Drivers of decline in pre-colonial southern African states to 1830: Trade, climate and the Portuguese factor

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Abstract

Historians and archaeologists of Africa have long debated the causes of pre-colonial state formation. In the region between the Zambezi and Limpopo rivers, the much popularised trajectory of the rise and fall of 'Zimbabwe culture' states has received particular attention amongst archaeologists. The abandonment of pre-colonial history as a discipline in recent decades, however, has meant that despite the relative abundance of written source material recorded in this region from the sixteenth century onwards, far less attention has focussed on the causes of the disaggregation and supposed decline of these states after c. 1500. Instead, this is usually assumed to owe simply to a reversal of the factors attributed to their growth, including a decline in gold exports to the Indian Ocean coast, the impacts of drought and climatic change, as well as the destructive effects of Portuguese influence. This paper is a first attempt to revisit these 'drivers of decline' through an examination of available documentary evidence over the period 1500-1830. In contrast to previous assumptions, the paper suggests that a key factor in the weakening of the Mutapa state was not the decline of the gold trade or unfavourable terms of trade *per se*, but the loss of central control over the working of gold deposits. Drought and famine were important in certain 'crisis' episodes, and especially so in the dryland setting of the Zambezi valley, although there does not appear to be evidence of a long-term association between climatic and societal change. The paper also contends that viewing pre-colonial history through the lens of 'complexity' alone, i.e. by the construction of stone buildings and the territorial extent of states, has its limitations, and that the very survival of the Mutapa state until the eve of colonial rule points to an underlying resilience and adaptability of the agrarian economy and its institutions.

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Introduction

Half a century ago, in the 1960s, the study of the pre-colonial history of Africa was beginning to get underway.[2] In southern Africa, particular focus was lent to the causes of state formation between the Zambezi and Limpopo rivers (Fig. 1). The monumental stone architecture at population centres such as Great Zimbabwe and Khami – capitals of states unique in their presence in the Indian Ocean hinterland of Africa until c. 1700 – had long the attracted the attention of colonial officials, but a new wave of archaeological investigation began to uncover a trajectory of transformative economic and social change. This commenced with the transition of 'primitive' farming communities into 'complex', centralised political units in the Limpopo valley at the start of the second millennium AD, reached its height in the fourteenth and fifteenth centuries with the dominance of the state centred at Great Zimbabwe, and began a process of protracted decline with the fragmentation of 'Zimbabwe culture' state systems and a reduction in new stone-built capitals from the sixteenth century onwards.[3]

In turn, historians and archaeologists sought to analyse the economic and social factors that drove these transformations. The reason at first appeared to be simple. The mineral wealth and the abundance of other resources with long-distance trade value were found in large quantities between the Zambezi and Limpopo rivers. This meant that capital flowed into this region from c. AD 900 as opposed to the adjacent and comparatively mineral-poor areas of eastern and southern Africa, which prompted the accumulation and unequal distribution of wealth, the emergence of class distinction, and moves towards political centralisation. Yet this also subjected societies to external fluxes. Political units' hold over the gold trade was never secure, and the exhaustion of gold deposits or loss of control over trade routes could weaken the authority of the leadership and ultimately of the state itself.[4] State formation and disaggregation processes, however, are not so simply explained. States elsewhere in Africa, such as in the Congo, developed based upon local wealth, whilst anything beyond the most cursory reading of Portuguese documents and oral traditions shows that trade-based activities were secondary to agriculture and cattle herding for the majority of the population – both of which also held high social, political and ritual importance.

As consensus moved against uncritical acceptance of the maxim 'trade comes, states grow', emphasis on external trade turned into a focus on the drivers and constraints of food production. The notion that African polities were "basically agricultural communities, in that the most important activity of the greatest number of people was the production and collection of food… all other activities, including mining, manufacturing, building, trade, politics and religion, were secondary to this, and could not have carried on without it" soon became well-established, and new explanations were sought.[5] The historian David Beach, for example, suggested that pre-colonial agriculture was "remarkably fragile" and was repeatedly challenged by recurrent drought; the implication being that any longer-term change in the frequency and severity of drought could have threatened the security of state structures in a more existential manner.[6] Using palaeoclimatic data, the archaeologist Tom Huffman went further – albeit in the other direction – in suggesting that the formation of southern Africa's first state, Mapungubwe, was aided by the 'favourable' warmer and wetter Medieval Climate

[2] The term 'pre-colonial' carries a number of inadequacies and contradictions; it is used here simply to refer to the period prior to the onset of region-wide colonial rule in southern Africa in 1890.

[3] The people of these states were mostly ancestral to the Shona-speaking people of present-day Zimbabwe, central Mozambique and northern South Africa.

[4] This reason has been invoked as a cause behind the abandonment of Mapungubwe and Great Zimbabwe.

[5] D.N. Beach, 'The Shona Economy: Branches of Production', In R. Palmer and N. Parsons, eds. *The roots of rural poverty in central and southern Africa*. (London: Heinemann, 1977), 40.

[6] D.N. Beach, *The Shona & Zimbabwe 900-1850: An Outline of Shona History* (London: Heinemann, 1980).

Anomaly in southern Africa, which enabled floodplain agriculture to be conducted with greater reliability in the dry Limpopo valley.[7] The subsequent shift in regional climatic conditions to the cool-dry Little Ice Age at c. 1300, on the other hand, allegedly undermined the viability of this agriculture, leading to the abandonment of Mapungubwe and the collapse of its surrounding state structure. These lines of argument have nevertheless received criticism, not least in their tendency to artificially shoehorn climate into history and reduce farmers to passive victims of environmental change.[8]

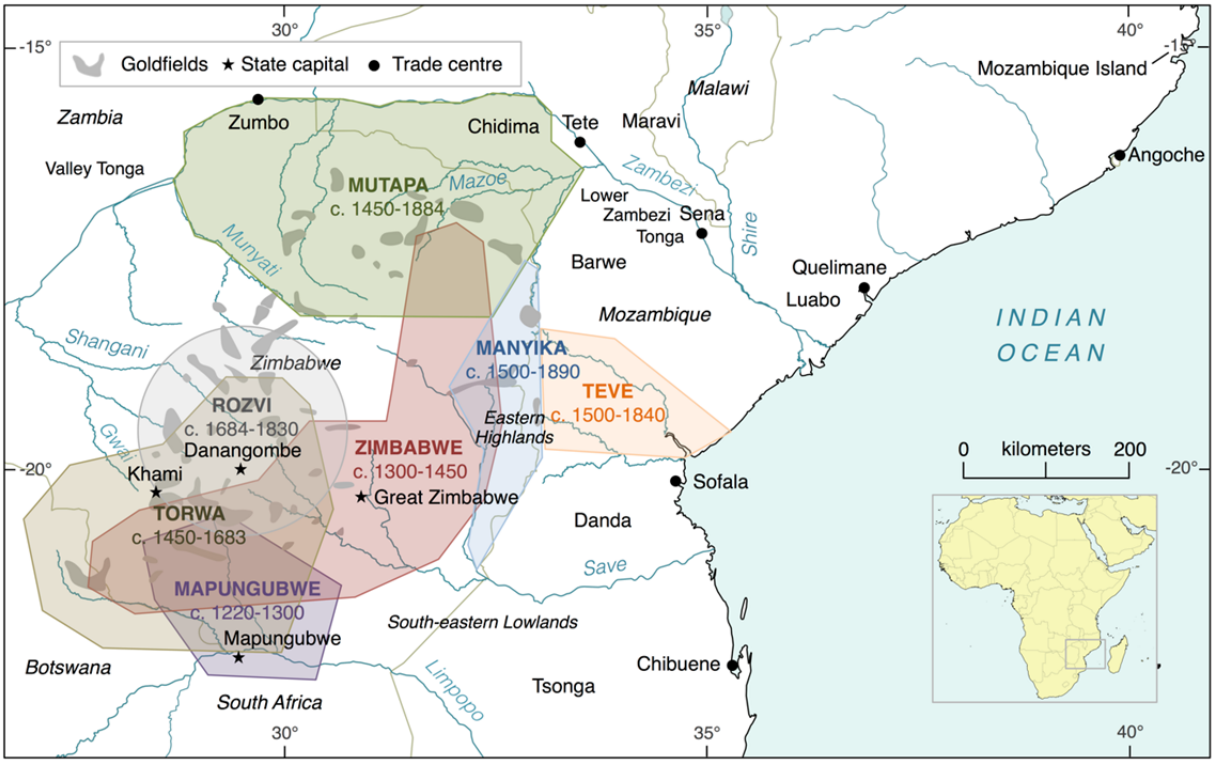

Figure 1. Area of southern Africa under consideration, with approximate maximum territorial extent of states.[9]

A further debate centred on the effects of Portuguese settlement in the region from 1505, who had largely usurped African trade links with the Muslim traders on the Indian Ocean coast by the 1570s. This resulted in an equally sharp divide. On the one hand the Portuguese permeated various aspects of the pre-colonial economy and did much to bring about the decline of the later Zimbabwe culture states, while their interference in African politics at times led to persistent civil war and leadership disputes. On the other, the impact of the relatively small number of Portuguese in the region had its limitations, as exemplified by their numerous abortive military campaigns and their failure to emulate the Spanish peopling of South America, thus the impacts they did have were a result of internal weaknesses in African political structures rather than an inevitability.[10]

Common to each of these explanations were several problems. The first was one of sweeping generalisation, which tended to obscure the fact that, put simply, these factors meant different things to different people at different times. Indeed, notwithstanding the strides that were made in

[7] T.N. Huffman, 'Climate Change during the Iron Age in the Shashe-Limpopo Basin, Southern Africa', *Journal of Archaeological Science*, 35.7 (2008), 2032–47.
[8] M.J. Hannaford et al., 'Climate Variability and Societal Dynamics in Pre-Colonial Southern African History (AD 900-1840): A Synthesis and Critique', *Environment and History* 20, 3 (2014): 411–45.
[9] T.N. Huffman, *Handbook to the Iron Age: The Archaeology of Pre-Colonial Farming Societies in Southern Africa* (University of KwaZulu-Natal Press, 2007).
[10] S.I.G. Mudenge, *A Political History of Munhumutapa c 1400-1902* (Zimbabwe Publishing House, 1988).

pre-colonial African history during the last decades of the twentieth century, much of what we are left with conforms to fairly general outlines of the 'land and peoples', which tend to depict African institutions and economic activity as existing in a timeless vacuum. Equally, the richness of written material on Afro-Portuguese relations has led to detailed studies of political 'events' such as civil wars and succession disputes, yet these have often been conveniently isolated from such economic factors in a way that leaves one without a clear structure of cause and effect. Moreover much of the research emerging from the 'academic scramble for Africa' of the 1970s was expressly concerned with "the search for African initiative and agency… [and] reiterating the obvious point that Africans were instrumental in making their own history", which at times left the debate on the role of mining and trade in African political structure with little nuance beyond internal versus external agency.[11]

This article, then, is a first attempt to revisit these debates following the protracted silence that has marked pre-colonial history since the 1990s. In particular, the paper attempts to reassess and explain some of the presupposed economic and social causes of the *decline* of Zimbabwe culture state systems from 1500-1830 through an examination of available documentary material.[12] First, the nature of these documents are introduced, together with some comment on their coverage, content, and some key considerations that must be borne in mind when using these sources. The paper then attempts to disentangle three of the principal meta-narratives on the drivers of state disaggregation. The first of these focusses on gold mining and trade, and traces the effects of declining gold exports and changing 'terms of trade' on state security. The second examines the hypothesis on the 'fragility' of agriculture in the face of drought and long-term climatic change, and explores the significance of this relationship in the context of societal change over this period through an analysis of drought impacts and vulnerability. The third relates to the influence of the Portuguese, which is difficult to isolate from the other debates and is therefore considered throughout the paper. To move beyond some of the problems raised above, the paper adopts a comparative approach, in which the drivers of decline in the source-rich Mutapa state are contrasted with other political units in this region over time.[13] This will enable key questions to be addressed such as how did the effects of trade differ? When, where, and why was drought an important factor in societal change? And how did differing responses to the Portuguese presence affect each of the above? In turn, this will bring us closer to a fuller analysis of some of the causal explanations behind this change.

[11] E. Alpers, 'Rethinking African Economic History: A Contribution to the Discussion of the Roots of Under-Development', *Ufahamu: A Journal of African Studies* 3.3 (1973).

[12] 1830 is chosen as an end-date due to the mass-migrations that reached southern Africa north of the Limpopo in the 1830s and the corresponding decline in Portuguese knowledge of the interior

[13] The events that shaped the Mutapa (or 'Monomotapa') state until its eventual fall in 1884 are covered at length in Beach, '*The Shona & Zimbabwe 900-1850*', and Mudenge, '*A Political History of Munhumutapa*'. In brief, the state rose to prominence after the fragmentation of the Zimbabwe state around c. 1450 and sought to replicate its political structure and stone-built capitals to the north, proximate to the newly opened Zambezi trade route with the coast. The Portuguese tell us that the Manyika, Teve and Danda polities were part of the Mutapa state in the late-fifteenth century but broke away in the early-sixteenth century. Stone construction began to cease by the middle of the century, and the Portuguese made several failed conquest attempts between 1569 and 1577 after the missionary Gonçalo da Silveira was murdered in the state in 1561. A series of protracted civil wars set in by the 1580s, and subsequent conflict with Tonga and Maravi polities led the Mutapa ruler to call on the Portuguese for military assistance in return for concessions of land and minerals. The state was essentially mortgaged to the Portuguese crown in 1629, and civil wars persisted between 'puppet' rulers and Africanist factions until the Rozvi state drove the Portuguese out of the state and back to the Zambezi in 1694. In the 1720s the core of the state shifted to the dry fringes of the Zambezi valley and lost most of its cattle and mineral deposits, though it survived the regional upheavals of the 1820s and 1830s and was only ultimately brought to an end by the revival of Portuguese power in Mozambique in the 1880s.

European documents on African society in the pre-colonial period

Underpinning the debates of the 1970s and 1980s was the recognition that the documentary history of the European imperial powers could be used to uncover the African past as well as that of the colonists.[14] Historians of southeast Africa are particularly fortunate in terms of documentary material when compared with other areas in the Indian Ocean hinterland of Africa.[15] Whereas writers did not penetrate beyond a hundred kilometres inland of most of the Indian Ocean coast before 1800, first-hand evidence was recorded by the Portuguese from points up to 450 kilometres inland of the trading posts on the Mozambique coast as early as 1512, and this continued in a frequency almost unrivalled for much of Africa south of the equator until the nineteenth century.

Recording, content and coverage

The documents mainly consist of missionary accounts, travellers' and explorers' diaries, chronicles, letters, and administrative records – each of which deal with African society to varying degrees. The recording of these documents followed a broadly similar pattern, which involved a description of the situation in a particular area, typically with details of the main economic activities in this area and the status of relations between its ruler and the Portuguese. Often it was not stated if the things described were viewed first-hand, although this is not necessarily a definitive indicator of reliability. Indeed a vital source of information for Portuguese residing at trade centres were African traders, and contact with these informants over a period of years meant that the Portuguese writer might know the situation in a distant territory with a reasonable degree of accuracy. In this respect there is a crucial difference between the Portuguese documents and the diaries of other European travellers that appear in great number in the nineteenth century, in that the latter were often more detailed but were based on information gathered over a rather narrow trail in a limited period of time.[16]

The documents have their particular strengths and weaknesses as a store of information on African society. Most important for our purpose is that external factors dictated what was recorded and to whom it related, which meant that almost every description of African society and economy had some kind of practical use. Thus we have a relatively consistent stream of detailed information on gold, ivory, iron and copper because of their value in long-distance trade. The same applies to agriculture, domestic animals, hunting and gathering due to their potential value to traders or soldiers, and even to the rituals of the courts which was of use to envoys of the crown. This provides valuable information to compare differences between states, however the sources are rather poor at capturing inequalities within these states, so where oral traditions often idealise the pre-colonial past and stress economic equality, the documents also tend to treat African society as a singular block but for very different reasons. The legacy in terms of quantitative material is also fairly disappointing until the late-eighteenth century, although there is a reasonable amount of general information concerning shifts in trade and the occurrence of drought and famine.

A useful way to classify the documents according to their coverage of African society are the categories 'major' and 'minor' as initially proposed by Beach. 'Major' refers to texts in which several

[14] It was also once hoped that oral history would open up entirely new perspectives on the pre-colonial period, however limitations in dating and reliability mean it is now generally recognised that knowledge of the African past between the sixteenth and nineteenth centuries must rest principally on European sources.

[15] Or indeed sub-Saharan Africa – 80% of Africa does not feature in European sources before 1840; A. Jones and B. Heintze. 'European Sources for Sub-Saharan Africa Before 1900: Use and Abuse', *Paideuma* 33 (1987), 1-17

[16] D.N. Beach, 'Documents and African Society on the Zimbabwean Plateau Before 1890', *Paideuma* 33 (1987), 129–45.

paragraphs are devoted to African society, and 'minor' to documents that deal primarily with the administrative concerns or policies of the Portuguese but still comment on matters of relevance to African society in passing.[17] Although minor documents occasionally provide important fragments of information that can be pieced together with other documents, these sources are far outweighed in importance for the study of African society by the smaller body of major documents.

For this study I have consulted all known major sources and published minor evidence (Fig. 2, panel A).[18] This is not the entire body of written material on the Zambezi-Limpopo region prior to 1830, and leaves out a body of unpublished minor documents which becomes significant in number after 1752 when Mozambique became separated from the Viceroyalty of Goa. These documents are nevertheless mainly concerned with trade or the administration of the Afro-Portuguese community on the Zambezi *prazos* (estates) (Fig. 2, panel B). This marks a step-up from some work on the pre-colonial period which has tended to be almost exclusively based on a few well-known classics.[19] Moreover as the overall amount of information on the Zimbabwe culture states is of a far lesser quantity than that on Portuguese settlement on the Zambezi, the documents covered in this study are likely to represent almost the whole stock of material that will ever be available on these states.

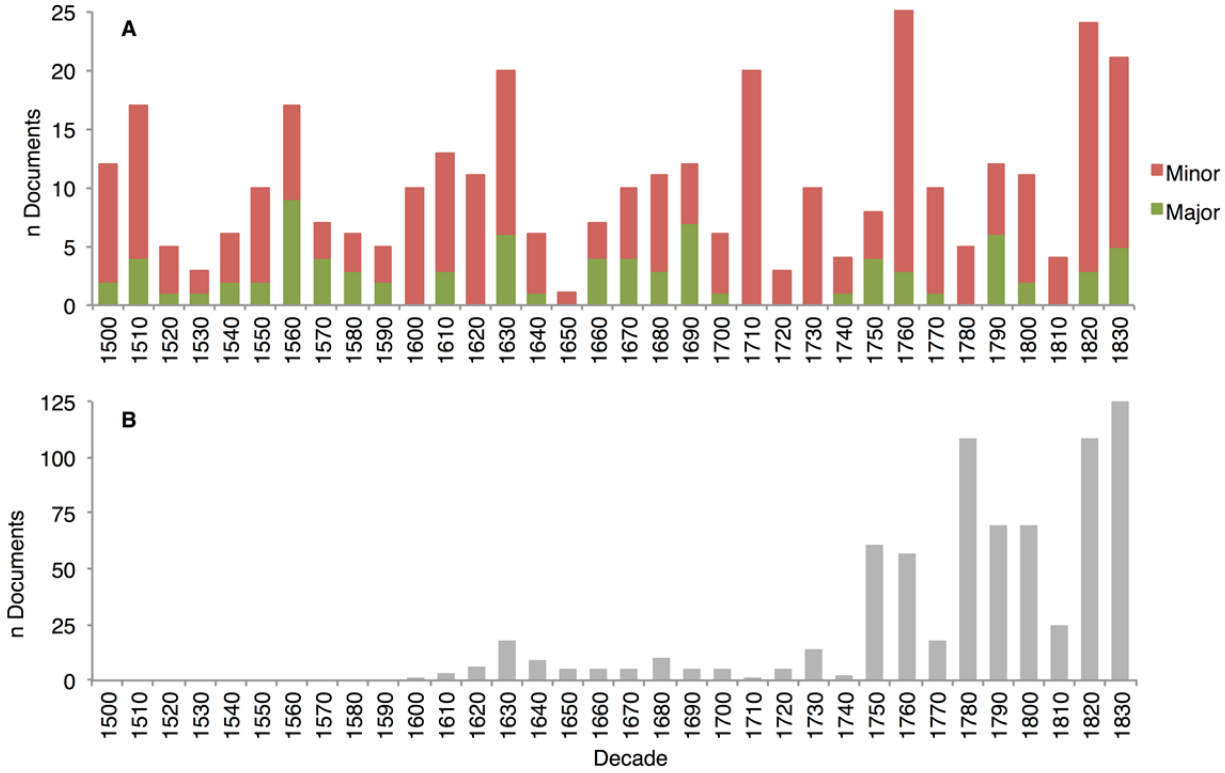

Figure 2. European documents on African society, 1500-1840. A: 'Major' and 'Minor' documents consulted in this study; B: Unpublished 'Minor' documents compiled from secondary literature.

[17] These categories were proposed in Beach, 'Documents and African Society'.

[18] These sources are available as manuscripts, most of which are held in the Arquivo Historico Ultramarino in Lisbon or the Goa Archives in Panaji. There are also a good number of published editions of manuscripts that have sometimes been lost, though most important are the compilations of these manuscripts, some of which have been translated into English. The most extensive of these are: G.M. Theal. *Records of south-eastern Africa*. 9 vols. (London: William Clowes and Sons, 1898-1903); A. da Silva Rego and T.W. Baxter, *Documentos sobre os Portugueses em Moçambique e na Africa central*, 1497–1840, 9 vols. (Salisbury: National Archives of Rhodesia and Nyasaland; 1962–1989); and D.N. Beach and H. Noronha. *The Shona and the Portuguese (1575-1890)*, 2 vols. (Harare: University of Zimbabwe, 1980).

[19] For example João de Barros, 'Da Asia', and João dos Santos 'Ethiopia Oriental'.

The documents are uneven in their geographical as well as temporal coverage. From 1506 until 1560, Portuguese knowledge of the interior largely rested on evidence brought to the coast by African or Muslim traders.[20] Although there were some Portuguese residing in the Mutapa state by 1542, only minor first-hand evidence emerged until the mission to the Mutapa capital led by Gonçalo da Silveira in 1560. The expansion of Portuguese settlement on the Zambezi in the 1570s led to a significant increase in information on the Mutapa state, but also on the Manyika and Teve polities, as well as the lower Zambezi valley itself.[21] The weakening of the Mutapa state in the early-seventeenth century led to a greater coverage of the interior than ever before, especially after the Portuguese conquests of 1628-32 and the development of the *prazo* system on the Zambezi.[22] The wars of the late-seventeenth century led to a decline of detailed first-hand information until the mid-eighteenth century, though after this point coverage improved in areas such as Manyika, Teve, and the Rozvi state which succeeded the Torwa state in the southwest. This situation persisted into the nineteenth century, although information from beyond the Portuguese jurisdiction declined after the regional migrations and violence of the 1820s and 1830s.

Limitations

Despite the relative abundance of written material in this region, there are very real limitations that arise from a reliance on European documents for the study of African history. We have already seen how the external nature of the documents results in a link between information and exploitation, but further caveats extend from this. For example, Beach reminds us that Portuguese East Africa was very much the 'poor relation' of Portuguese West Africa, and in this sense many documents were written with the underlying purpose of convincing the crown that its money would be better spent in Mozambique than in Angola. Exaggeration and bias are therefore issues that are (often overtly) endemic. While some missionaries moved away from this approach, it was not until the eighteenth century that interest in African society for its own sake became more of a general phenomenon. Thus what may appear to be an account of a new occurrence at this time may not have resulted from any real change in African society but may simply reflect a change in the interests of the observers.

A more obvious limitation is that evidence on African society was often coloured by colonial prejudices. That the authors sometimes misunderstood what they observed or were told is particularly overt in the disparaging accounts of African religion, but also in matters such as cultivation strategies, in which they sought to fit African realities into thought categories developed outside of Africa. There are also potential pitfalls that emerge from the use of translations of narrative sources, in that some of these were translated by persons more familiar with the linguistic aspects of a text than with the context in which the document was written. This has, for example, led to anachronistic renderings of words.[23] It therefore becomes vital to recognise these limits and their implications for the extent of what we can deduce from these sources. But these limitations should not be taken to extremes: the documents provide a valuable opportunity to trace developments in pre-colonial economy and society over a relatively long timespan.

[20] For example, Duarte Barbosa 'Description of the Situation, Customs and Produce of Various Places of Africa' in 1518. An exception was Antonio Fernandes, who was illiterate but reported his visit to the Mutapa state in 1511-12 to the Portuguese at Sofala; Gaspar Veloso, 'Notes Made by Gaspar Veloso'.

[21] For example, Francisco de Monclaro, 'Narrative of the Expedition to Monomotapa' in 1573.

[22] For example, António Gomes, 'Voyage made to the Monomotapa Empire and his work there for several years' in 1642, and Manuel Barreto, 'Report on the state and conquest of the Rivers of Cuama' in 1667.

[23] One potentially dangerous example of this is the erroneous translation of 'milho' to 'maize', see P.E.H. Hair, 'Milho, Meixoeira and Other Foodstuffs of the Sofala Garrison.', *Cahiers d'Études Africanes* 17 (1977), 353-363.

Gold mining and trade

Much attention on pre-colonial African trade has focussed on the link between the rise of the gold trade from around the mid-tenth century onwards and the subsequent growth of large-scale political organisation in the interior. This 'trade stimulus' hypothesis posits that whereas internal systems of exchange were geared towards the subsistence economy and did little to support a central authority, external trade created storable wealth and developed communications that enabled rulers to secure allegiance and service, which were not assured where ritual power was the basis of leadership. As appreciation of the value of gold grew rapidly under the stimulus of the Muslim presence on the east coast, mining and trade began to assume greater significance through the introduction of exchange media in the form of cloth and beads, the accumulation of which by elites allowed for an enhanced degree of stratification to be maintained, and ultimately to finance stone construction.[24]

This idea has long been challenged for its simplicity. Not only did it greatly underplay the role of the build-up of cattle herds in promoting social differentiation, but a focus on trade at the expense of the wider economy meant that some analyses came "dangerously close to depicting the Shona economy as a mining, manufacturing and trading economy".[25] Rather, it was stressed that even in those societies most affected by the external trade, the changes were generally confined to restricted sectors of the economy that were peripheral to the central concern of agriculture, while the uneven distribution of gold-bearing areas saw to it that many people, including in the gold-rich Mutapa state, were never involved in mining. But rejection of the primacy of mining and trade in the economy is not to say that external trade had no role whatsoever, and it is difficult to ignore the fact that when evidence of external trade becomes available, there was a parallel emergence of new social and political organisation in the interior.[26] If the direct impact of external trade on African economic activity was limited and depended on the part-time efforts of agricultural communities, then, it appears that its effects on the social and political system were to amplify pre-existing inequalities based on cattle, to reinforce the hegemony of the leadership, and to modify internal systems of exchange and tribute that involved foodstuffs, skins and iron goods such as hoes.[27]

Although the role of mining and trade in the growth of large-scale political organisation is relatively well-understood, the flip side of this relationship – that is, the role that changes in gold mining and trade played in the disaggregation of political authority from the sixteenth to nineteenth centuries – has received far less attention beyond the common assumption that the working out of gold deposits or the excessive profits exacted by the Portuguese led to a decline in potential surplus wealth.[28] But just how far did these factors go towards explaining political and social change? As gold mining and trade were copiously documented by the Portuguese, these accounts and the scattered quantitative material within them provide an opportunity to address this question, but first it is

[24] See Beach, *The Shona & Zimbabwe 900-1850* for discussion of why cloth and beads came to be regarded as wealth, and T.N. Huffman, 'Mapungubwe and Great Zimbabwe: The Origin and Spread of Social Complexity in Southern Africa', *Journal of Anthropological Archaeology* 28, 1 (2009), for overview of the trade hypothesis.

[25] Beach, 'The Shona Economy: Branches of Production', 37.

[26] Huffman has also argued for the existence of a similar relationship when the 'trade zone' penetrated south into KwaZulu-Natal in the late-eighteenth century T.N. Huffman, 'The Archaeology of the Nguni Past', *Southern African Humanities* 16, (2004): 79–111.

[27] Huffman, *Handbook to the Iron Age*; Mudenge suggests that one of the most valuable uses of cloth and beads was to buy in times of war; Mudenge, *A Political History of Munhumutapa*.

[28] I.R. Phimister, 'Pre-Colonial Gold Mining in Southern Zambezia: A Reassessment', *African Social Research* 21 (1976): 1–30.

important to examine evidence on fluctuations in the amount of gold extracted and exported over time, as well as the possible reasons behind these changes.

Gold production and exports, 900-1900

One basic factor that underlay changes in the production and export of gold over the long-run was its availability. Despite a capricious geological situation and lack of equipment, relatively specialised methods for prospecting and extracting gold were developed, and nearly a millennium of mining left almost "every scrap of visible [gold] reef" exploited by the time the Rhodesian 'pioneer column' arrived in 1890.[29] An approximate trajectory of gold extraction was reconstructed by Roger Summers and Ian Phimister through a study of 4,000 pre-colonial gold workings (Fig. 3). Thus production grew steadily from the mid-tenth century, reached its height between the twelfth and mid-fifteenth centuries, and began to decline thereafter.[30] This decline is also supported by scattered Portuguese figures of gold exports through the ports of the Mozambique coast (Table 1), which were probably subject to gross exaggeration in the earliest reports and fluctuated wildly in individual years but had a clear long-term trend. Impressionistic evidence of the progressive poverty of the goldfields after 1500 also abounds, especially in the eyes of newcomers who were ignorant of the disappointing returns from the mines. In a 1571 expedition to the Manyika goldfields, for example, the Portuguese,

> finding themselves in the country where reports said everything was gold, expected to find it in the streets and woods, and to come away laden with it. The governor immediately set out for the mines, where he remained several days, and saw the difficulty with which the [blacks] extracted the gold from the bowels of the earth… with the earth which they dug up they filled their basins and went to wash it in the river, each one obtaining from it four or five grains of gold, it being altogether a poor and miserable business.[31]

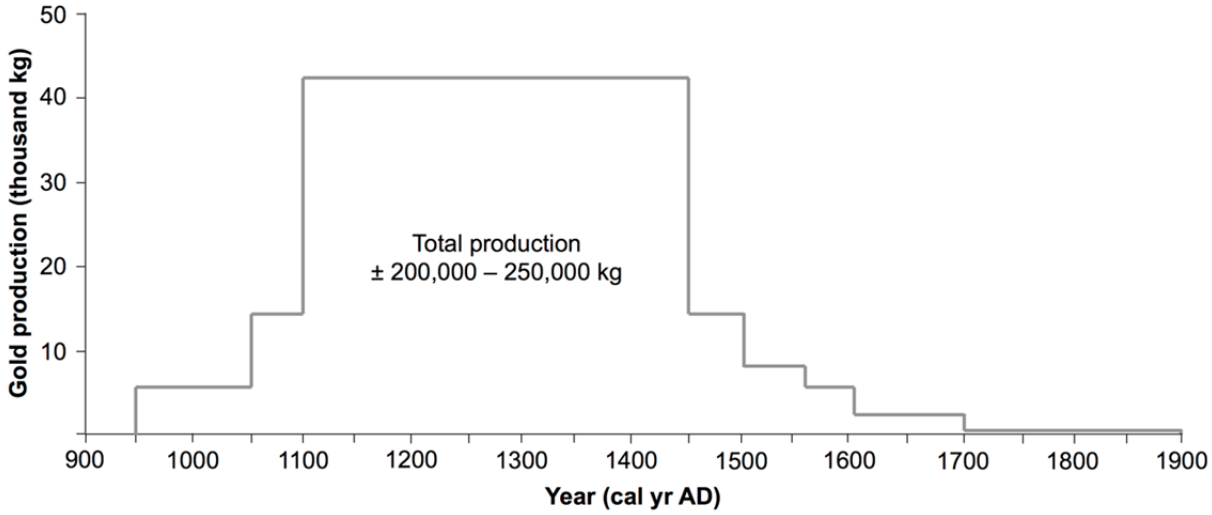

Figure 3. Approximate distribution of pre-colonial gold production.[32]

Phimister attributed part of this long-term variation to shifts in gold prices and increasingly unfavourable 'terms of trade'. Specifically, the high price of gold in the Muslim world in the late-first

[29] R. Summers, *Ancient Mining in Rhodesia and Adjacent Areas* (National Museums of Rhodesia, 1969), 152.
[30] Before the eighteenth century most of the gold came from the Mutapa state, however after this most came from the Rozvi state; S.I.G. Mudenge, *A Political History of Munhumutapa C 1400-1902*.
[31] Diogo do Couto, 'Decade of Asia', in Theal, '*Records*' VI, 389-390
[32] After Phimister, 'Pre-Colonial Gold Mining in Southern Zambezia'. This calculation was based on the dimensions and the estimated volume extracted from the workings with 60% efficiency in recovery.

and early-second millennium provided the vital impetus for gold mining, however falling prices, together with the working out of the easier deposits, greatly reduced potential surplus wealth, which in turn acted as a disincentive for the investment of labour time in mining and shifted greater emphasis onto 'traditional' forms of wealth like cattle.[33] In this respect gold and trade were thought to have become of decreasing importance in the African political sphere after the fall of Great Zimbabwe at around c. 1450, which may help explain the disaggregation of one dominant state into a number of smaller polities (Fig. 1) and the decline in stone construction. Whatever the exact causal factors that shaped the trajectory of gold production, then, the question of interest here is the hypothesised weakening or severing of the link between trade and politics, as well as how far the fall in gold production after c. 1450 can go towards explaining African political change.

Table 1. Gold exports through the ports of Mozambique. These figures exclude internal consumption. Eighteenth and nineteenth century figures also include some gold from north of the Zambezi.[34]

Year	**Amount**	**Weight (Kg)**	**Source**[35]
1502	2,000,000 *maticals*	8,500	Lopes, 1502
1506*	1,350,000 *maticals*	5,737.5	Alcaçova, 1506
1591	200,000 *cruzados*	716	Santos, 1609
1610	200,000 *maticals*	850	Couto, 1610
1667	3,500 *pastas* (350,000 *maticals*)	1,487.5	Barreto, 1667
1758	1,000 *pastas* (100,000 *maticals*)	425	Xavier, 1758
1762	700 *pastas* (70,000 *maticals*)	297.5	Anonymous, 1780
1781†	64,718 *maticals*	275	Anonymous, 1781-90
1782	78,876 *maticals*	335	
1783	82,381 *maticals*	350	
1784	62,184 *maticals*	264	
1785	110,834 *maticals*	471	
1786	77,355 *maticals*	328.8	
1787	55,632 *maticals*	236.4	
1788	65,938 *maticals*	280	
1789	57,041 *maticals*	242.4	
1790	62,717 *maticals*	266.5	
1806	6,786 *maticals*	28.84	Truão, 1810
1820	2,585 *maticals*	10.98	Barbosa, 1821

*through Sofala and Angoche; †through Sena. 1 *matical* = 4.25 g; 1 *cruzado* = 3.58 g; 1 *pasta* = 100 *maticals*.

[33] Phimister, 'Pre-Colonial Gold Mining in Southern Zambezia'.

[34] This table is cross-checked from that in S.I.G. Mudenge, '*A Political History of Munhumutapa*'.

[35] Thomé Lopes, 'Navigationi Verso le Indie Orientali', in G.B. Ramusio, 'Primo Volume Delle Navigationi e Viaggi' (Venice, Heredi L. Giunti, 1550), 144; Diogo de Alcaçova, 'Diogo de Alcaçova to King, 20-11-1506', in Silva Rego and Baxter, '*Documentos*' I, 395; Santos, 'Ethiopia Oriental', in Theal, '*Records*', VII, 272; Diogo do Couto, 'Diálogo do Soldado Prático', (ed.) R. Lapa (Lisbon, Sa da Costa, 1937, 238); Manuel Barretto, 'Report on the state and conquest of the Rivers of Cuama', in Theal, '*Records*', III, 450; Ignacio Caetano Xavier, 'Notícas dos Dominios Portuguezes na costa de Africa Oriental', In Beach and Noronha 'Shona and the Portuguese' II, 44-46; Anonymous, 'Memorias da Costa da Africa Oriental', in *Anais*, 242; Anonymous, 'Mappa da Importância das fazendas, marfim, ouro, escravos, e patacoas', in Mudenge, '*A Political History of Munhumutapa*', 383; António Norberto de Barbosa de Villas-Boas Truão, 'Statística da cappitania de Rios de Senna do anno de 1806', in Annaes do Conselho Ultramarino, I; José Francisco Alves Barbosa, 'Anályse Statística Topographica e Política da Capitania de Rios de Senna', in 'Moçambique: Documentario Trimestriale', 123.

Trade and African political change, 1500-1830

The changing nature of external trade links with the Indian Ocean coast and the wider world certainly had some spill-over effect in the interior. While rulers had a choice of trade routes, all of these joined up with the ports on the Mozambique coast, therefore a power that controlled one or more of these ports could essentially dictate the prices at which cloth and beads were sold in the interior. Little is known of these 'terms of trade' between the interior and the Muslim traders beyond the fact that there were Muslim *bazars* in the Mutapa state, and in areas such as Teve, to which Africans came to trade gold for cloth and beads. The actual number of traders in the interior was very limited, but the profits were said to be enormous, with one estimate of a hundred fold profit.[36]

The Portuguese settled at Sofala in 1505, but it was not until the early-1570s that they had overrun what remained of the Muslim trade with the interior states. Muslim *bazars* were replaced in time by Portuguese *feiras*, though again the numbers of Portuguese at these *feiras* were for the most part very limited.[37] The Portuguese, who despite all their weaknesses never actually lost control of the coast, also exacted immense profits, with estimates of 100-300% given for the Tete traders in the sixteenth and seventeenth centuries.[38]

Traders were nevertheless subject to certain taxes and tariffs. In the Mutapa state, traders who entered the territory would be expected to visit the ruler and offer a present, while a five per cent duty was reported to be placed on imports. The main tax, however, was the *curva*, which was originally paid by the Muslim traders to the Mutapa rulers in order to conduct trade in the state. The Portuguese Captain at Mozambique Island continued to pay this tax in the sixteenth and early-seventeenth centuries, when it consisted of a gift of cloth and beads to the value of 3,000 *cruzados* every three years (the normal term of the Captain of Mozambique), though this grew to 15,000 *cruzados* in the 1620s and was made into an annual payment.[39] Failure or delay of the *curva* resulted in the Mutapa ruler declaring a *mupeto* (forced payment) "of all the merchandise throughout his lands, and [the seizure of] all that is found… and in this way he liberally pays himself what is due and takes satisfaction for the affront he has received".[40] This could have a detrimental impact, however, since unless an alternative source of trade to the Portuguese could be found then there was no way out of this impasse, and hence these conflicts rarely lasted long before normal trade was resumed.

As Phimister suggested, the terms of trade were very firmly set against the interior states, yet it is easy to exaggerate the power that the Muslims or the Portuguese could exert over political structures through skewed terms of trade alone, and the documents, while heavily skewed towards trade themselves, offer little positive evidence of a weakening of the link between trade and politics in the Mutapa state in the sixteenth and early-seventeenth centuries. Rather, what we are told for much of this period is that the general desire for cloth and beads underpinned the commerce in the

[36] Duarte Barbosa, 'Description of the Situation, Customs and Produce of Various Places in Africa', in Silva Rego and Baxter, *Documentos*, V, 357. The major Muslim population centres on the Mozambique coast were the ports of Chibuene, Sofala, Angoche and Mozambique Island (Fig. 1). Miners did have the choice of disposing of gold at the coast for a higher price, but this took considerable time which could be spent on other activities.

[37] In the 1590s there were around 90 Portuguese and about 1300 Christian Africans at Sena and Tete. In the Mutapa state itself, we have a figure of just eight men at the important trading centre of Masapa in 1628. In 1633 there were no more than 200 in the whole region; M.D.D. Newitt, '*Portuguese Settlement on the Zambesi: Exploration, Land Tenure, and Colonial Rule in East Africa*' (Africana Publishing Company, 1973).

[38] Mudenge, '*A Political History of Munhumutapa*'.

[39] These taxes also operated elsewhere, for example in Teve the ruler charged the Portuguese 200 cloths a year worth 250 *cruzados* to keep the trade route open.

[40] Santos, 'Ethiopia Oriental', 272

interior, and, as Beach has suggested, that this made itself felt in the existence of a kind of uneasy mutual dependence where African rulers probably knew that they were not getting anything close to full value for their gold, but they simply could not afford to cut themselves off from the supply of imported goods altogether.[41] The reasons for this may even have strengthened in times of increasing warfare, such as in the late-sixteenth century, as cloth and beads could be used to pay armies as well as to enhance rulers' power. Indeed even long after the conquests of the 1620s and 1630s, when Mutapa rulers were openly suspicious of all Portuguese contacts, one Portuguese summed this up in the remark that "these kings are already accustomed to cloth… it will be hard to go backwards. Having gold extracted as he orders, he will know; he will need someone to buy it".[42]

Perhaps the strongest indicator that gold retained its significance in political authority in spite of unfavourable terms of trade, however, was the degree of control that appears to have been exercised over the working of major gold deposits. Right from the beginning of the sixteenth century, in the earliest account of gold mining in the Mutapa state, Alcaçova reported that "no man may take it without the King's leave under pain of death", and the volume of similar reports from elsewhere suggests that rulers attempted to authorise and prevent the mining of rich deposits as they chose.[43] Barros also reported that when the Mutapa ruler wants gold "he sends to the mines where they dig gold one or two cows, according to the number of people there, to be divided among them… and in return for this each of them gives a little gold, to the value of five hundred *reis*", a practice which was echoed by Monclaro's account in the 1570s.[44] In 1512 Fernandes also reported that the rulers of the unidentified territory of 'Amaçoce' took 50% of production, and although there is no way of verifying this high figure, this may help explain why a gift of cattle was sent to the mines as an incentive.[45]

On the other hand this evidence on the organisation of gold mining invokes a certain amount of tension with the more general literature on the pre-colonial economy. The common picture of the Zimbabwe culture economy here is more often one of central 'influence' rather than 'control', largely due to the limitations of transport.[46] This 'dispersed' power structure apparently gave gold mining a highly localised nature, which itself aided the penetration of merchant capital as local chiefs sought to use traders to enhance their power.[47] Moreover Stan Mudenge suggested that this evidence may simply refer to some vassal rulers who closed mines because they did not want the assessment of the tribute payable to the Mutapa to rise, as it inevitably would if the discovery of mines was revealed. It is true that the workings of the pre-colonial economy were not as neatly ordered as is

[41] Beach, *The Shona & Zimbabwe 900-1850*.
[42] Anonymous, 'Description of the rivers of Cuama', in '*Shona and the Portuguese*', I, 164.
[43] Alcaçova, 'Alcaçova to the King', 395. Other selected examples include Figueiredo, who in 1633 wrote that "there are big gold mines and when the big ones are found the kings of Manica immediately order them to be closed"; Bras de Figueiredo, 'Copy of the legal testimonies taken about the matter of the mines', in *Shona and the Portuguese* I, 20. Gomes wrote in 1648 that in the Manyika polity "sometimes one comes across such rich mines that the king has it closed up"; António Gomes 'Voyage made by Fr. António Gomes to the Monomotapa Empire and his work there for several years', in *Shona and the Portuguese*, I, 79. Bocarro reported that when the Portuguese came across a gold deposit they "dug no deeper for fear of the titular lords of the lands, who strictly forbid the working of rich mines, and hence many are unopened"; António Bocarro, 'Decade of Asia', in Theal, *Records*, III, 356. Mello de Castro noted that in the Rozvi state gold could not be mined on pain of death except in trivial quantities; Francisco de Mello de Castro, 'Descripção dos Rios de Senna' (Lisbon, 1861).
[44] Barros, 'Da Asia', 271; Monclaro added that "When the Monomotapa wants gold, he sends kine to his men to extract it, the kine being distributed among the diggers in accordance with the work performed", Francisco de Monclaro, 'Narrative of the Expedition to Monomotapa'. In Silva Rego and Baxter, *Documentos*, VIII, 391.
[45] Gaspar Veloso, 'Notes Made by Gaspar Veloso', in Silva Rego and Baxter, *Documentos*, III, 183.
[46] Phimister, 'Pre-Colonial Gold Mining in Southern Zambezia'.
[47] See for example A.I. Salim, *State Formation in Eastern Africa* (Heinemann, 1984).

made out in some analyses, or in the rather limited view that the documents afford, yet the amount of evidence on this practice from different polities over time suggests that a degree of central control over gold mining, whether stimulated by the desire to keep a tight hold on wealth, by the gradual exhaustion of the goldfields, or to avoid their discovery by the Portuguese, was important. At the very least, this suggests that those who argue for the view of an extremely localised pre-colonial economy, or at least the gold mining sector, do so at the expense of much evidence to the contrary.[48]

If external trade remained of importance to rulers beyond the fall of Great Zimbabwe, its ability to allow for a robust central authority was not to last for long. Although unfavourable terms of trade could only go so far in impacting African politics, the domination of the trade by one external power, as became the case from the early-1570s onwards, meant that this power had a more direct ability to influence African politics.[49] The crucial change in the Mutapa state began in the 1590s when, in the midst of dearth and in the face of the impending incursions of Maravi armies from north of the Zambezi, the Mutapa ruler repeatedly called on the Portuguese to help drive back the invaders. With each of these calls for assistance came concessions: in 1607 the relaxation of firearms laws in the state, followed by concessions of land around Tete, and ultimately, in 1629, the ceding of all the mines in the state and the reversal of the *curva* payment. That this was not a conquest of the order of the Spanish conquests in the Americas has led some to downplay its significance, but the crucial factor was that it marked a clear shift in the control of gold mining. This not only affected state security, but also spilled over onto the wider population as the expansion of the *feira* system became a base for aggressive salesmanship, which soon turned into the forced recruitment of labour in the mines. By the 1640s, for example, António Gomes noted how "beads and cloth used to be the business of the [blacks], in the old days they used to come for it to the fairs, but covetousness and greed has brought the cloth to their door… a trader comes with 300, 400 or 500 [blacks] loaded and they steal anything they come across and the natives from the villages move to other places so as not to be subjected to such humiliation".[50] Although a slight upturn in gold exports was reported in an isolated from 1667, any benefit was not realised by the Mutapa leadership, which was now split between rival 'houses' who vied for control of the state. Together with these protracted civil wars and the impacts of locust plagues, António Bocarro reported that the outcome of the destructive effects of Portuguese penetration in the Mutapa state appears to have been a gradual depopulation its plateau heartland:

> The want of population is great because few children are born, and many plagues of locusts, wars, and carrying off of captives diminish their number. But the principal cause of the want of population is the bad conduct of the Portuguese, from whose violence the [blacks] flee to other lands.[51]

[48] A detailed assessment of the nature and practicalities of 'resource control' is long overdue.

[49] This was the case most of the time except for the early- to mid-sixteenth century, when the Portuguese and Muslim traders were vying for control of the trade, and the former were often undercut by the latter operating from Angoche. The Muslim traders held a degree of influence in the Mutapa state in the 1560s after they convinced the ruler that Gonçalo da Silveira was a wizard sent by the Portuguese to bring famine.

[50] Gomes, 'Voyage', 77-78.

[51] Bocarro, 'Decade of Asia', 491. The locust plagues referred to by Bocarro are probably those of the late-sixteenth century, though there may also have been outbreaks in the early-seventeenth century. A similar report was made of the destructive nature of Portuguese penetration was made by an anonymous writer in 1683: "Mocaranga has very rich mines. But the little government, and great domination of the Portuguese with whom the natives used to live together, has brought it to such an end, that it is depopulated today and consequently without mines. Its residents ran away, and the king appointed them other lands for them to live as it pleased him. The larger part of this kingdom remained without more people than the Portuguese and their dependents and slaves. It now looks the same that Lisbon will look with three men, but not to look completely

Two instructive comparisons here are the Manyika polity and the Torwa/Rozvi state, each of which were gold-rich but maintained different relations with the Portuguese in the seventeenth century. At the time of the Portuguese conquests in the Mutapa state, a report from Manyika in 1633 stated that its ruler – probably all too aware of contemporaneous events to the northwest – retained a policy central control over the goldfields, and that his people were "afraid of taking it from the mines when it is in great quantity because the king is immediately informed… [and] gives orders for him to be attacked and have all his property, wife and children taken from him… thus, when they strike a big mine, they generally inform the king immediately and the king orders all digging to stop".[52] The Rozvi state, meanwhile, took suspicion of Portuguese contact to an entirely different level from the late-seventeenth century onwards through a policy of the deliberate exclusion of non-Africans from the state itself while still operating a trade with the Portuguese at the Manyika *feiras*.[53] This 'best of both worlds' policy, together with the abundance of cattle in the state, appears to have been enough to finance the construction of stonewalling at sites such as Danangombe on a scale that had long ceased elsewhere, as well as to avoid the most destructive consequences of Portuguese greed.

Portuguese supremacy in the Mutapa state was brought to an abrupt end by the Rozvi state, who attacked the *feira* of Dambarare in 1694 and sent the Portuguese fleeing to the Zambezi. This enabled a more independent stance to be adopted by the Mutapa ruler, although the distance of the Rozvi state meant that rival groups backed by either the Rozvi or the Portuguese continued power struggles throughout the early-eighteenth century. By the 1720s, when a level of independence from either power had been established, the decline of the Mutapa state in territory, population and 'prestige' was profound, with the loss of its relatively well-watered plateau heartland and the much diminished goldfields that remained. Thus Beach missed the point when he commented that the Portuguese were never wealthy enough as to threaten the independence of the interior states for a sustained period of time, in that the real damage to the state in its sixteenth century form had already been done. The Rozvi, on the other hand, remained independent though eventually succumbed to the repeated raids by a migratory Nguni polity in the regional upheavals of the 1820s, while Manyika alternated between Africanist and 'puppet' rulers for much of the late-seventeenth and early-eighteenth century, but recovered a level of independence thereafter.

At first glance therefore we might suppose that the Portuguese caused the demise of the Mutapa state. But this can only hold if we refer to the territorial extent and 'complexity' of the state, indeed the very survival of the Mutapa polity until the 1880s would appear to point to the limitations of the gold trade in African politics, but is also suggestive of remarkable resilience far beyond its role as a trading entity. But how does this fit with the hypothesis on the supposed fragility of the real economic basis of the state, agriculture, and its potential role in social and political change? This is considered after a brief examination of the role of the ivory and slave trades in the Mutapa state.

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deserted: the wild animals came in instead of the residents, and it has so many that even inside the houses the lions come to eat people." Anonymous, 'Description of the rivers of Cuama', 162.

[52] Gaspar de Macedo, 'Copy of the declaration made by Father Gaspar de Macedo', in Silva Rego and Baxter, *Shona and the Portuguese*, I, 14. António Gomes, explaining the reasoning for this, added that: "[The king] ordered his people not to extract any gold and to till the land and grow food in order to become richer and have more peace and quiet" Gomes, 'Voyage', 78.

[53] S.I.G. Mudenge, *The Rozvi Empire and the Feira of Zumbo*, 1972. The trade with Manyika depended on a professional class of African traders – *vashambadzi*.

Ivory and slaves

As the volume of gold exports fell, that of ivory appears to have grown. Records of ivory exports from the Zambezi-Limpopo region are even patchier than gold, but the earliest records from Sofala show that 488.5 *quintals* of ivory were exported between 1506 and 1519, equivalent to about 3,483 kg, or 248 kg per year. In 1545 this rose to 26,000 kg, and Santos put this figure at 3,000 *arrobas*, or 44,007 kg in the 1590s. A further isolated estimate in 1762 put total ivory exports from the Zambezi, Sofala and Inhambane at 130 *bares*, or 31,470 kg[54].

The growth in ivory exports raises the question of whether this trade acted as a replacement to the gold trade to reinforce political authority. This is not a straightforward question to answer. Conventional wisdom on African state formation has postulated that, unlike the gold trade, elephant hunting did not require the possession of a specific territory to the same extent as gold mining, and if pushed too far an area could be very rapidly depleted, making political consolidation in that area unrewarding. This in turn necessitated a more flexible organisation, which gave the internal aspects of the ivory trade a rather different dynamic to the gold trade, and helps explain why the ivory trading groups in the hinterland of the east-central African coast, such as the Yao, did not create a centralised state.

Hunting itself was generally a communal activity; the ruler took one tusk, the hunter kept the other, and the meat was distributed to the community. Although this could be disposed of locally, for example through bride-price payment, the majority seems to have ended up at the coast.[55] In the sixteenth and seventeenth centuries it is potentially noteworthy that Portuguese accounts as a rule stated that elephants were primarily killed for their meat, and "because they cause great damage to the plantations of millet, which they eat and tread under foot".[56] This indicates that ivory was a by-product of hunting for protein rather than vice versa. But this may have changed in the eighteenth century when the Mutapa state shifted to the lowland Zambezi valley, where the loss of cattle and gold deposits was perhaps alone enough to increase the importance of elephant hunting as both a source of protein and wealth. A further and possibly telling piece of evidence provided by Mudenge is that, in the eighteenth century, the 'treasurer' of the Mutapa state was known as the *nenzou* ('the master of the elephants').[57] Although there were several key differences between the gold and ivory trade, then, elephant hunting and the ivory trade may have grown in significance and played a supportive role in the Mutapa political system, but there is little evidence to verify this assumption.

The slave trade on the Mozambique coast also grew rapidly from the late-eighteenth century onwards, and by the turn of the nineteenth century it had became the most important of all of the trades for the Portuguese treasury. Evidence nevertheless suggests that the supply of slaves for trade was mostly confined to north of the Zambezi and to the *prazos*. Isaacman, for example, put the total Shona 'contribution' to slave exports from the Mozambique coast at around 8%, while a later record of slaves freed in nearby Tete in 1856 suggests that just 6% of slaves came from the Mutapa state.[58]

[54] Beach, *The Shona & Zimbabwe 900-1850*, 26.
[55] Beach, *The Shona & Zimbabwe 900-1850*.
[56] Santos, 'Ethiopia Oriental', 321.
[57] Mudenge, '*A Political History of Munhumutapa*', 177.
[58] Beach, *The Shona & Zimbabwe 900-1850*, 150; A.F. Isaacman, '*Mozambique: The Africanization of a European Institution: The Zambesi Prazos, 1750-1902*' (University of Wisconsin Press, 1972); E.A. Alpers, *Ivory and Slaves: Changing Pattern of International Trade in East Central Africa to the Later Nineteenth Century* (University of California Press, 1975).

Drought and the 'fragility' of agriculture

We have seen how trade played an important although ultimately non-deterministic role in the Mutapa political sphere, and how changes in resource control in the seventeenth century had destructive effects on political stability which spilled over onto the wider population. But what else of this wider population involved in agricultural and pastoral pursuits? And how does the hypothesis that "the fundamental failure of agriculture to provide absolute economic security" in the face of drought was the "basic weakness that underlay the whole economy" of the Zimbabwe culture states fit into the near-fatal mutilation but ultimate survival of the Mutapa state?[59]

This hypothesis was initially advanced in the broadest of terms. Instrumental rainfall records from twentieth century Zimbabwe suggested that, on average, one out of every five years brought a deficiency of rainfall. This, as well as seasons of excessive rainfall, the late or premature appearance of the rains, or climate-related occurrences such as locust plagues, could destroy the crops on which the people depended.[60] Although grain storage, herding, hunting and gathering could provide an escape from these problems in individual years of drought, none of these activities were able to stand up to back-to-back years of extreme weather, which could have disastrous consequences. This could also have political implications, as perceptions of weather and climate apparently became tied to the ability of Zimbabwe culture rulers to insure the fertility of the land, which some suggest meant that "if the rain failed, the leader also failed".[61] In addition, palaeoclimate records (Fig. 4), although of insufficient resolution to pinpoint specific drought years, indicate that the period 1600-1750 was the coolest and driest part of the Little Ice Age in southern Africa – a correlation that has not gone unnoticed among archaeologists and palaeoclimatologists.[62] Thus, drought was said to be central to understanding pre-colonial history, and the failure to devise an absolutely reliable defence against it may have had a significant hand in shaping the direction of political change over this timeframe.

This 'pessimistic' view of the agrarian economy was challenged on several grounds, the most influential of which was John Iliffe's suggestion that evidence of severe famine impacts, such as mass mortality, appeared to be limited to those famines that were caused or worsened by violence.[63] One reason for this was environmental, in that drought alone was rarely enough to cause mass mortality as rainfall was apparently of such a localised nature that "there was nearly always food not too far away".[64] More important than any environmental differences, though, was the view that pre-colonial societies devised robust defences against such severe impacts arising exclusively from drought, if not always against the occurrence of starvation itself. A third reason could also be added to this, in that a major shortcoming of this hypothesis was that it was argued without recourse to the actual evidence of the incidence of drought and famine in the historical record. Before we can assess the more fundamental point of the vulnerability of pre-colonial society to drought and famine, then, it is important examine the evidence on the frequency and spatial extent of drought and famine, as well

[59] D.N. Beach, 'The Shona Economy : Branches of Production'.
[60] The rates of increase in locusts rise rapidly upon drought-breaking rains.
[61] 'Rain-control' was based on the belief that humans had the ability to influence ancestors, who brought or withheld rain, through rainmaking rituals. Huffman proposed that the ruler of Mapungubwe appropriated control of these rituals and that this pattern followed in all Zimbabwe culture states thereafter. T.N. Huffman and S. Woodborne, 'Archaeology, Baobabs and Drought: Cultural Proxies and Environmental Data from the Mapungubwe Landscape, Southern Africa', *The Holocene*, 2015, 5.
[62] K. Holmgren and H. Öberg, 'Climate Change in Southern and Eastern Africa During the Past Millennium and Its Implications for Societal Development', *Environment, Development and Sustainability* 8, 1 (2006): 185–95.
[63] J. Iliffe, *Famine in Zimbabwe, 1890-1960* (Mambo Press, 1990).
[64] J. Iliffe, *Famine in Zimbabwe, 1890-1960*, 14.

as the suggestion that famine only had severe impacts when combined with violence.

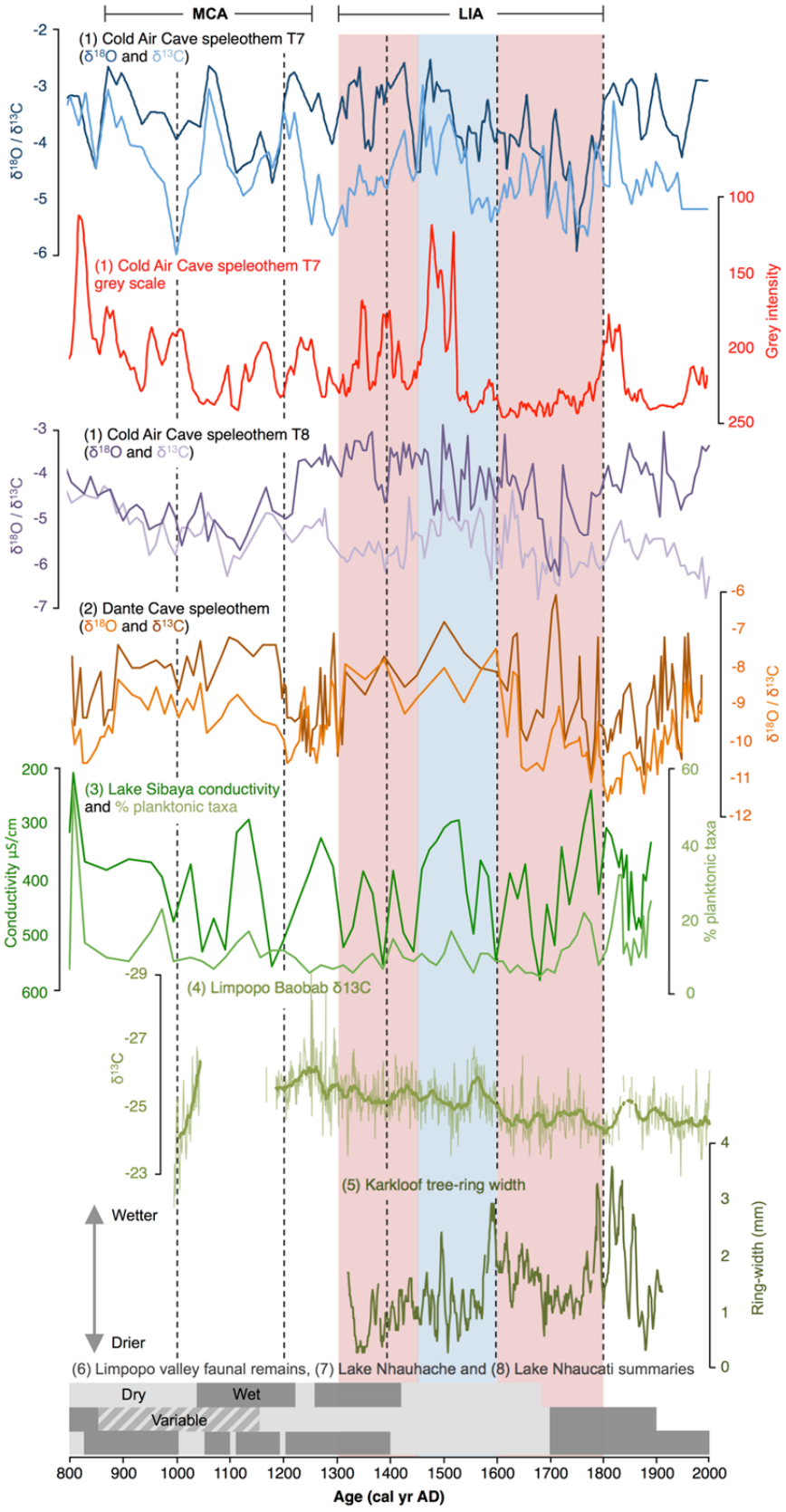

Figure 4. Southern African Summer Rainfall Zone palaeoclimate series: Red bands indicate drier periods and blue band indicates wetter period.[65]

[65] Figure from Hannaford and Nash, 'Climate, History, Society over the Last Millennium in Southeast Africa'.

Drought and famine in the historical record

Table 2 lists documentary evidence of climatic extremes and famines within the sources consulted for this study, and, in the case of the 1714-15 and 1765-65 droughts, within the secondary literature.

Table 2. Documentary and oral evidence of climatic extremes in southeast Africa to 1830. Conf. – confidence interval assigned to the record: 1 = low confidence; 2 = moderate confidence; 3 = high confidence.[66]

Year(s)	Event	Location	Conf.	Source[67]
1515-1516	Scarce provisions	Sofala	2	Almada 1516
1560	Heavy rain, flooding	Inhambane	2	Fernandes 1560
1561-1563	Drought, locusts, famine	Mutapa state, Zambezi, Inhambane	1	Fernandes 1562, Sousa 1697
1563-1565	Floods	Zambezi, Mutapa	1	Sousa 1697
1571-1573	Drought, locusts, hunger	Zambezi valley, Manyika	3	Monclaro 1573, Carneiro 1573
1589-1595	Locusts, famine	Southeast Africa-wide	2	Lavanha 1593, Santos 1609
1642-1647	Drought, locusts	Mozambique coast	2	Feyo 1647
1663	Drought	Mozambique island	1	Mascarenhas 1663
1698	Food shortage	Teve	1	Assumpção 1698
1714-1715	Drought, famine	Mutapa, Zambezi valley	2	Viceroy of India, 1715
1736-1745	Locusts	Lower Zambezi	2	Miranda 1766
1758-1759	Drought	North of Tete	2	Castro 1763, Miranda 1766
1765-1766	Drought	Rozvi	2	Anna 1767
1795-1801	Drought, famine	Southeast Africa-wide	2	Almeida 1798
1822-1823	Floods	Delagoa Bay	2	Owen 1823
1823-1830	Drought, famine, locusts	Southeast Africa-wide	3	Silva 1827, Ferrão 1828, Silva 1831

[66] Confidence intervals follow Kelso and Vogel, where '1' represents low confidence as only impacts were reported by a single observer, and '3' where multiple observers gave specific dates and locations; C. Kelso and C. Vogel, 'The Climate of Namaqualand in the Nineteenth Century', *Climatic Change* 83, 3 (2007): 357–80.

[67] João Vaz de Almada, 'Almada to the King, June 26 1516', in Silva Rego and Baxter, *Documentos*, 277; André Fernandes, 1560, 'Fernandes to the Father Provincial', in Silva Rego and Baxter *Documentos*, VII, 469; André Fernandes, 'Fernandes to the Brothers and Fathers', in Theal, *Records* II, 150-151; Francisco de Sousa, 'Oriente Conquistado a Jesu Christo pelos Padres da Companhia de Jesus da Provincia de Goa', In Beach and Noronha, *Shona and the Portuguese* I, 260-261; Monclaro, 'Narrative of the Expedition to Monomotapa', *Documentos*, VIII, 373; António Carneiro, 'Record of the Enquiry made by Command of the Governor Francisco Barreto'. In Silva Rego and Baxter, *Documentos* VIII, 237; João Baptista Lavanha, 'Wreck of the Ship Saint Albert', in Theal, *Records*, II, 327-328; João dos Santos, 1609, 'Ethiopia Oriental', In Theal, *Records* VII, 318-319; Bento Teixeira Feyo, 1647, 'Wreck of the Ships Sacramento and Nossa Senhora da Atalaya', In Theal, *Records*, VIII, 352-353; Manoel Mascarenhas, 'Mascarenhas to the Viceroy, August 4 1663', in Beach and Noronha, *Shona and the Portuguese*, I, 141; Philipe de Assumpção, c.1698, 'Brief account on the Rivers of Cuama', in Beach and Noronha, *Shona and the Portuguese* I, 270; Viceroy of India, 'Viceroy to King, Goa, 3 January 1715', in Arquivo Portugues Oriental, Vol. I, 149-150; António Pinto de Miranda, 'Report on the coast of Africa', In Beach and Noronha, *Shona and the Portuguese*, II, 105-106; Dionízio de Mello de Castro, 'Report on the Marave Empire and the Rivers of Senna', In Beach and Noronha, *Shona and the Portuguese* II, 61; Manoel Jozé de Santa Anna, 'Anna to Lago, Zumbo, 24 September 1767', cited in Mudenge, '*A Political History of Munhumutapa*', 312; Francisco Maria de Lacerda e Almeida, 'Lacerda's Journey to Cazembe in 1798', in '*The Lands of Cazembe*' (London, 1873); William Fitzwilliam Owen, 'The Bay of Delagoa', in Theal, Records, II, 475-477; João Bonifaço Alves da Silva, 'Silva to Ferrão, 10 January 1827', in Isaacman, 'Mozambique', 116; Francisco Henriques Ferrão, 'Ferrão to Botelho, 29 October 1828', in Isaacman, 'Mozambique', 119; João Julião de Silva, 'Relatorio', in M.D.D. Newitt, 'Drought in Mozambique 1823–1831', *Journal of Southern African Studies* 15, 1 (1988), 25

There has been a tendency amongst palaeoclimatologists to view such evidence as a factual list of statistics, yet it is important to question what the compilation of this evidence might actually represent. These reports certainly do not list *every* drought or famine that occurred between 1505 and 1830, and they probably miss many of the 'one-in-five' seasonal droughts referred to above. There also does not appear to be any obvious relationship between the frequency of recording of such events and the coverage of major or minor sources shown in Fig. 2 outside of the wholly data deficient decades of the 1650s and 1720s, and also despite the substantial increase in administrative documentation after 1752.[68] On the other hand there does appear to be some connection between the type of observer and references to drought, with half of these reports made by missionaries, whose attentions often moved beyond the usual preoccupation with trade. This means that we may miss some events when missionary activity was negligible before 1560. That the documents do capture several region-wide, multi-year droughts, however, leaves us with enough of a backdrop to reassess the claims made against the hypothesis on the fragility of agriculture.

The first claim made by Iliffe on the localised nature of drought and rainfall is straightforward to reject on the basis of both historical and contemporary evidence. While 'local' seasonal droughts such as that of 1758-59 around the mines north of Tete may have fallen into this category, a string of more severe and protracted regional droughts were reported in the early-1590s, late-1790s, late-1820s, early-1860s, late-1890s, and occurred most recently in the early-1990s, all but the latter of which contributed towards the outbreak of famine. Significantly, the spatial extent of the severe droughts documented by the Portuguese in 1795-1801 and 1823-30 can also be corroborated by independent rainfall reconstructions from other parts of the southern African summer rainfall zone.[69] Next, we must consider the reported impacts of these events in order to assess Iliffe's suggestion that 'famines that killed' only occurred in the presence of violence.

Impacts and responses

Evidence on the precise impacts of drought is sparse. Most evidence of widespread starvation and mortality was recorded in multi-year droughts that spread over a wide area, including those of 1561-63, 1571-73, 1589-95, 1714-15, 1795-1801 and 1823-30. Of these events, Iliffe's hypothesis on the association between violence and famine was limited to the 1561-63 famine that hit the region in the years after Gonçalo da Silveira's mission to the Mutapa state in 1561 and the drought of the 1820s.[70] Most of his evidence then drew from the records of the London Missionary Society in southwestern Zimbabwe after 1859, when the area had been settled by the Ndebele state.[71] What Iliffe attributed to lack of evidence on famine mortality therefore quite clearly appears to be the result of a deficient reading of the documents in the pre-1830 period. Rather, the wider range of these sources compiled in Table 2 shows that at least three famines in which mortality was explicitly recorded took place in years without major violence (those of 1561-63, 1714-15, and 1795-1801), while evidence that makes a clear link between violence and famine is restricted to the 1570s, 1590s and 1820s.[72]

[68] Only Anna's report of drought in the Rozvi state in 1765-66 fits into this category. The rise in documentation appears to have resulted in more references to the same event rather than greater overall recording.

[69] For example, M.J. Hannaford, J.M. Jones, and G.R. Bigg, 'Early-Nineteenth-Century Southern African Precipitation Reconstructions from Ships' Logbooks', *The Holocene* 25, 2 (2015): 379–90.

[70] The 1561-63 drought also only involved small-scale violence between Portuguese and Muslim traders in the Mutapa state.

[71] The arrival of this state in this part of southeast Africa only in the 1840s means that it holds little relevance to the nature of famine in the vast bulk of the pre-colonial period.

[72] Monclaro, 'Narrative of the Expedition to Monomotapa'; Santos, 'Ethiopia Oriental'; see Newitt, 'Drought in

If we can cast significant doubt on any universal prevalence of a link between violence and famine, the evidence on drought impacts, scattered and uneven though it may be, suggests that it was region-wide, multi-year droughts that most challenged pre-colonial societies. But what were the implications of these droughts on the security of state structures? Did they, as postulated by Beach, constitute the basic weakness that underlay the economy and thus, as proposed by archaeologists, cut deeper into the political history of the region? Or did African farmers and institutions largely counter the effects of these droughts as hinted at by John Iliffe and Hoyini Bhila?[73] Such questions cannot be meaningfully addressed by treating pre-colonial society as either a singular or static block, yet until recently one prevailing view of the pre-colonial period was that people "fasted and feasted together".[74] This romanticised 'Merrie old Africa' version of the pre-colonial past is nevertheless one that can only be obtained by a superficial reading of the sources, and while evidence on the precise impacts of famines seldom goes beyond the vague statement that there was 'loss of life', there are tinges of evidence on *responses* to drought that can help us infer their social consequences. The most detailed of this evidence comes from the Zambezi valley and the Mutapa state.

In the drought and locust plagues of the early-1590s, we have reports of the people from the Tonga chiefdoms on the lower Zambezi seeking the 'protection' of centralised political authority or of the Portuguese.[75] For example, Santos, easily our best observer at this time, tells us that "there was so great a scarcity of provisions that the [blacks] came to sell themselves as slaves merely to obtain food, and exchanged their children for an *alqueire* of millet… those who could not avail themselves of this remedy perished of hunger, so that at this time a great number of the inhabitants of these lands died".[76] From such evidence we might infer that Tonga chiefs and village heads had limited capacity to hold communities together in times of such severe drought, the result of which appears to have been the accelerated incorporation of the Zambezi lowlands into the Portuguese jurisdiction centred at Sena and Tete, which although itself suffering food shortages could relatively easily obtain grain from Mozambique and Goa. In the Mutapa state, however, it seems to have been only when the cumulative impacts of drought and food scarcity coalesced with civil war and large-scale conflict with Maravi armies in the 1590s that we have evidence of deeper social and political instability, which may have led the Mutapa ruler to turn to the Portuguese in return for concessions.[77] Unfortunately, there is very little evidence on the significance of drought on political rule through ritual power and rainmaking, and the few references we do have are heavily coloured by the biases of the Portuguese:

> "When they suffer necessity or scarcity they have recourse to the king, firmly believing that he can give them all that they desire or have need of… For this reason they ask the king to give them rain when it is required… They are such barbarians that though they see how often the king does not give them what they ask for, they are not undeceived, but still make him greater offerings, and many days are spent in these comings and goings, until the weather turns to rain, and the [blacks] are

Mozambique', for an overview of the link between famine and violence in the 1820s.

[73] H.H.K. Bhila, 'Southern Zambezi', in *UNESCO General History of Africa*, vol. 5, London: Heinemann, 1992.

[74] J. Iliffe, *Famine in Zimbabwe, 1890-1960*, 79.

[75] According to Santos, 'Ethiopia Oriental', 318, the locusts "passed through in such numbers that they covered the ground, and when they rose in the air they formed so dense a cloud that the land was darkened. During this time there was great sterility and famine, of which numbers died. The damage caused by them was great, as they devoured all the crops, gardens, and palm groves through which they passed, leaving them dried and burnt up as though consumed by fire, so that for the next two years they produced no fruits."

[76] Santos, 'Ethiopia Oriental' 319.

[77] See Hannaford and Nash, 'Climate, History, Society over the Last Millennium in Southeast Africa'.

satisfied, believing that the king did not grant their request until he had been well bribed, as he himself affirms, in order to maintain them in their error".[78]

There are few reports of drought or famine in the seventeenth century, despite the relatively good source coverage and the overall drier though less variable climatic conditions (Fig. 4). The shift of the core of the Mutapa state to the dry, tsetse fly-infested Zambezi lowlands in the 1720s, on the other hand, had a major effect on the response of its people to drought. This is evidenced in the multi-year droughts of 1795-1801 and 1823-30, where we are told that banditry and raiding became the norm as responses to crop failure.[79] In the Tonga chiefdoms in the Zambezi valley, by contrast, Miranda reported that by the mid-eighteenth century hunger was driving large numbers to submit themselves into enslavement on the *prazos* in search of food security.[80] In the 1820s, the situation had worsened altogether, and the desertion and near-fatal breakdown of the *prazo* system by 1830 was very explicitly linked by contemporary Portuguese writers to the "great famine which has reigned there for four successive years…" and the fact that there were "there are no hands to do the cultivating because all the slaves are scattered through the various lands".[81] Thus we have a stark contrast between the Mutapa state, where drought and famine did cause significant impacts such as mortality but does not seem to have contributed to any real breakdown of society – or at least we do not have any evidence of this – and the Tonga chiefdoms or the *prazo* system on the Zambezi.[82] Why was this the case? And what were the key factors that accounted for the apparent resilience of the Mutapa state in the face of drought – particularly after the 1720s when the state moved to the Zambezi lowlands and therefore largely shared the same environmental setting as their Tonga neighbours? This question is now addressed through an analysis of vulnerability and resilience.

Vulnerability and resilience

Drought impacts and responses were channelled through differences in vulnerability and resilience. The Portuguese documents provide us with sufficient information to reconstruct these differences between political units over time, although they are less good on the more subtle differences within societies. The first key factor lay in environmental differences, which in turn affected agriculture and herding. Dryland areas such as the Zambezi valley were more highly exposed to drought than the better watered plateau areas of the sixteenth and seventeenth century Mutapa state, and less still than the Manyika polity in the well-watered eastern highlands.[83] While the general picture of pre-colonial agriculture was one of dependence on finger millet, pearl millet, sorghum, groundnuts, cowpeas and vegetables, this meant that there were more subtle differences across space. Drought-resistant sorghum thrived in the dryland areas, though was only grown in small quantities in gardens in the plateau areas of the Zimbabwe culture states, where its importance was dwarfed by that of

[78] Santos, 'Ethiopia Oriental', 199.
[79] Newitt, 'Drought in Mozambique'.
[80] "Most of them become slaves at a time of famine or grasshopper plague for want forced them to give themselves up as slaves not only to the Europeans and Asians, and *patricios*, but also to some powerful natives." Miranda, 'Report on the coast of Africa', 105-106.
[81] António Mariano da Cunha, 'Cunha to Brito, Quelimane, 24.9.1829', cited in Newitt, 'Drought in Mozambique', 34; Ferrão added that "The horrible calamities which have for some years caused great droughts… have reduced the lands to complete desert and the free Africans and slaves to skeletons.", Francisco Henriques Ferrão, 'Ferrão to Silva, 4 April 1829', cited in Isaacman, 'Mozambique', 119.
[82] We have also seen that a record of slaves freed in Tete in 1856 put the figure that came from the Mutapa state at just 6%; a figure that was dwarfed by people from the Tonga polities and those north of the Zambezi.
[83] That Manyika was reported to be a dry land lacking in food in the 1570s perhaps gives weight to the nature of this drought; Carneiro, 'Record of the Enquiry', 233.

the two millets. Rice was also grown in well-watered areas such as the Zambezi delta, around Sofala, and in certain areas of the plateau, but in most places the riverbank fields were too few to grow rice on a significant scale.[84] This was not a static picture, however. The growth of the *prazo* system from the 1570s along the banks of the Zambezi brought with it an increased diversity of crops, and the addition of maize and wheat to the crop mix led some observers to write of dietary change by the end of the seventeenth century.[85] This increased diversity may have reduced the exposure of farming communities on the Zambezi, and may even partly reflect the minimal evidence of food shortages at this time (Table 2). Agriculture in the Zimbabwe culture states, by contrast, appears to have been remarkably conservative. Sorghum probably became of greater importance in the Mutapa state after the 1720s, but it was only in the twentieth century that maize took root as a staple crop.

The documents also bring out sharp differences in the possession of cattle, goats and sheep. These domestic animals were important constituents of the food system as they lived much longer than grain could be stored, and their utility as a buffer to grain shortages probably lay at the root of their economic importance. Yet cattle were the "supreme domestic being" because they also held a central place in society through their importance in ritual, bridewealth, and as a means for rulers to maintain clients through the distribution of herds to loyal followers.[86] In the sense that the incentive to build up cattle herds was there for every farmer, cattle were likely killed or traded for grain as more of a 'last resort' in the event of harvest failure. The Mutapa, Manyika, Torwa and Rozvi polities were reported to contain vast herds of cattle, while in Manyika sheep were also widely possessed.[87] Much of the Zambezi valley, on the other hand, was affected by the tsetse fly, which prevented the build-up of herds on any significant scale.[88] In other areas where we have detailed accounts, such as the Teve polity, cattle are not mentioned and goats seem to have been the dominant domestic animal.[89] The Mutapa state had state lost much of its cattle by the mid-eighteenth century when the core of the state shifted to the tsetse fly-infested Zambezi lowlands, although we remain in ignorance of whether this was a cause or a result of the fragmentation of the state.[90] The impacts of this loss of cattle on vulnerability and resilience are returned to shortly. The problem for many people, however, was the acquisition of cattle. Even in the sixteenth century Mutapa state, cattle were not equally distributed, which meant that many people turned to other activities such as hunting and gathering, particularly in times of hunger.

Hunting and gathering provided valuable dietary additions, even in non-drought years, and were practised widely across the region. It is difficult to situate hunting in the context of the rest of the food system from the Portuguese documents, though it is very noticeable that in areas where cattle were not possessed in great numbers, such as Teve, we have descriptions of highly-organised

[84] Barros, 'Da Asia'; Monclaro, 'Narrative'; Gomes, 'Voyage'.

[85] For example, Barreto wrote in 1667 that "The higher lands yield as much wheat as desired. In the month of July… I saw some which was as high as a very tall man. In Sena they make very good and delicious bread, and the [blacks] are already beginning to prefer it to their millet." Manuel Barreto, 'Supplement to the Report upon the State and Conquest of the Rivers of Cuama', *Records*, III, 506.

[86] Beach, 'The Shona Economy: Branches of Production'.

[87] Alcaçova, 'Alcaçova to the King'; Barros, 'Da Asia'; Santos, 'Ethiopia Oriental'

[88] The 1759 inventories of Jesuit *prazos* on the Zambezi gave figures of just 47 head of cattle at Tete and 40 at nearby Marangue; See W.F. Rea, *The Economics of the Zambezi Missions: 1580-1759* (Institutum Historicum Societatis Iesu, 1976).

[89] Although absence of evidence in this case forces us to rely on the 'argument from silence', it seems unlikely that over three centuries of reports on this area would omit to mention cattle. One possibility is that they lost their cattle in the late-fifteenth century in the split from the Mutapa state.

[90] This period is poorly documented, however the reason for the loss of cattle has not been fully considered.

hunts.[91] This would suggest that hunting was of amplified importance in these areas, although it could probably only offer a limited amount of support during periods of dearth. The gathering of wild plants, fruits and insects was also extensively practised by women and children. This took on a particular importance in the Zambezi valley, where the use of wild produce by its Tonga-speaking population was one of the widest in Africa.[92] In times of famine, people in these dryland areas had few other options to turn to and were forced to rely on gathering at a much earlier phase of a drought. This changed to some extent with the growth of the *prazo* system, where it seems that the growth of fruits on plantations significantly increased, however even long after this gathering remained of vital importance, indeed in about 1810 Ferrão reported that one third of the year was spent on gathering in years of deficient rainfall.[93]

A further escape from food shortages lay in internal channels of exchange, where production from other economic activities was bartered for grain from elsewhere. Much of this appears to have related to mining, the best evidence of which comes from the Manyika polity, where, in the sixteenth century, gold was traded for grain with the neighbouring territory of Barwe.[94] There were also levels of economic specialisation in different parts of the region, for example the manufacture of iron hoes, weapons, and craft goods such as mats, pots and baskets, all of which could be bartered for grain. As is evident from the relative importance of gathering, these activities took on an enhanced significance in the more drought-prone environments that were also deficient in minerals or salt, which precluded the option of turning to mining in order to exchange minerals for grain. At least in theory, however, this option would have only been of use in times of more localised food shortages, and problems of transport appears to have prevented the growth of an internal grain trade on any significant scale.

But purely environmental and economic factors, while key in conditioning vulnerability to drought, can only go so far in explaining resilience at the societal level. If this was not the case then the loss of cattle and minerals to consume or exchange in times of harvest failure in the eighteenth century Mutapa state may have resulted in the state going the way of the Tonga chiefdoms. Fortunately, Portuguese documents also provide evidence, although somewhat less detailed, on the organisation of various institutions and social networks that help us address the question raised at the end of the previous section. One example of this is labour service and grain tribute. Barros, for example, wrote that the Mutapa ruler's 'captains' and their men worked in the fields at the capital seven days out of every 30,[95] while Santos added that such fields were found across the Teve area:

> "In all the villages and kraals… there is a large crop of millet for the king, and all the inhabitants of the place are obliged to work upon it certain days in the year, which are fixed upon. In this way the [blacks] each kraal weed, dig, sow, and gather this crop reserved in their village for the king, which the king orders to be collected by his agents appointed in each village for the purpose."[96]

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[91] Santos, 'Ethiopia Oriental', 208 "Quiteve is accustomed to hold certain royal hunting parties, taking with him all the men of the city in which he dwells, who are three or four thousand, a little more or less."

[92] T. Scudder, *The Ecology of the Gwembe Tonga* (Manchester University Press, 1975).

[93] Francisco Henriques Ferrão, 'Account of the Portuguese possessions within the Captaincy of Rios de Sena', in Theal, *Records*, VII, 372.

[94] Barros, for example, tells us that "As the land is rich in gold, if the people were covetous a great quantity would be obtained, but they are so lazy in seeking it, or rather covet it so little, that one of these negroes must be very hungry before he will dig for it." Barros, 'Da Asia', 267. This raises further questions about the more subtle ways in which external trade penetrated the pre-colonial economy.

[95] Barros, 'Da Asia', 271.

[96] Santos, 'Ethiopia Oriental', 222.

In theory, the stored grain could then be redistributed in times of drought. Though added to this must be the difficulties of transport, especially in large territories such as the sixteenth and seventeenth century Mutapa state, where the Portuguese make no reference to grain being carried by cattle until the eighteenth century, while carrying the grain in baskets would have been slow and would have removed valuable labour from villages. In this respect the capital may have been able to rely on grain tribute from its immediate hinterland, although less so on the fringes of the state. It is nevertheless noteworthy that, although the Portuguese wrestled control over the gold mining sector, the Mutapa ruler maintained control over these other networks, as is evidenced by the continued reports of labour service and grain tribute well beyond the highpoint of Portuguese dominance.[97]

This more centralised mechanism was complemented by a degree of long-term planning and communal activity in agriculture at the village level, in particular grain storage and communal work parties. The common timeframe given for storage of the main grains of sorghum and the two millets is two to three years in grain bins that were often situated on rocks or high poles to evade termites. 'Beer cooperative parties' were also a central feature of village life, in which weeding of the gardens and threshing of the grain were done on a cooperative basis on each holding in succession, and were rewarded with beer provided by the householder.[98] In addition, grain could also obtained through a system where one borrowed grain on the understanding that it would be refunded without interest in the following season.[99]

Although we lack similar evidence of such practices in the chiefdoms and village communities in the Zambezi valley in the sixteenth century, this, of course, does not mean that they did not take place. Yet it is noteworthy that gathering took centre stage in times of drought on the Zambezi. This may have been enough to combat seasonal droughts, but was likely insufficient for the severe multi-year droughts, and the reports of responses to drought may imply that chiefs and village heads had a more limited capacity to provide food and hold communities together. To some extent, this changed when the Portuguese expanded their settlement on the Zambezi from the 1570s. The growth of the *prazo* system brought with it a level of investment in and diversification of food production in certain areas, as the maintenance of a robust food supply was the crucial factor in holding the populations of these estates together. But the *prazo* system brought new instabilities. Many estate-holders were not integrated into African society and never really gained traditional legitimacy, while the growth of absentee owners in the late-eighteenth and early-nineteenth centuries accentuated the exploitative aspects of the system and placed priority on short-term gain rather than prolonged stability. Most damaging of all was the short-sighted policy of enslaving the 'free Africans' and exporting them to the international slave trade, which not only reduced numbers on the *prazos* but also destroyed the historical relationship between *prazo*-holders and formerly independent chiefs in their jurisdiction. This was probably the single most important factor underlying the virtual disintegration of the *prazo* system in the 1820s and 1830s, though successive years of drought, famine, and a deluge of locusts perhaps help explain the timing of this breakdown. It is therefore possible to see how although specific drought-related vulnerabilities, such as the diversification of the food system, decreased, systemic resilience also decreased.

[97] The most detailed of these is found in António da Conceição 1696, 'Treatise on the Cuama Rivers', in Beach and Noronha, *Shona and the Portuguese*, I, 207.

[98] This frequently appeared in the Portuguese accounts as "They spend much on eating, drinking and arranging feasts and drunken merry-making"; Monclaro, 'Narrative', 385.

[99] H.H.K. Bhila, 'Southern Zambezia'.

In the Mutapa state, vulnerability had increased through intensified physical exposure to drought in its dryland setting together with a loss of cattle and mineral resources, yet there was no reported breakdown of society.[100] Rather, in spite of these factors, the state actually recovered some of the land previously lost and exerted increased power over the Portuguese.[101] The key factor in this appears to have been an element of 'military' innovation in the organisation of society, which may be seen as a response to the lowland environment of the Zambezi valley and to the political pressures of the eighteenth century. In the sixteenth and seventeenth centuries, when the state was based on the plateau, cattle brought a degree of economic security and were exchanged by young men as bride-price to obtain wives. There was also little evidence of a standing army at this time, although temporary forces could be raised for specific campaigns. In the Zambezi valley, however, greater emphasis was placed on agriculture and related labour service, whilst the reduction of opportunities in cattle herding and external trade meant that there were no shortage of people who lacked cattle to obtain wives and were forced to enter the service of others as 'bondsmen', or even as slaves, and formed the bottom level of society. This resulted in the emergence of a class of *nyai*, or groups of young fighters.[102] These groups served local rulers as semi-professional soldiers in return for wives, and took part in other activities such as hunting, herding whatever livestock remained and bringing in extra wealth by trading or robbing traders.[103] Their main value, however, appears to have been as a fighting unit which enabled the state to rebel Portuguese attacks and extend its influence, and it is in the context of these changes that we should view reports of banditry and raiding in times of drought. Thus although the impacts of the regional drought of the 1820s were very real, that these impacts do not appear to have translated into deeper political consequences is indicative of resilience, a major source of which may be due to this reorganisation and adaptation to its dryland environment. Prior to making some concluding remarks on the hypothesis raised in the introduction, it is important to comment on the role of longer-term changes in climate.

Climate extremes and climatic change

The significance of drought appears to have lain in clusters of severe, protracted and geographically extensive extreme events. We have little evidence to substantiate the speculative suggestion that longer-term changes mean annual rainfall as a result of persistent cool-dry Little Ice Age conditions shaped societal change, despite what may appear to be a correlation between these cool-dry conditions and state disaggregation. Rather, it is particularly noticeable that there were very few reports of drought or famine in the seventeenth century despite both good source coverage and a shift towards dry conditions indicated in palaeoclimate records (Fig. 4), though many shorter-duration events could simply be beyond the resolution of the available data.

There is nevertheless a tendency to place a strict divide between the occurrence of climate extremes and longer-term climatic change, as if the former did not take place within the context of the latter. Yet there may be tentative grounds for a link between periods of increased climate *variability*, as opposed to longer-term changes in the mean, and the occurrence of severe and

[100] Evidence on the state at this time is admittedly scanty, though in 1831 Gamitto noted that the Mutapa rulers power, while less than in the past, was still respectable, and that his sub-rulers still obeyed him; Gamitto, 'King Kazembe', (Lisbon, Junta de Investigações do Ultramar, 2 vols., 1960).

[101] For example, the attack on the trade centre of Zumbo in 1772 was enough to compel the Portuguese to ask for help from the Rozvi.

[102] Beach, *The Shona & Zimbabwe 900-1850*.

[103] '*Nyai*' appear in the historical record from the 1690s; D.N Beach, *The Shona and Their Neighbours*, (Oxford, Wiley-Blackwell, 1994).

protracted climate extremes that had major effects on society, as in the 1570s, 1590s, 1790s and 1820s (Table 1). Although both documentary and palaeoclimate records are of variable quality and resolution in this region, these extremes occurred at times of regional and, in most cases, global climatic change. This may hint that periods of multi-decadal to centennial drier conditions, with reductions in rainfall amount but lower overall variability between seasons and decades, were of less direct consequence than those with more highly variable conditions. At the very least, this runs counter to the common assumption that the shifts in the mean associated with the Little Ice Age were of most significance to society.

Conclusion

This paper set out to revisit some of the sweeping generalisations of pre-colonial southern African economic and social history, in particular those that have been put forward as drivers of 'the decline of the Zimbabwe culture'. Although much of the foregoing is also a generalisation of sorts, it has suggested that a number of the common assumptions around the impacts of the gold trade and drought on societal change at least merit further investigation.

With respect to the role of gold and trade, we have seen how this retained a supportive and reinforcing role in the African political sphere far beyond the decline of Great Zimbabwe, and that unfavourable terms of trade were not new and alone did not play a crucial role in the Mutapa state. While the exhaustion of gold deposits was important over the very long run, it was the loss of central control over the working of gold that was the key factor. In postulating this argument, the paper has suggested that the often assumed 'loose confederacy' image of pre-colonial states, at least in the realm of mining, goes against much evidence to the contrary. Thus when political control over large tracts of gold-rich land shifted to the external trading power, as it did after the Portuguese 'conquest' of 1628-1632, this was not simply a 'disruption to trade' as highlighted by Mudenge, but had deeper implications for state security, and, perhaps more importantly, had destructive spill-over effects onto the wider population.

If we can in part fairly blame the Portuguese for the seventeenth century depopulation of the Mutapa state on the plateau, this seemingly runs contrary to some conclusions on the influence of the Portuguese on the interior states, which has been seen as "the failure of the Portuguese to make a significant impact in the interior".[104] This point can be made with good reason insofar as the limited number of Portuguese colonisers to enter the country was concerned, or that no viable Afro-Portuguese community evolved on the plateau, but comparisons of the Portuguese 'conquest' with the Spanish peopling of South America tend to diminish the destructive influence of the Portuguese on Mutapa affairs in the seventeenth century. This point has also been made to the end that "had there had been a great empire of Mutapa, then a ruthless Portuguese *conquistadore* might have played the part of Pizarro, overthrown the monarch and seized control of the country, but the small-scale, segmentary nature of political organisation proved far more resilient than the great military monarchies of South America".[105] This nevertheless misses the point that the Portuguese actually did in part achieve their objective to increase gold output when they established control over the gold deposits, but this rapidly became counter-productive and came at great cost in the brutal methods of labour coercion and the depopulation of the Mutapa state.

[104] M. D. D. Newitt, *A History of Mozambique* (Indiana University Press, 1995), 101.
[105] M.D.D. Newitt, *A history of Mozambique*, 58.

We have also seen how the hypothesis on the failure of agriculture to provide absolute security in the face of drought was not necessarily conceptually misguided, but was argued and counter-argued without recourse to the actual historical evidence of drought and famine. Famine did occur, and very often as a result of multi-year and spatially-extensive drought and locust plagues. It also had very real effects, but, at least for the Zimbabwe culture states, we have no evidence that it cut deeper into the political sphere other than at times when processes of change within these states may have been intensified and accelerated by the impacts of famine, such as in the 1590s. This was nevertheless of an altogether different order to the Tonga chiefdoms, whose chiefs appear to have had a more limited capacity to hold these smaller groups together. Key to this were environmental factors, the organisation and diversity of food systems, and the availability of alternative economic opportunities, particularly before the early-eighteenth century, though none of these factors completely explain why the Mutapa state in the Zambezi lowlands was able to survive the 'great Mozambique drought' of the 1820s, which has been explicitly linked to the implosion of the *prazo* system on the Zambezi. Of course, the impacts of the growth of the slave trade took primacy here, and it may also be that we simply do not know of the deeper effects of this drought on the Mutapa state. However, it seems that the state underwent a relatively successful adaptation to its dryland, cattle- and mineral-poor environmental setting through shifts in societal organisation, which underlay its resilience in times of political or climatic pressure. This may have been aided by other factors such as the maintenance of a trade in ivory and of grain tribute and central storage, the latter of which perhaps made agriculture more than the sum of its parts and helped hold the state together. The fundamental failure of agriculture to provide *economic* security could therefore be turned into a fundamental resilience in the avoidance of the deeper political consequences of drought. But this should be treated with a strong degree of caution; indeed the point at which theory begins to outstrip the evidence is reached far sooner outside of the realm of gold mining and trade, and far sooner still in areas that have not been explored in this paper such as the social role of cattle.

A final point relates to the tendency to view the pre-colonial period through the prism of 'complexity' and simply as a linear trajectory of states rising and falling. There are certainly very real indications of this in the archaeological record. The post-Great Zimbabwe period was characterised by a decline in stone construction and the disaggregation and spread of social and political culture across the region through a process of replication and modification. The historical record also tells us that the Mutapa ruler of 1500 was stronger than the ruler in 1600, and that he was stronger still than the ruler in 1700. Yet on the other hand it is arguable that this trend was somewhat reversed after this point when the state adapted to its lowland environment and exhibited a renewed vitality in its relationship with other powers such as the Portuguese and the Rozvi state. Thus, as Gerald Mazarire has suggested, we may see that continuity was achieved *because* of the fragmentation from the more dominant 'complex' states of the past and because of the adaptability of African institutions, which in itself helps to explain the survival of the Mutapa state until the 1880s.[106]

[106] G. Mazarire, 'Reflections on Pre-Colonial Zimbabwe, c. 850-1880s', In B. Raftopoulos and A. Mlambo, *Becoming Zimbabwe. A History from the Pre-Colonial Period to 2008* (African Books Collective, 2009).