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0521375851 - Famine and Food Supply in the Graeco-Roman World: Responses to Risk and Crisis

Peter Garnsey

Excerpt

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PART I
THE INCIDENCE AND
SEVERITY
OF FOOD CRISIS

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1

FAMINE AND SHORTAGE

FAMINE AT EDESSA¹

The Chronicle of Ps.–Joshua the Stylite, Chapter 38. The year 811 [AD 499–500]. In the month of Adar [March] of this year the locusts came upon us out of the ground, so that, because of their number, we imagined that not only had the eggs that were in the ground been hatched to our harm, but that the very air was vomiting them against us, and that they were descending from the sky upon us. When they were only able to crawl, they devoured and consumed all the Arab territory and all that of Rasain and Tella and Edessa. But after they were able to fly, the stretch of their radii was from the border of Assyria to the Western sea [the Mediterranean] and they went northwards as far as the boundary of the Ortaie. They ate up and desolated these districts and utterly consumed everything that was in them . . . Presently, in the month of Nisan [April], there began to be a dearth of grain and of everything else, and four modii of wheat were sold for a dinar. In the months of Khaziran [June] and Tammuz [July] the inhabitants of these districts were reduced to all sorts of shifts to live. They sowed millet for their own use, but it was not enough for them, because it did not thrive. Before the year came to an end, misery from hunger had reduced the people to beggary, so that they sold their property for half its worth, horses and oxen and sheep and pigs. And because the locusts had devoured all the crop, and left neither pasture nor food for man or beast, many forsook their native places and removed to other districts of the north and west. And the sick who were in the villages, as well as the old men and boys and women and infants, and those who were tortured by hunger, being unable to walk far and go to distant places, entered into the cities to get a livelihood by begging; and thus many villages and hamlets were left destitute of inhabitants. They did not however escape punishment . . .; for the pestilence came upon them in the places to which they went, and even overtook those who entered into Edessa; about which I shall tell presently to the best of my ability, though no one, I think, could describe it as it really was.

Chapter 39. Now, however, I am going to write to you about the dearth, as you asked me . . . Wheat was sold at this time at the rate of four modii for a dinar and barley at six modii. Chickpeas were five hundred numia a kab; beans, four hundred numia a kab; and lentils, three hundred and sixty numia a kab; but meat was not as

¹ W. Wright, *The Chronicle of Joshua the Stylite* (Cambridge, 1882).

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yet dear. As time went on, however, the dearth became greater, and the pain of hunger afflicted the people more and more. Everything that was not edible was cheap, such as clothes and household utensils and furniture, for these things were sold for a half or a third of their value, and did not suffice for the maintenance of their owners, because of the great dearth of bread. At this time our father Mar Peter set out to visit the emperor in order to request him to remit the tax. The governor, however, laid hold of the landed proprietors, and used great violence on them and extorted it from them, so that, before the bishop could persuade the emperor, the governor had sent the money to the capital. When the emperor saw that the money had arrived, he did not like to remit it; but in order not to send our father away empty, he remitted two folles to the villagers . . . whilst he freed the citizens from the obligation of drawing water for the Greek soldiery.

Chapter 40. The governor himself too set out to visit the emperor, girt with his sword, and left Eusebius to hold his post and govern the city. When this Eusebius saw that the bakers were not sufficient to make bread for the market, because of the multitude of country people, of whom the city was full, and because of the poor who had no bread in their houses, he gave an order that everyone who chose might make bread and sell it in the market. And there came Jewish women, to whom he gave wheat from the public granary, and they made bread for the market. But even so, the poor were in straits, because they had not money wherewith to buy bread; and they wandered about the streets and porticoes and courtyards to beg a morsel of bread, but there was no one in whose house bread was in superfluity. And when one of them had begged [a few] pence, but was unable to buy bread therewith, he used to purchase therewith a turnip or a cabbage or a mallow and eat it raw. And for this reason there was a scarcity of vegetables, and a lack of everything in the city and villages, so that the people actually dared to enter the holy places and for sheer hunger to eat the consecrated bread as if it had been common bread. Others cut pieces off corpses, that ought not to be eaten, and cooked and ate them . . .

Chapter 41. The year 812 [AD 500–1]. In this year, after the vintage, wine was sold at the rate of six measures for a dinar, and a kab of raisins for three hundred numia. The famine was sore in the villages and in the city; for those who were left in the villages were eating bitter-vetches; and others were frying the withered fallen grapes and eating them, though even of them there was not enough to satisfy them. And those who were in the city were wandering about the streets, picking up the stalks and leaves of vegetables, all filthy with mud, and eating them. They were sleeping in the porticoes and streets, and wailing by night and day from the pangs of hunger; and their bodies wasted away, and they were in a sad plight, and became like jackals because of the leanness of their bodies. The whole city was full of them, and they began to die in the porticoes and in the streets.

Chapter 42. After the governor Demosthenes had gone up to the emperor, he informed him of this calamity; and the emperor gave him no small sum of money to distribute among the poor. And when he came back from his presence to Edessa, he sealed many of them on their necks with leaden seals, and gave each of them a pound of bread a day. Still, however, they were not able to live, because they were tortured by the pangs of hunger, which wasted them away. The pestilence became worse about this time, namely the month of the latter Teshri [November]; and still

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more in the month of the first Kanun [December], when there began to be frost and ice, because they were passing the nights in the porticoes and streets, and the sleep of death came upon them during their natural sleep. Children and babes were crying in every street. Of some the mothers were dead; others their mothers had left, and had run away from them when they asked for something to eat, because they had nothing to give them. Dead bodies were lying exposed in every street, and the citizens were not able to bury them, because, while they were carrying out the first that had died, the moment they returned they found others. By the care of Mar Nonnus, the lodging house keeper, the brethren used afterwards to go about the city, and to collect these dead bodies . . . The stewards of the [Great] Church, the priest Mar Tewath-il and Mar Stratonicus . . . established an infirmary among the buildings attached to the [Great] Church of Edessa. Those who were very ill used to go and lie down there; and many dead bodies were found in the infirmary, which they buried along with those at the lodging house.

Chapter 43. The governor blocked up the gates of the colonnades attached to the winter bath, and laid down in it straw and mats, and they used to sleep there, but it was not sufficient for them. When the grandees of the city saw this, they too established infirmaries, and many went in and found shelter in them. The Greek soldiers too set up places in which the sick slept, and charged themselves with their expenses. They died by a painful and melancholy death; and though many of them were buried every day, the number still went on increasing. For a report had gone forth throughout the province of Edessa, that the Edessenes took good care of those who were in want; and for this reason a countless multitude of people entered the city. The bath too that was under the Church of the Apostles beside the Great Gate was full of sick, and many dead bodies were carried forth from it every day . . . And when the graves of the lodging house and the Church were full, the governor went forth and opened the old graves that were beside the Church of Mar Knoa, which had been constructed by the ancients with great pains, and they filled them. Then they opened others, and they were not sufficient for them; and at last they opened any old grave, no matter what, and filled it. For more than a hundred bodies were carried out every day from the lodging house and many a day a hundred and twenty, and up to a hundred and thirty, from the beginning of the latter Teshri [November] till the end of Adar [March] . . . In the month of Shebat [February] too the dearth was very great, and the pestilence increased. Wheat was sold at the rate of thirteen kabs for a dinar, and barley eighteen kabs. A pound of meat was a hundred numia, and a pound of fowl three hundred numia, and an egg forty numia. In short there was a dearth of everything edible.

Chapter 44. There were public prayers in the month of Adar [March] on account of the pestilence, that it might be restrained from the strangers . . . In the month of Nisan [April] the pestilence began among the people of the city and many biers were carried out in one day, but no one could tell their number. And not only in Edessa was this sword of the pestilence, but also from Antioch as far as Nisibis the people were destroyed and tortured in the same way by famine and pestilence. Many of the rich died, but not of hunger; and many of the grandees too died in this year. In the months of Khaziran [June] and Tammuz [July], after the harvest, we thought that we might now be relieved from dearth. However our expectations were

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not fulfilled as we thought, but the wheat of the new harvest was sold as dear as five modii for a dinar.

Chapter 45. The year 813 [AD 501–2]. After these afflictions of locusts and famine and pestilence about which I have written to you, a little respite was granted us by the mercy of God.

Were scenes such as those witnessed by Ps.-Joshua the Stylite a regular feature of ancient Mediterranean society, urban or rural? How frequent was famine? Ps.-Joshua and the abbot Sergius who commissioned the *Chronicle* both appear to have regarded the famine at Edessa as a singular event. The plague of locusts of the year preceding and the disappointing wheat crop of the year that followed are treated as minor disorders, and can be taken as more representative.

A brief working definition of famine might run as follows:

Famine is a critical shortage of essential foodstuffs leading through hunger to starvation and a substantially increased mortality rate in a community or region.

Famine is to be distinguished from shortage, a milder form of subsistence crisis, defined as:

A short-term reduction in the amount of available foodstuffs, as indicated by rising prices, popular discontent, hunger, in the worst cases bordering on starvation.

Food crises are not always serious. Famine is a catastrophe. It is a categorical error, committed frequently in the literature, to describe every food crisis as a famine.

The boundary between famine and shortage is indistinct. An authority on modern famine has written: 'Criteria do not exist to measure the degree of hunger, emaciation or elevation of death rate serving to differentiate famine from shortage.'² In view of this judgement, it would be idle for students of antiquity to imagine that they can employ the famine/shortage distinction with a high level of precision. In the long run, however, the idea of a spectrum or continuum of food crises holds out more promise than the famine/shortage dichotomy. Each food crisis occupies a place on a continuum leading from mild shortage to disastrous famine.

The proposition for which I will argue is that famines were rare, but that subsistence crises falling short of famine were common. The undertaking is ambitious. It involves making both quantitative and qualitative judgements on the basis of evidence that on the face of it is deficient. How is the question 'how many' to be answered when there is no prospect of compiling anything approaching a comprehensive list of subsistence crises? How can we say 'of what kind' recorded crises were,

² Bennett (1968). On defining famine, see e.g. Sen (1981), 39–40; Dando (1980), 57ff.

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how can they be located on the famine/shortage continuum, given that there is no 'famine narrative' from antiquity which can rival the *Chronicle* of Ps.-Joshua in length and detail? Are we condemned therefore to produce a mere catalogue of attested food crises which never rises above the level of description?³

³ See now Garnsey (1992).

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2

THE FREQUENCY OF FOOD CRISIS

PROXY-DATA

Historians of all periods before the recent past have uniformly lacked both long series of data on harvest-size in the case of staple crops, and direct quantitative data on climate, the main factor affecting agricultural performance. However, ingenious use has been made of food prices and real wages as indices of shortage or abundance, and of wine yields, harvest dates and tree rings as pointers to climatic fluctuations. Ancient historians have been unable to turn to such substitute data, though the work of dendroclimatologists will before long significantly advance our knowledge of the climate of antiquity.¹

However, the broad pattern of food crisis in antiquity can be recovered if such ancient evidence as exists for food crisis is combined with modern data on climate and agricultural yield. The latter data can be used as substitute or proxy-data in the absence of detailed records of climate for any period of history which experienced substantially similar climatic conditions.

Classical antiquity is generally thought to have been one such time.² This supposition receives some general support from the literary sources, which present quite unsystematically a picture of a recognisably 'Mediterranean' climate, and from scientific analyses of glacier and tree-line fluctuations and pollen deposits. It is true that scholars have disagreed about the precise pattern of secular climatic change.

¹ Appleby (1979); Schofield (1985); Bryson and Padoch (1980); Pfister (1980); Le Roy Ladurie and Baulant (1980). For dendroclimatological studies in progress, see Kuniholm and Striker (1983). The methodology outlined below (cf. Garnsey, Gallant and Rathbone (1984)) is being developed in the context of a study of the agroclimatology of the Mediterranean by P. Garnsey and T. Gallant (in progress). (Tables 1–3 were produced by T. Gallant on the basis of data collected for this study.) Climatic matters that receive only brief discussion here will be treated in detail in that work.

² See e.g. Wagstaff (1981); Wagstaff and Gamble, in Renfrew and Wagstaff (1982), 95ff.; Denton and Karlen (1973); Greig and Turner (1974); Vita-Finzi (1969) with Bintliff (1982). General studies of Mediterranean geography include Semple (1932); Walker (1962); Birot and Dresch (1964); Smith (1979).

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But if one's interest is in conjuring up the day-to-day, year-to-year conditions of agricultural production largely at a subsistence level, these matters are of less significance than two other points about the ancient climate which are suggested by the modern meteorological data: regional diversity and interannual variability.

First, the climate of the Mediterranean is (and has always been) exceptionally diverse from region to region, a point not lost on Aristotle:

Sometimes it happens that droughts or rain occur over a large area, sometimes over a part; often the country as a whole receives the seasonal rains or more, while in some sections of the area there is drought; sometimes it is the opposite, and the area generally has either slight rainfall or even conditions of drought, while in a given section the share of water is abundant.³

A cursory glance at rainfall and temperature charts reveals that the so-called 'typical' Mediterranean climate (briefly, winter rain and mild temperatures followed by summer heat and drought) is not enjoyed uniformly throughout the region. In fact, the mosaic of rainfall distribution is too complicated to be captured by a regular rainfall map. Sudden and frequent variations in vegetation, from humid to arid, are a striking feature of islands and peninsulas, reflecting a complex precipitation pattern as well as the physical properties of the soil, altitude and other microenvironmental factors. Classifications such as that of Le Houérou identifying no fewer than 64 climatic sub-types in the Mediterranean basin as a whole make no allowance for the occurrence of countless microclimates in circumscribed locations.

Secondly, a high level of interannual variability of climate has been a constant feature of the Mediterranean region since the Great Ice Age, even if the precise shape it has taken has differed from period to period. In particular, rainfall is very erratic, unevenly distributed between seasons, and often in short supply, especially in the southern and eastern sectors of the Mediterranean. Therefore harvest fluctuations are and were regular and crop failures inevitable, though not precisely predictable, throughout the region. As Rabbi Eleazar b. Perata, who flourished in the first half of the second century AD, wrote:

From the day the Temple was destroyed the rains have become irregular in the world. There is a year which has abundant rains, and there is a year with but little rain. There is a year in which the rains come down in their proper season and a

³ Aristotle, *Meteorol.*, 2.4; Le Houérou (1977); cf. Brichambaut and Wallen (1963) (12 main climatic regions in the Near East). For the olive as marker of different climatic zones, see Walker (1962), 38ff.

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year in which they come out of season . . . In the period of the Second Temple the rains came on time and as a result the crops were of far better quality.⁴

Crop failure is neither a sufficient nor a necessary condition of food crisis, but it does underlie many such crises. For the most part a crop fails because of insufficient or excessive rainfall at the critical period of plant growth. In the Mediterranean the growth period comprises the months from October to May. Figures on the probability of crop failure in a given area can be arrived at through the analysis of rainfall statistics for the crucial months in the light of scientifically determined plant thresholds: these are, approximately, 300 mm for wheat and 200–250 mm for barley.⁵

The points for and against the use of modern data as a guide to past conditions are obvious. The quality of the data that can be assembled for climate and yield is clearly superior to anything that can be arrived at by indirect means. On the other hand, the data can be employed only to construct a model of climate, climatic and harvest variability, and no model can precisely reproduce reality.

Case-studies

To illustrate the way in which the data can be utilised for our purposes I choose Attica (that is, the homeland of Athens), Odessa on the northern Black Sea coast, Thessaly and Samos. Athens notoriously was a net importer of cereals from the fifth century BC (many would say from the early sixth century). The northern Black Sea region and Thessaly are normally regarded as net exporters. Samos was probably more typical of Greek cities in veering between a 'normal' modest surplus and sporadic shortfall.

An analysis of precipitation from October to May in Attica (1931–60) produces the following results. The percentage probability of a failure of the wheat crop was 28%, of the barley crop 5.5%; that is, wheat failed more than 1 year in 4, barley about 1 year in 20. (The probability of a failure of dry legumes was 71%, which gives a failure rate of almost 3 years in 4.)

If conditions prevailing in antiquity were in general comparable (the precise figures are not transferable), then we can see that there is no question but that the staple crops in Attica must have been very vulnerable. How frequently Athenians suffered from shortages as

⁴ *Bavli Taanit* 19b; see the English translation in Epstein (1938), 96. Mariolopoulos (1962); Wigley and Farmer (1982); Gallant (1982a), ch. 1.

⁵ Plant moisture thresholds: Arnon (1972), II, 4, 74. The threshold for dry legumes is 350–400 mm.

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distinct from crop failure would have depended upon their ability to bring in, store and distribute the foodstuffs which they required, and their willingness to eat barley, the cereal which grew best in Attica. To answer these questions it would be necessary to fall back on the ancient evidence for Athenian political history, foreign relations, food supply and diet.

As it happens, the internal history of Athens is reasonably well documented. The same cannot be said of Thessaly and the Greek colonial territory on the northern Black Sea coast. Both are usually seen as grain-exporters, unlike Athens, though there is sporadic inscriptional evidence for food crisis.

If the modern climate data for Thessaly can serve as a guide to the situation in antiquity, the likelihood of a failure or severe reduction in the harvest was actually marginally less in Attica than in the plain of Larisa, the area of Thessaly best suited in most respects to cereal production. The wheat crop will fail as in Attica more than 1 year in 4 and the barley crop 1 year in 10. (Dry legumes will fail slightly less often than in Attica, more than 4 years in 10.) Moreover, yields tend to co-vary across Thessaly; that is to say, the major crops tend to fail, and succeed, together (see Table 1). This means that in times of drought the Thessalians had to go a considerable distance for supplies, while in a good year they had at their disposal a sizeable surplus for extra-regional exchange. In perhaps 328 BC Larisa received from Cyrene the equivalent of 75,000 Attic medimnoi (around 39,375 hl) of wheat; about two centuries later, the whole of Thessaly sent 80,625 Attic medimnoi (around 42,325 hl) of wheat to Rome late in the year.⁶

The next example is indirectly relevant to Athens. The modern city of Odessa lies in the north of the Black Sea region, in an area colonised by the Greeks in the archaic age. Callatis, Tomis, Tyras, Olbia and the cities of the Tauric Chersonese lie in this region and enjoy a similar climate. The data show that in 46 out of 100 years in modern times the wheat crop will have been seriously deficient. In other words, almost every other year Odessa and the surrounding region has needed to import wheat or draw on stocks held over from a recent good season. If local inhabitants were prepared to accept a substitute for wheat, they could in principle have fallen back on foods made from barley or another relatively drought- or frost-resistant grain. Barley will have failed only 15–16 years in 100 – that is, once every 6–7 years. These figures suggest that if the Greek cities did export large quanti-

⁶ *SEG* ix 2+ = Tod II 196; Garnsey, Gallant and Rathbone (1984).