

Managing the Roman Empire for the Long Term: Risk Assessment and Management Policy in the Fifth to Seventh Centuries



John Haldon, Hugh Elton, and Adam Izdebski

Abstract This chapter analyses the reasons for the survival of the eastern Roman state from three different but complementary angles: imperial administration, the environmental conditions impacting land-use for the period, and the ability of the state to leverage resources. We conclude that a major contributory factor in survival was the effective use of natural resources and a self-reinforcing social-ecological system through which the state and its elites and infrastructure facilitated the survival of landscapes, generating the resources necessary for the state's continued existence. In areas where this broke down—as in the western part of the empire—the Roman state in the long term disappeared.

Keywords Administration · System · Agency · Structure · Environment · Complex adaptive systems · Ecological continuity

At the beginning of the fifth century, as it had for centuries, the Roman Empire stretched from northern Britain to the Red Sea and from the Straits of Gibraltar to the Caucasus. Seventy-five years later, control of western Europe had been lost, and by the mid-seventh century Syria and Egypt had fallen into Arab hands. And yet the Roman state in the East survived the loss of well over half of its territory and tax income. The east Roman state was at its maximum extent in the middle of the sixth century, following Justinian's reconquests of territory in N Africa and Italy. But it was overextended, with its political center at Constantinople and reaching westward as far as the Balearic Islands, including N. Africa as far as the straits of Gibraltar, along with most of Italy (with Sardinia, Corsica and Sicily) and the Balkans up to the

J. Haldon (✉)
Princeton University, Princeton, NJ, USA
e-mail: jhaldon@princeton.edu

H. Elton
Trent University, Ontario, ON, Canada

A. Izdebski
Max Planck Institute for the Science of Human History, Jena, Germany
Jagiellonian University in Krakow, Krakow, Poland

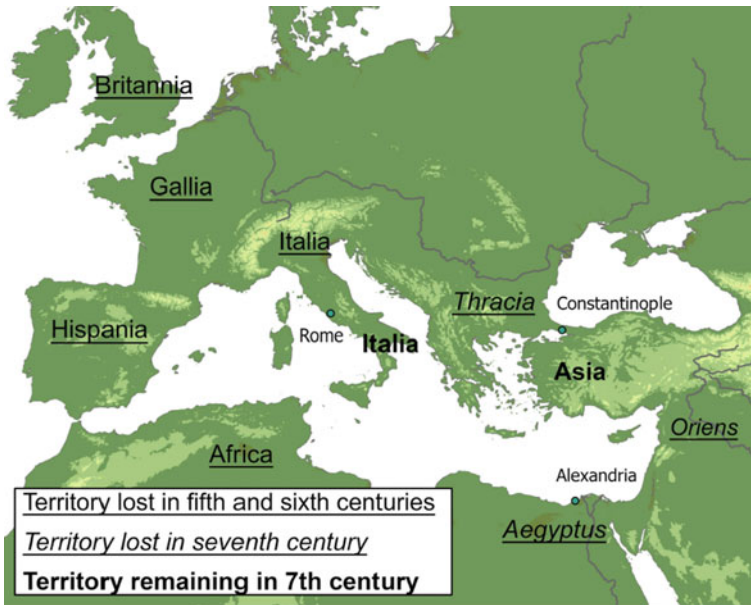


Fig. 1 Territorial changes in the Roman empire between 400 and 700 CE

Danube. In the east it included Egypt and greater Syria (modern Syria and N. Iraq, much of Jordan, all of modern Israel and Lebanon) (Johnson 2010; Mitchell 2007). But already in the 560s this edifice began to break down (Whittow 2010; Maas 2005). Much of Italy was lost to the invading Lombards from the late 560s; most of the central and northern Balkan provinces were lost to Slavic and then Turkic invaders from the 560s; while between 634 and 642 the Arab-Islamic invasions resulted in the loss of the richest provinces in the east, Egypt and Greater Syria (Fig. 1).

By the mid-seventh century, imperial political and military control was confined to the southern Balkan coastal regions, northern and western Anatolia and the central plateau, and the Aegean. The wealthiest tax-generating provinces were lost. By the same token, however the empire was also reduced to a hard, defensible core, focused on Constantinople with its triple walls and sea-defenses, and protected by an Anatolian hinterland in turn covered by the Taurus and Anti-Taurus mountains in the south (Whittow 2010; Howard-Johnston 2010). How did the empire survive, having lost some two-thirds of its territory and up to three-quarters of its revenue within a period of fewer than ten years (C.E. 633–641) (Kaegi 1992; Hendy 1985: 64–167, 616–618)? Its history has often been described in terms of collapse, but on closer examination this is not an appropriate term in the context, for the empire not only survived, it recovered and became a major international power dominating the eastern Mediterranean basin by the tenth century.

Although the debate has generally moved past mono-causal explanations, much recent work has focused on the impact of climate change and of the impact of the

sixth-century plague (Harper 2017; Haldon et al. 2018; Sessa 2019; Eisenberg and Mordechai, this volume). While we accept that both climate change and pandemic affected the Late Roman Empire, focusing on these sorts of challenges alone risks denying the crucial role of human agency and all too often replaces analysis of causation with description of chronological correlation.

The Late Roman Empire: An Administrative Approach

The eastern Roman Empire in the fifth century was run by the emperor, usually resident in Constantinople. Fifth and early sixth-century Constantinople was a huge city (c. 500,000), so big that it could not be supplied from its own hinterland but was dependent on the state-managed import of grain from Egypt, at least until it was lost to first the Persians and then the Arabs in the early to mid-seventh century (Teall 1959). Roman emperors of this period were usually resident in Constantinople and appear primarily concerned with warfare and religious politics. However, the majority of the Roman population (most scholars accept about 90%) were subsistence farmers and the problems of the emperor and the capital city were not their day-to-day concern. These two sub-systems, of imperial administration and of agricultural practice, were linked by the state extraction of surpluses. Any changes in agricultural productivity, regardless of cause, had the potential to affect the supply of food and taxes which the emperor and capital needed.

The Empire extracted surpluses in money, manpower, and goods from its population. The majority of taxation in the fifth century was based on the amount of land held and was not progressive, very different from modern systems based on individual productivity. This structure of taxation meant that minor variations in inter-annual productivity had little effect on imperial income, i.e. the risk was transferred from the state to the farmers, with rich farmers better able to buffer this than less prosperous individuals. Major variations as a result of war, natural disaster (flood, earthquake, drought), or plague usually had greater direct impacts on cities than on the countryside, and the larger the city, the greater the impact, so that Constantinople suffered more heavily from the Justinianic plague than most villages (Mordechai and Pickett 2018). Imperial economic mitigation measures were focused on short-term problems, with the emperor providing reduction of tax assessments, repair and rebuilding support, or grain import to major cities suffering from famines.

When making decisions, emperors were generally well-informed as a result of the information sent to the centre by provincial governors (as well as by letters from those wishing to influence policy). And the conciliar process of decision-making allowed most decisions to be discussed by informed individuals before the emperor made a decision (Elton 2009, 2018). These realities were often misunderstood or dismissed by contemporary critics asserting the control of government by favourites and of emperors kept in ignorance. Despite such accusations, the major imperial concern in the fifth and sixth centuries appears to have been the effectiveness of government rather than ideological purity. Thus in 400 the emperor Arcadius (395–408) permitted

a successful general named Fravitta to continue to worship as a pagan, despite a law prohibiting pagans from holding office. And in 433, during the aftermath of the First Council of Ephesus, when the emperor Theodosius II (408–450) suggested in the imperial council that bishops in the region of Cilicia should recognize the authority of their patriarch or be exiled, this was opposed by the eastern praetorian prefect, responsible for taxation, who warned that it would cause disturbances.

In the decisions that they did make, emperors tended to focus on short-term economic and military effectiveness, a focus which sometimes had significant long-term consequences. The collapse of the western Empire is thus often attributed to the loss of Africa, the result of pragmatic short-term decisions by the eastern Empire to make peace in 434 and then to abandon an African invasion in favour of defending against a Hunnic crisis in 441. In the long-term, loss of African resources is often seen as critical. (Wickham 2009: 78; Kelly 2008: 119–129).

These imperial priorities were different from those of farmers, and though war might depress regional levels of production and of distribution, it seems less likely to have changed what farmers chose to grow. During the fifth to eighth centuries there was a general reduction in the scale of cereal-centered agriculture, either gradual or abrupt, at different points in time, particularly in Anatolia (Roberts 2018). How do we relate this data to questions of state and farmer resilience, and to climate change and the Justinianic plague? And was the reduction in the population of Constantinople from the mid-sixth century the result of plague, of difficulties in feeding its population, the result of losing territory, or part of a pattern of urban decline in the eastern Mediterranean?

Our understanding of imperial and farmers' decisions is based on the source material that we have. The majority of literary sources that focus on politics and decision-making are anecdotal and interested in short-term events over a few years or an imperial reign. With these, we have little certainty that all or even the most significant events are described at an imperial level, and they say very little about agriculture. Literary sources are very different from archaeological evidence that usually handles time in terms of centuries and is more applicable to the *longue durée* (Decker 2009). Neither of these types of evidence is well-suited for understanding decisions by farmers as to what to grow. For many crops, especially cereals and vegetables, these were annual decisions, though the planting of fruit trees, especially olives which can take up to a decade to reach fruition, might be an expression of confidence in military and economic stability. Changes in what to plant could be based on many factors, of which short-term variations in markets and security were probably more critical than long-term changes in climate which were not visible to contemporaries (Elton 2021).

Landscape and Climatic Change in the Late Roman Empire: An Environmental Approach

Given these limitations in the potential of the historical and archaeological sources to describe the dynamic process of maintaining resilience of the intertwined state and agricultural systems in the face of natural and societal pressures, a recent approach tries to combine these more traditional sources with large amounts of natural scientific data, in particular coming from the palaeoenvironmental studies. Palaeoenvironmental data come from the natural archives, that is different locations in the natural environment, such as lakes, peat bogs, or caves, where sediments (“remains” of biological and physical processes) accumulate over time. By using a wide variety of laboratory techniques to study their physical and chemical composition, it is possible to reconstruct landscape changes—in terms of both land morphology and vegetation cover—as well as climatic oscillations with sub-centennial, at times even decadal, precision (Haldon et al. 2014; Izdebski et al. 2016).

Not all former Roman lands in the Central and Eastern Mediterranean boast a large number of well-studied natural archives, but there is enough of them to understand broader patterns of climatic and environmental change (Fig. 2). What emerges is a highly regionalized pattern, in which trajectories of climatic change do not necessarily overlap with transformations in the landscape. Figure 3 shows the direction

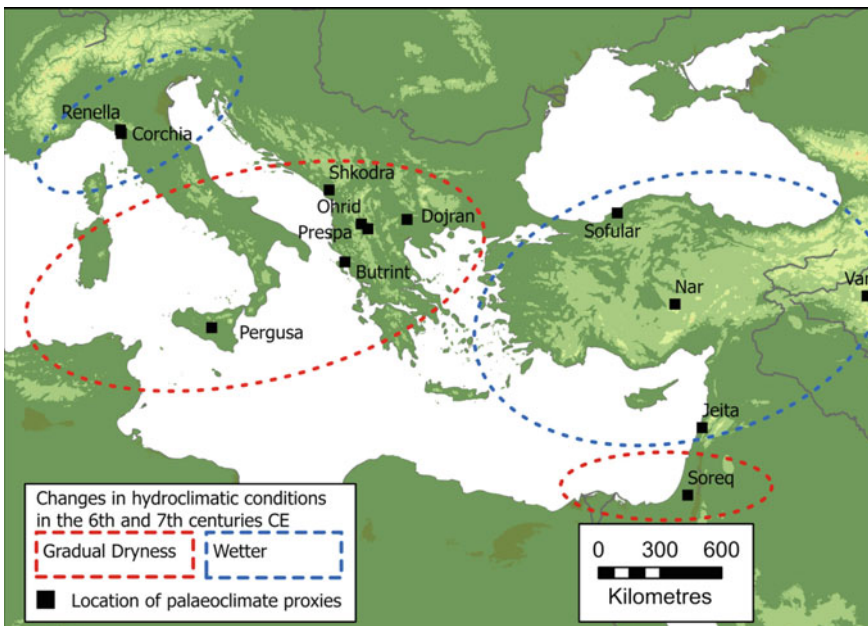


Fig. 2 Regional patterns of hydroclimatic change in the Central and Eastern Mediterranean at the end of Antiquity, based on the proxy evidence from lakes and caves (after Labuhn et al. 2018)

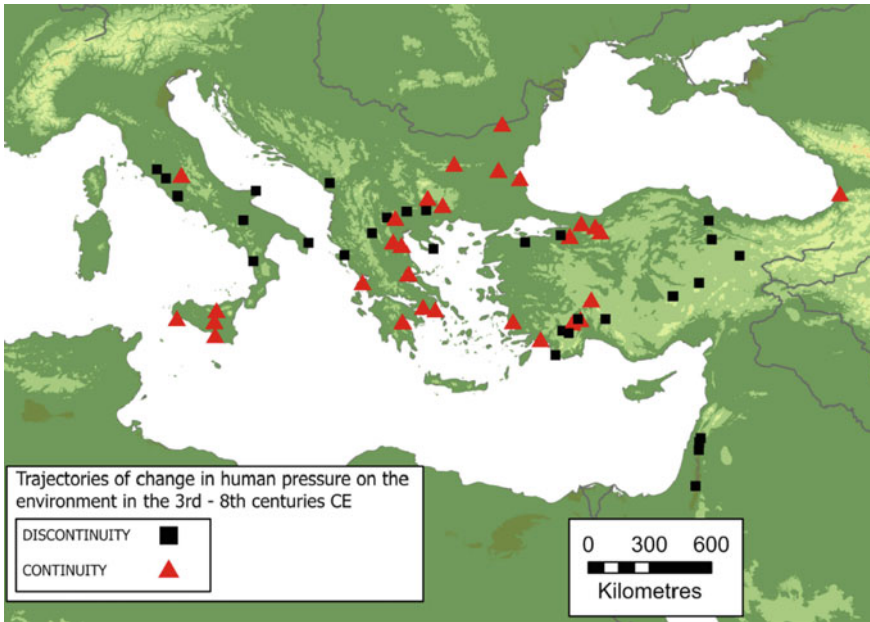


Fig. 3 Trajectories of landscape change in the Central and Eastern Mediterranean at the end of Antiquity, based on the pollen data (after Izdebski 2020)

of change in hydroclimatic conditions—based on proxy records from more than a dozen lakes and caves located across the Mediterranean—on the Roman lands in the final centuries of Antiquity (6th–7th c.). There was no single trend for the entire Mediterranean, and different regions of the Empire were experiencing contrasting trajectories of climatic variability. For instance, in the southern Italian-Balkan area the amount of rainfall was gradually decreasing, while in Anatolia and the Northern Levant these centuries were characterized by wetter than usual conditions. However, if we look at Fig. 3, which synthesizes data on vegetation cover change in all key areas of the Eastern Roman Empire, no obvious correlation between landscape and climatic changes occur. Within the same “climatic change” zone, for instance, Anatolia, its different parts showed either continuity in human pressure on the landscape (levels of agricultural activity were maintained, even if farming strategies were modified in some areas), or discontinuity (less agricultural activity or land abandonment). Put it another way, we have areas of continuity both in regions that experienced increasing dryness and those where more rainfall became available. In parallel, human activity in the landscape was discontinued both where it was becoming significantly drier, but also where it was becoming wetter.

If climatic variability is not an explanation for significant transformation of Mediterranean landscapes, where do these patterns come from? Strikingly, comparing a geographical distribution of vegetation changes (Fig. 3) and political transformations (Fig. 1) turns out to be more revealing than comparing landscape and

climate at that time. Ecological continuity can be observed primarily in core areas of the rampant Roman State, known as the Byzantine Empire. Sicily, Southern Greece or Western Anatolia where all areas which remained under relatively tight control of the Eastern Roman government well into the 8th c. The maintenance of the previous levels of human pressure on the landscape and hence agricultural productivity on one hand enabled the Roman state to survive the loss or destruction of several other provinces, while on the other hand it was the continued existence of this state that encouraged and enabled the ecological continuity (Izdebski 2021).

The Late Roman Empire in the East: A Systems Approach

How this was possible can be understood through the lens of a complex adaptive systems framework, in which five overlapping themes provide a helpful focus through which to interrogate the historical, archaeological and palaeoenvironmental sources: first, the nature and quality of the empire's natural capital (water, agrarian and pastoral resources, people); second, the nature and quality of the physical capital over which it disposed (labor, infrastructure); third, its human capital (skills, competences, attributes, including belief systems); fourth, the ways in which access to and/or control over resources was structured; and fifth, the level of redundancy built into the system as a whole—the degree to which there exists a plurality of functionally effective options for achieving key outcomes for survival (Levin et al. 2013; Scheffer 2009). Given the historical context, we add a sixth element, namely the broader international context which formed the context within which the empire existed.

The rump of the eastern Roman state possessed several natural advantages in respect of its strategic geography and the natural frontiers that an invader had to overcome, including strong seasonal weather patterns and especially extremes of temperature and environmental conditions on the central Anatolian plateau. The combination of these aspects enabled the state to organise an effective defence based on minimal central expenditure, led by and relying heavily upon local elites loyal to the centre (Whittow 1996: 15–37; Haldon 1999: 34–66). In addition, a generally unstable climatic and environmental context actually benefited the empire by fortuitously favouring grain production and livestock breeding at just the moment at which these were essential to supporting the military and supplying the capital, Constantinople (Haldon 2019). The state also maintained an effective administrative apparatus for the efficient extraction, distribution and consumption of resources to best advantage (Haldon 2016b; Brandes 2002). Fourth, the 'political theology' of the Christian Roman state was deployed consistently to maintain and reinforce imperial authority and legitimacy, thus maintaining a solid grip over provincial elites who managed and administered fiscal and other resources (Brandes 2013; Magdalino 2010; Cameron 2007). This was especially the case with the elites in Anatolia, the south Balkan coastal zones that remained under direct imperial control, but also Sicily and southern Italy. Finally, from the middle of the seventh century social/cultural

status and peer-recognition became increasingly focused on the imperial court and on personal connection with the ruler; an influx of dependent elites from non-traditional origins, together with an effective logistics and communications network, facilitated maximum state control (Brubaker and Haldon 2011: 573–598). In Anatolia this permitted constant re-occupation of sites/key points, roads, and other resources captured by the invaders (Haldon 2016a: 159–282).

The high degree of infrastructural and ideological cohesion and identity thus contributed to the maintenance of system identity and systemic complexity. Only in terms of spatial extent was there a significant simplification, in terms of territorial control. But this seems in fact to have contributed to sustainability and resilience by reducing the state's operational costs and permitting a high level of central control. Adaptive capacity in this case was articulated through the geographical and geopolitical advantages the state enjoyed, the incidental benefits of (unperceived) climatic/environmental factors, substantial organizational advantages, continuing central control over the Anatolian, Balkan, and Italian/Sicilian elites, and ideological cohesion. Last, but by no means least, its major political/ideological enemy in the seventh century, the Umayyad Caliphate, had to contend in its own domain with both high levels of regionalisation and a dispersal of resources, as well as its own internal conflicts (Robinson 2010: 202–224; Kennedy 2004: 90–98).

Conclusion

The survival of the eastern Roman state can be analysed in different ways. The approaches taken here cover similar ground, the effectiveness of the state, but from slightly different angles, one focusing on imperial administration and patterns of taxation, another on the nature of the environmental conditions and observable trends in land-use for the period, the last on the ability of the state to leverage the resources that it had. The changes in the agricultural productivity of the empire are key, and provide an indication of the nature of the available resources as well as of the environmental impact of both human activity (in particular of warfare on the one hand and farmers' response to changing fiscal and market conditions on the other) and of minor shifts in climatic conditions. Survival was made possible by effective use of natural resources, grounded in the maintenance of inherited patterns and levels of land use but with modifications that were required due both to climatic variability and to the needs of the state. A virtuous circle was set up: a self-reinforcing social-ecological system whereby the surviving state and its elites and infrastructure enabled the survival of landscapes which in turn provided the resources necessary for the state's continued existence. In areas where this broke down, the Roman state in the long term disappeared. Importantly, while there was clearly no ecological thinking or awareness as understood today, this virtuous circle or feedback mechanism was not a chance outcome, but rather the result of established or institutionalized practices of governance, underpinned by a powerful ideology that reinforced existing social hierarchies

and their impact on the natural environment, thus ensuring the survival of the entire socio-economic system.

The continued survival of the eastern Roman Empire provides a good example of a geo-strategic shrinkage that in effect aided stabilisation, resilience and recovery, as well as of the ways in which contemporary and near-contemporary observers and participants understood and explained how their world was changing around them.

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