Dionysos. (Euripides *Bacchae* 105–19)

Ivy, smilax (*Smilax aspera*), oak and pine are all plants characteristic of wild mountain landscapes. The characters who inhabited it were as wild as the plants who grew there. Aristophanes portrayed the charcoal burners from the uplands of Acharnai as ‘some old men from Acharnai, tough old folk, dense as prickly oak, unyielding Marathon fighters, men of maple’ (Aristophanes *Acharnians* 179–81). Generally, shepherds, resin tappers, charcoal burners and others who worked in the wild were slaves or other low-status workers. Nonetheless, the resources of wild landscapes were important ones. As discussed above, forest, maquis and garrigue were important areas for grazing animals. Trees and shrubs provided timber and fuel (both wood and charcoal, Figure 13.17). In the well-known, and undoubtedly exaggerated, account of Phainippos’ property in Attika (Demosthenes 42.7) the speaker suggests that 6 donkey-loads of brushwood per day were being transported away for sale. As donkey-load was about 50 kg, this make roughly 300 kg per day.

A wide range of other resources, too, came from the wild. Many plants useful for basketry, dying, medical and culinary uses were gathered. Birds and animals were hunted and trapped. However, the most important product was probably resin, tapped from pine trees (Figure 13.18) and a crucial product in ship building and other industries.



Figure 13.17 Charcoal burner, southern Argolid.



Figure 13.18 Resin tapping, Methana.

16 Conclusions: Landscapes of Greek Culture

Although the Greeks saw themselves as city folk, they were dependent on the rural hinterland of the polis for their livelihood. To those of us who are modern visitors from temperate zones, the Mediterranean may appear dry and poor, but in reality the cities of the Greeks were set in rich and variegated landscapes. For the most part the territories of Greek poleis were more than capable of supporting their people despite the vagaries of the weather and the hazards associated with semi-arid farming regimes.

For Greeks, taming the landscape was the first step towards civilization: the Athenians claimed cultural superiority over other Greeks because, according to the myth of Eleusis and the Eleusinian Mysteries, they had served as the intermediaries through whom Demeter had bestowed on humans the divine gifts of cultivating cereals and enacting her mysteries.

And rich-crowned Demeter did not refuse but straightway made fruit to spring up from the rich lands, so that the whole wide earth was laden with leaves and flowers. Then she went, and to the kings who deal justice, Triptolemos and Diokles, the horse-driver, and to doughty Eumolpos and Keleus, leader of the people, she showed the conduct of her rites and taught them all her mysteries, to Triptolemos and Polyxeinos and Diokles also, awful mysteries which no one may in any way transgress or pry into or utter, for deep awe of the gods checks the voice. (*Homeric Hymn to Demeter* 2.470–9)

The Greeks saw themselves as human masters of the natural world around them, and exploited their landscapes, especially the lowlands, intensively. However, it is unlikely that that we can hold them to blame for any significant long-term damage to the Mediterranean lands they occupied. The city-states of the Greek world were small, and the technology by which they worked their lands had comparatively little impact, in contrast to the large-scale environmental changes wrought by later societies, most of all our own.

Further reading

- Grove, A. T., & O. Rackham (2003) *The nature of Mediterranean Europe: an ecological history* (New Haven: Yale University Press) (2nd printing, with corrections)—provides the best, as well as the most amusing, readable and reliable, introduction to the study of Mediterranean environments and ecology, ancient and modern
- Horden, P., & N. Purcell (2000) *The corrupting sea: a study of Mediterranean history* (Oxford: Blackwell)—a comprehensive and quite breathtaking work covering many aspects of the interaction of human and ‘natural’, environmental factors which shaped the Mediterranean world over the long term. Packed with brilliant ideas and useful information, but not always easy to read

Ancient Greek agriculture and countrysides

- Isager, S., & J. E. Skydsgaard (1992) *Ancient Greek agriculture: an introduction* (London: Routledge)—an excellent introduction, mostly based on written sources
- Osborne, R. (1987) *Classical landscape with figures: the ancient Greek city and its countryside* (London: George Philip)—also remains excellent and useful, and incorporates more archaeological evidence

Useful collections of papers on Greek countrysides include:

- Doukellis, P. N., & L. G. Mendoni (1994) Structures rurales et sociétés antiques: actes du colloque de Corfou, 14–16 mai 1992 (Paris: Belles Lettres) (Annales littéraires de l’Université de Besançon = 508 Centre de recherches d’histoire ancienne 126)—many papers are in English
- Shipley, G., & J. Salmon (eds) (1996) *Human landscapes in classical antiquity: environment and culture* (London: Routledge)
- Wells, B. (ed.) (1992) *Agriculture in ancient Greece: proceedings of the seventh international symposium at the Swedish Institute at Athens, 16–17 may, 1990* (Stockholm: Åström) (Acta Instituti Atheniensis Regni Sueciae ser. in 4° 42)

‘Farm houses’

The only two fully published ‘farm houses’ remain:

- Jones, J. E., L. H. Sackett, A. J. Graham (1962) ‘The Dema house in Attica’ in: *Annual of the British School at Athens* 57: 75–114
- Jones, J. E., A. J. Graham, L. H. Sackett (1973) ‘An Attic country house below the cave of Pan at Vari’ in: *Annual of the British School at Athens* 68: 355–452

Recent archaeological surveys

Useful reports of regional archaeological surveys, which provide primary data about Greek countrysides, include:

- Bintliff, J., P. Howard, A. Snodgrass (eds) (2004) *The Boeotia project*, vol. 1: *The Thespieae south and Leondari south-east sector* (Cambridge) (Monograph Series of the MacDonald Institute, Archaeology Department of Cambridge University)
- Cavanagh, W., J. Crouwel, R. W. V. Catling, G. Shipley (1996) *Continuity and change in a Greek rural landscape: the Laconia survey*, vol. 2: *Archaeological data* (London: British School at Athens) (*Annual of the British School at Athens* Suppl. 27)
- Cavanagh, W., J. Crouwel, R. W. V. Catling, G. Shipley (2002) *Continuity and change in a Greek rural landscape: the Laconia survey*, vol. 1: *Methodology and interpretation* (London: British School at Athens) (*Annual of the British School at Athens* Suppl. 26)
- Cherry, J. F., J. L. Davis, E. Mantzourani (eds) (1991) *Landscape archaeology as long-term history: northern Keos in the Cycladic islands* (Los Angeles: UCLA Institute of Archaeology) (Monumenta Archaeologica 16)
- Jameson, M. H., C. N. Runnels, T. H. van Andel (1994) *A Greek countryside: the southern Argolid from prehistory to the present day* (Stanford: Stanford University Press)
- Lohmann, H. (1993) *Atene: Forschungen zur Siedlungs- und Wirtschaftsstruktur des klassischen Attika*, 2 vols (Cologne: Böhlau)
- Mee, C. B., & H. A. Forbes (eds) (1996) *A rough and rocky place: settlement and land use in the peninsula of Methana, Greece; results of the Methana Survey Project sponsored by the British School at Athens and the University of Liverpool* (Liverpool: Liverpool University Press) (Liverpool Monographs in Ancient and Oriental Studies)
- 'The Pylos Regional Archaeological Project: Internet Edition', access: <http://classics.uc.edu/prap/>
- Runnels, C. N., D. J. Pullen, S. Langdon (eds) (1995) *Artifact and assemblage: the finds from a regional survey of the southern Argolid, Greece*, vol. 1: *The prehistoric and early Iron Age pottery and lithic artefacts* (Stanford CA: Stanford University Press)
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- Bintliff, J. S., C. Farinetti, P. Howard, K. Sarri, K. Sbonias (2002) 'Classical farms, hidden prehistoric landscapes and Greek rural society: a response and an update' in: *JMA* 15.2: 259–65

- Bintliff, J., P. Howard, A. Snodgrass (eds) (2004) *The Boeotia project*, vol. 1: *The Thespieae south and Leondari south-east sector* (Cambridge: Cambridge University Press) (Monograph Series of the MacDonald Institute, Archaeology Department of Cambridge University)
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- Forbes, H. (1995) 'The identification of pastoralist sites within the context of estate-based agriculture in ancient Greece: beyond the "transhumance versus agro-pastoralism" debate' in: *Annual of the British School at Athens* 90: 325–38
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- Hanson, V. D. (1999) *The other Greeks: the family farm and the agrarian roots of western civilization* (Berkeley: University of California Press ²1999)
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- Whittaker, C. R. (ed.) (1988) *Pastoral economies in classical antiquity* (Cambridge: Cambridge Philological Society) 35–74 (*PCPhS* Suppl. 14)

Appendix to further reading

The following important works appeared too late for the author to incorporate their results into the text of this chapter:

Morris S.P., & J. K. Papadopoulos (2005) 'Greek towers and slaves: an archaeology of exploitation' in: *American Journal of Archaeology* 109: 155–225 – An extremely useful survey of work on 'farmhouse' sites, with excellent bibliography. It focuses on those with towers and their potential range of functions, especially their possible association with the use of slave labour.

Price, S., & L. Nixon (2005) 'Ancient Greek agricultural terraces: evidence from texts and archaeological survey' in: *American Journal of Archaeology* 109: 665–94 – An excellent survey, with a full and useful bibliography, of the evidence for pre-modern terracing in Greece. The article documents many good examples of post-classical but pre-modern terracing (only the excavated examples from Delos are securely dated to classical/Hellenistic times). The appendix of ancient literary references to possible field walls and terraces is exceptionally helpful.