Drought, Famine and Disease in Nineteenth-Century Lesotho

Author(s): Elizabeth A. Eldredge

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DROUGHT, FAMINE AND DISEASE IN NINETEENTH-CENTURY LESOTHO*

By Elizabeth A. Eldredge
York University

In this article I explore the relationships between drought, famine, and epidemic disease in nineteenth-century Lesotho.[1] Recent studies have examined drought in order to determine why drought often leads to famine, even though such an outcome is not inevitable. Other studies have sought to discover why epidemic disease often accompanies episodes of famine, which are in turn linked to drought.[2] Using evidence from Lesotho in the nineteenth century, this article seeks to answer the following questions: when drought led to famine, why did it? When drought did not lead to famine, how was famine avoided? And finally, what was the significant mechanism which induced epidemic levels of disease during times of drought and famine?

The case of Lesotho offers an important contribution to the comparative study of drought. It is possible to trace incidents of drought and the impact of drought for the entire nineteenth century, from before the formation of the BaSotho nation in the 1820s through the early years of colonialism at the end of the century. During this time people living in the region of Lesotho, who eventually became members of the BaSotho nation of Moshoeshoe, underwent tremendous demographic turmoil from the wars and migrations of the *mfecane*,[3] then a constructive phase of nation-building and economic expansion, and finally incorporation into the regional economy which had become European and international in orientation.

The incidence of drought was high throughout the century: southern Africa suffered from a prolonged drought in every decade but one.[4] These droughts induced famines both directly and indirectly. Recent research has shown that droughts do not inevitably cause famines, nor are famines usually caused by an absolute shortage of food.[5] Famines invariably coincided with droughts in nineteenth century Lesotho, however, and there were no famines which occurred independently from drought, which suggests that drought was important as a catalytic, if not ultimate, cause of famine.[6] Similarly, after contact with Europeans droughts were invariably accompanied by epidemics, and there were no epidemics which occurred independently from drought.

This study demonstrates how changing socioeconomic and political factors determined the social effects of drought, i.e., how these factors linked drought with famine and epidemics. Specifically, drought, famine, and epidemic disease were inter-

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related because of the occurrence of migration and wars and because of the sociopolitical factors which determined the allocation and distribution of food.

Droughts induced famines in Lesotho in two ways. Severe drought occasionally caused an absolute shortage of food because the interior of southern Africa was isolated early in the century and there were no trade systems to distribute food across the region. The extreme decline in food availability led directly to hunger and famine. In these cases the sociopolitical context explains why some people suffered from hunger more than others during food shortages. Only those who had access to the remaining food supplies (generally those controlling production) avoided suffering from famine.

Drought more commonly prompted famine indirectly by inducing migration, which intensified territorial competition and prompted open conflict in the context of an ongoing struggle for land. Wars created immediate famine conditions and further led to the reallocation of productive resources, which left the BaSotho increasingly susceptible to subsequent droughts and famines.

It is not necessary to establish a medical link in order to explain the historical relation between drought and epidemic levels of disease. In this article I present social and demographic reasons for the coincidence of drought, scarcity, and epidemics. In Lesotho, migration caused by drought was the catalyst which promoted epidemic levels of disease.

In the first section of this article I present a brief survey of the historical background of the region of Lesotho, in which the chronology of drought, famine, and disease are fitted into the framework of political developments in nineteenth century southern Africa. In this section I establish the coincidence of droughts, wars, famines, and epidemics. I do not intend to imply a causative linear argument that drought was the major motive force in southern African history. This study complements the earlier works of Thompson, Sanders, and others, and it relies heavily on their work on sociopolitical developments in nineteenth-century Lesotho.[7] The data presented here confirm the nature of the evolving social structure as described by these scholars. The purpose of this article is to show how politics and the economy determined the social impact of drought. In passing I also suggest ways in which drought should be considered as a factor by historians studying political and economic change.

In the second part of this article I outline the sociopolitical and economic factors which affected the impact of droughts during the century. In part three I analyze the direct and indirect links between drought and famine, using specific historical examples cited in part one and information about sociopolitical circumstances surveyed in part two. The fourth part of the article examines traditional methods of coping with drought and avoiding famine among the BaSotho. In addition, in this section I explain the decline over time in the ability of the BaSotho to escape famine in times of drought. The final part of the article explores the relationship between drought and disease.

The Coincidence of Drought, Wars, Famines, and Epidemics

The entire region of southern Africa suffered a severe drought in the years 1800 to 1802 or 1803. Barrow wrote that the first European expedition to the BaThlaping Tswana was sent "with a view of procuring a supply of draught oxen... on account of the numbers of cattle that had perished through the drought of the year 1800."[8] Oral traditions from the Sotho and Zulu indicate that the drought affected the entire area between the Orange and Vaal Rivers as well as the entire east coast region, precipitating a famine in the years 1802–1803 which caused many people to migrate and killed many others.[9]

In the 1810s and 1820s, drought as well as other natural disasters also affected southern Africa. There were droughts in 1812 and 1816–1818, and grain crops were destroyed by rust in 1816. Cattle were decimated by an epizootic in 1817.[10] Shaka's earliest campaigns were reported to have taken place between 1817 and 1820, in the aftermath of damage from the crop rust and cattle epizootic. In 1818, "very many" Mazizi came into Lesotho from the area of the Tugela River, some to trade and many to settle.[11]

The region also suffered from environmental disasters during the period of the *mfecane*. There was drought for the three years 1826 to 1828, and locusts invaded in 1828.[12] This was also the year when the Griqua began to raid BaSotho cattle, perhaps because they had suffered livestock losses of their own from the previous drought.

Out of the demographic turmoil of the 1820s came new patterns of settlement and political alliances, which culminated in the formation of the BaSotho nation under the leadership of Moshoeshoe. The BaSotho survived the *mfecane* and emerged as a nation primarily because of their ability to protect sufficient productive resources, in the form of cattle, on the natural mountain fortress of Thaba-Bosiu. These reserves of cattle became Moshoeshoe's means for expanding his political power, which allowed him to promote peace and a return to agricultural production and eventual prosperity.

After territorial competition between the BaSotho and their African neighbors subsided and the BaSotho emerged as a nation, the struggle for land between the BaSotho and their European neighbors became the most significant factor in the struggle for BaSotho autonomy. Growth in the economies of both BaSotho and European societies produced an ongoing competition for land, and overt conflicts were occasionally stimulated by droughts.

The European frontier economy in the Orange Free State was exclusively pastoral before the 1870s, grain production required huge land holdings to support large herds of cattle and sheep. White farmers depended on trade for their supplies of grain because the land available to them was infertile and arid. Compared to the dry surrounding lands, the land of Moshoeshoe was a fertile reservoir.[13] This contrast created a desire for the land of the BaSotho among the Boers, who sought additional grazing lands and more fertile land.

Boer farmers, or *trekboers*, began migrating with their herds across the Orange River from the Cape Colony in the drought conditions of the early 1830s. After 1836, political disaffection with the British Government led to the Great Trek, the massive migration of Boers into TransOrangia and beyond. Most of these

"Voortrekkers" continued on to Natal to settle, but many remained in TransOrangia, and many others returned to this area following the British annexation of Natal in 1843.

The early intrusions of Boers into Moshoeshoe's territory were inspired by a quest for more grazing lands. The Boers herded both cattle and fat-tailed sheep, but by the 1850s they came to rely on wool-bearing sheep as their main product for exchange and profit.[14] The demand for beef and cattle products had diminished, and in 1852 a traveller noted that the profits of cattle farmers derived principally from the butter they produced.[15] The daily labor of milking cows was considerable, however, and the transportation of milk products to markets in the Cape Colony was difficult, which made commercial cattle-raising unprofitable and unsuitable for the frontiersmen in the Orange Free State.

Cattle were also less adapted to the dry environment of the Orange Free State. One observer wrote that in the interior, "when from the drought the feed is too short and scanty for horned cattle, sheep even then get very fat and thrive as well as could be expected."[16] The Boer farmers had migrated from Cape Colony, where they had witnessed the profitable expansion of wool production.[17] Sheep-herding required a minimum of labor, except at shearing season, and was therefore suited to the seasonal labor provided by neighboring Africans in frontier regions.

It is therefore not surprising that farmers in the Orange Free State responded to the growing demand for wool in Great Britain.[18] In 1852, when exports from the Orange River Sovereignty to the Cape Colony, England, and Natal totalled £256,000, wool was valued at £230,000.[19] According to the 1856 Census, whites in the Orange Free State owned 1,231,849 sheep and goats and only 137,164 head of cattle.[20]

The increasing commercialization of production in the Orange Free State had further ramifications for Boer society because it provoked land speculation. Most, if not all, of the land speculators were British who bought land in the area after the annexation of the Orange River Sovereignty in 1848. The estimated land area of the Orange Free State as defined by the Warden boundary was 38,250 square miles.[21] There were 1,265 farms with a total area of 11,000,000 acres in 1854, an average area of 8,696 acres per farm.[22] Most of these farms were granted in the period of the Orange River Sovereignty. They were supposed to range from 6,000 to 12,000 acres, but many extended over 40,000 acres.[23] A title to land was obtained by making application to a Land Board, and fees amounted to only £1 to £5 *per farm.* Because low fees encouraged land speculation, the Orange Free State *Volksraad* imposed an additional fee of £5 on each unoccupied farm, which led to the evolution of the "bywoner" or tenant system. Since a farm had to have a white resident, speculators (usually British) allowed Boers unable to buy land themselves to settle on their farms.[24]

Land speculation thus initiated the concentration of landownership and gradually led to landlessness for many Boers. Land speculation caused the value of land to rise astronomically, pushing it further and further out of the reach of Boer farmers. Farms purchased in the years 1848 to 1850 commonly sold for double or triple their price after only two years; it was not unusual for the price of a farm to increase *ten times* or more in a similar period.[25] In spite of landowner fears that values would drop after

British abandonment in 1854, farm prices continued to rise.

Land speculation increased the pressure on land in the Orange Free State, providing further impetus to Boer competition for BaSotho land. In addition, the socioeconomic inequalities which arose among the white population in the Orange Free State help to explain the subsequent suffering among certain portions of the Boer population during the drought of the 1860s.

The commercialization and expansion of the Boer pastoral economy required the continuous acquisition of more and more land. Border treaties between the BaSotho and the British and Boers were negotiated and re-negotiated in the 1840s, 1850s, and 1860s, as indicated in Figure 1.[26] In 1856 the British Agent John Burnet wrote:

> The great object which these Frontier Boers have in view... is at bottom, *the new line*. This cattle matter [raids] serves to introduce the subject... but the grand point to be gained is the Land.[27]

The coincidence of drought with conflict is indicated in Table 1. There were no political crises or wars which occurred independently of drought. In the aftermath of a drought in 1834, white settlers on the eastern frontier of the Cape Colony once more came into conflict with their Xhosa neighbors and began looking to the lands across the Orange River for new pastures.[28] The drought affected the entire region including the Cape Colony, Lesotho, and lands to the northwest.[29] However, the BaSotho did not suffer from famine or epidemic disease because they had stores of grain in reserve to last for several years. A drought in the years 1841-1843 brought more and more Boers into TransOrangia seeking pasture land, even before the return of many Boers from Natal in 1843.[30] Because this drought was of such long duration the BaSotho experienced famine conditions and suffered from the first reported epidemics of typhus and yellow fever.

Attacks on the BaSotho by the British in June 1851 and December 1852 occurred during the course of an extended drought in the Orange River Sovereignty which lasted from 1850 through 1952.[31] The drought did not extend into Lesotho, and the BaSotho did not suffer from crop failure, famine, or epidemic disease at this time. It is significant that the war alone was not sufficient to induce famine conditions.

Lung sickness entered the Orange Free State and Lesotho from the Cape Colony in 1855, devastating the herds of both Boers and BaSotho.[32] This catastrophe provoked cattle raiding between the two groups. Another drought in 1858 was followed by a Boer-BaSotho war in 1858, which culminated in the Treaty of Aliwal North. Once again the BaSotho suffered famine in 1858-1859, because the depredations of war exacerbated the food shortage caused by drought. Epidemics of typhoid and dysentery occurred at this time.

Two dry years in 1860 and 1861 were followed by the drought of 1862, which was known for generations as the "great" drought, or "red dust," when the Caledon River ceased to flow for the only time in memory.[33] It was reported that not a trace of vegetation could be found, and tens of thousands of animals died from hunger, thirst, and disease.[34] Sufficient rains fell in 1863 and 1864, but locusts destroyed the crops in both years, so that there was no real

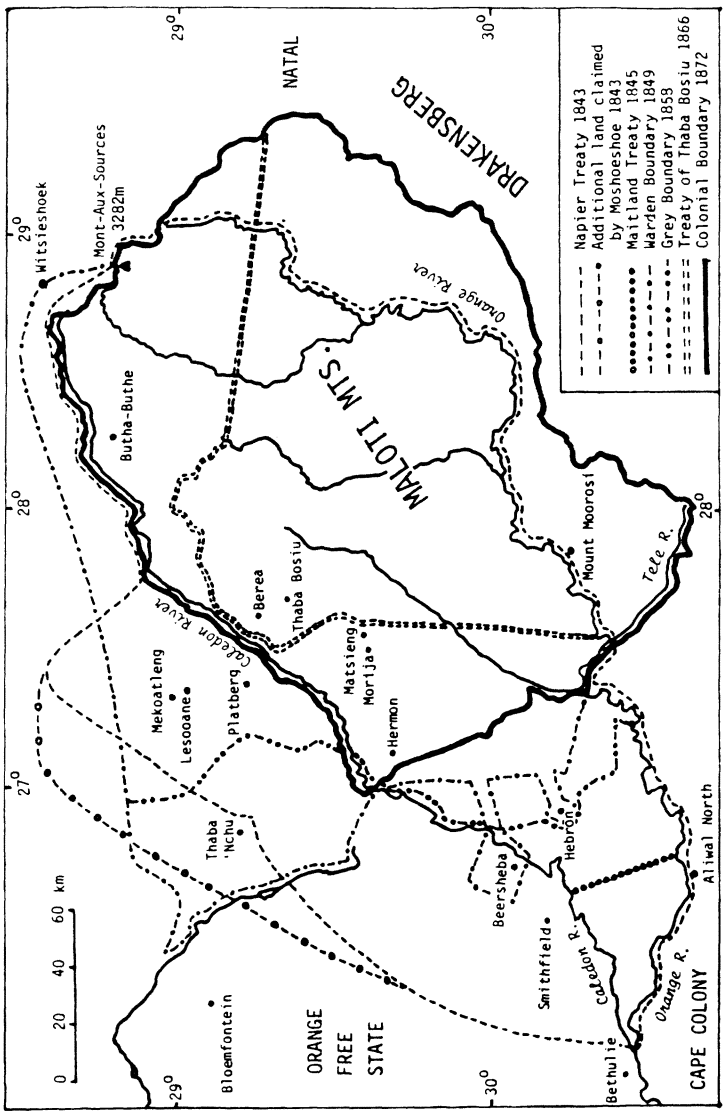

Fig. 1. The changing borders of Lesotho

Table 1

INCIDENCES OF DROUGHT, FAMINE, AND DISEASE
IN NINETEENTH CENTURY LESOTHO

Drought	Famine	Disease	Migrations/Wars
1800-3	1802-4	-	migrations
1812	-	-	(Xhosa Frontier War)
1816-18	1818	-	Shaka's Campaigns 1817- MaZizi immigration 1818 Hlubi & Matooane immigrations 1821-2 *mfecane*
1826-28	1826-28	-	Matooane emigration 1827
1834	-	-	(Xhosa Frontier War, Boer migrations)
1841-43	1841-43	typhus yellow fever	Boer immigration
1851-52[1]	-	-	British/BaSotho wars, June 1851 & Dec. 1852
1858-59	1858-59	typhoid dysentery	Boer/BaSotho war
1860-63	1862-63	small pox	
1865	1865-66	typhoid typhus	Boer/BaSotho war 1865, 1866, 1867
1877-1880[2]			Gun War 1880-1881
1883-85	1883-85	small pox	Civil War 1882-1885
1887 partial	-	whooping cough	
1890 partial	-	typhoid measles	
1895-98	1896-98	dysentery typhoid influenza smallpox	Civil War 1898

1. Orange Free State
2. Cape Colony and Orange Free State

recovery from famine before drought recurred throughout southern Africa in 1865. The BaSotho suffered from lengthy epidemics of small pox, typhoid, and typhus. Between 1865 and 1867, the Boers made their final push to expropriate BaSotho lands. In desperation the BaSotho sought the protection of the British Crown, which was granted in 1868, but the BaSotho had lost over half of their arable land when the final boundaries of Lesotho were fixed in 1870-71.

Sociopolitical Setting

The nature and degree of stratification among the BaSotho determined the internal distribution of goods and so determined the effects of drought on different portions of society. Relations between the BaSotho and their neighbors also affected the regional impact of drought.

All groups in southern Africa experienced increasing socioeconomic and political stratification over the course of the century. A consequence of stratification was that the poorer members of the population suffered disproportionately from the effects of drought. Furthermore, drought provided an opportunity for wealthier segments of the society to strengthen their economic and sociopolitical position. Across societies, drought provided both an incentive and an opportunity for more powerful groups to expropriate resources from weaker neighbors.

The sociopolitical organization of SeSotho-speaking peoples in the early nineteenth century was characterized by social and economic stratification, although large-scale political organization had not yet emerged. The *lifaqane* effected a sociopolitical transformation among SeSotho-speaking peoples in terms of scale, but Moshoeshoe adopted economic and political practices which were traditional in Sotho-Tswana culture in order to build the BaSotho nation.[35] Specifically, early sociopolitical stratification was based on the use of the *mafisa* system, which was a patronage system in which a rich cattle-owner loaned one or more head of cattle to a client, usually a poor man without cattle. The chief maintained ownership of the cattle captured by his people in raids but distributed them among his subjects. It was not uncommon for the victims of the raid to "follow their cattle behind" and become subjects of the victorious chief, who would return their cattle to them on the loan system.[36] Because a chief needed to attract and retain followers, his ability to command and redistribute *mafisa* cattle was essential.

Moshoeshoe's early influence derived from his abilities as a cattle-raider, because the cattle which he acquired in raids were distributed to the people under his father's jurisdiction. While the herds of surrounding peoples were being decimated or destroyed by Nguni invaders during the *mfecane*, Moshoeshoe preserved his wealth in cattle by means of various strategies, including the removal of his people and cattle to the almost inpregnable mountain fortress of Thaba Bosiu. Other historians, notably Thompson and Sanders, have described in detail the process through which Moshoeshoe then used his cattle to bind other groups to his nation through the *mafisa* system.[37] Over the course of the nineteenth century, the consequent disparities in wealth were reinforced among the BaSotho, which determined the ways in which drought and scarcity

affected the population at the end of the century.

Economic and demographic factors and the political relations between groups in southern Africa were also important in determining the regional effects of drought. In the pre-*mfecane* period relations between African groups were characterized by loose trade links involving the exchange of goods which were economical to transport, including low-bulk, high-value items such as iron and copper goods, or livestock.[38] Regular transport systems capable of carrying high-bulk, low value commodities such as grain had not yet emerged, which had significant ramifications during droughts.

When political developments led to the eruption of the *mfecane*, the tumultuous migrations and wars of the 1820s disrupted existing trade. During the period of recovery in the 1830s, trade revived, and there was extensive movement of grain and cattle between African groups. Subsequently, economic and political relations between the BaSotho and encroaching Europeans shaped the outcomes of regional droughts. Over time, as both BaSotho and European societies experienced demographic and economic expansion, cooperative trade relations between the two groups gave way to more competitive political relations and to an ongoing struggle for territorial control.

The Relationship Between Drought and Famine

The links between specific droughts and famines in terms of the sociopolitical factors described above help to determine why various droughts led to famine in nineteenth-century Lesotho. On two occasions drought caused an absolute and severe regional decline in food availability, which caused famines. At other times, by prompting migrations of people and livestock, drought served as a catalyst for overt territorial competition among Africans and later between the BaSotho and their European neighbors. Early relations between the Boers and the BaSotho were characterized by ongoing competition for pasture land, and the BaSotho lost land to the Boers in successive wars. Recurrent droughts did not themselves cause the wars which broke out between the BaSotho and the Boers, but the coincidence of drought with war suggests that the timing of wars in the course of a continuing struggle over land was affected by drought. Subsequently, war conditions caused famines.

This analysis uses the concept of entitlement developed by Amartya Sen to explain how changing socioeconomic and political factors linked drought with famine. Sen defines the term "entitlement" as the ability of people to command food. The occurrence of famine is not necessarily a function of food supply but is rather a function of the legal access people have to the food which is available. As Sen explains,

> Starvation is the characteristic of some people not *having* enough food to eat. It is not the characteristic of there *being* not enough food to eat. While the latter can be a cause of the former, it is but one of many *possible* causes. Whether and how starvation relates to food supply is a matter for factual investigation.[39]

To say that starvation depends 'not merely' on food supply

> but also on its 'distribution' would be correct enough, though not remarkably helpful. The important question then would be: what determines distribution of food between different sections of the community?[40]
>
> The importance of inter-group distributional issues rests not merely in the fact that an over-all shortage may be very unequally shared by different groups, but also in the recognition that some groups can suffer acute absolute deprivation even when there is no over-all shortage.[41]

According to Sen, people may obtain legal access to food for consumption, i.e. have entitlement to food, through direct production, exchange, state provision (e.g. through social security), or other methods.[42] A person or group's entitlement can shift because of changes in their ability to produce food or because of changes in the market which alter the terms of trade for food. When a person or group produces less food for consumption, they suffer from a "direct entitlement failure." When changing or adverse market conditions mean that the non-food commodities produced by the person or group can be exchanged for less food, a "trade entitlement failure" ensues.[43]

Sen argues that famines are rarely caused by an absolute shortage of food. Rather, famines generally affect those segments of the population who have no entitlement to the food which is available. However, in times of actual widespread food scarcity, the distribution of entitlements determines who survives in a famine.

The drought of 1800-1803 illustrates that drought and famine may be directly linked by an absolute shortage of food. Trade and transport systems did not yet exist to accommodate the transfer of food from Europeans or other African groups into the interior of southern Africa, and the famine was caused by an absolute and severe decline in food availability in the region. Europeans who lived in the Cape Colony apparently did not suffer from famine, presumably because they were able to obtain food *via* ocean trade with Europe. The famine of 1802-1803 is distinct from more recent famines because advances in transportation have eliminated the potential for the total isolation of any region. In most cases food fails to reach areas of drought for political and socioeconomic reasons.

As in other famines, entitlements determined who among the southern African population survived widespread food scarcity during the drought of 1802-3. Disparities in wealth caused the poorer segments of society to suffer disproportionately. So severe was the drought, however, that even the families of chiefs were adversely affected. One survivor avoided starvation by going to live with his relative, the chief of the BaTlokoa, where the members of the household lived by slaughtering large and small animals daily.[44] Only the very wealthy had sufficiently large herds to be able to slaughter animals for food over a period of a year or more after much livestock had perished from starvation. The possession of large numbers of animals represented a direct food entitlement not available to the poor.

Even within wealthy households certain members suffered. The famine was called the "famine of the female servants" by the Sotho apparently because polygamists "freed" their wives to marry again

since they could not feed them. Such a necessity indicates that hunger was widespread and affected even the wealthier strata of society.[45] It also demonstrates that the appropriate unit of analysis for identifying entitlements can be smaller than both the community and the household: women and children often suffered most during famines because they had lesser entitlements to food within households.[46]

In subsequent decades, the links between drought and famine were indirect: famine occurred in the aftermath of drought only when wars broke out, production and trade were disrupted, and entitlements were reduced by depredations. In these circumstances the causes of famine were political rather than ecological.

Wars tended to break out during periods of drought because drought stimulated territorial competition by decreasing the carrying capacity of land. Drought was not always severe enough to cause an immediate food crisis among the human population because stores of grain from previous years were available, but drought nonetheless caused crops to fail and pastures to dry up. Grazing livestock began to suffer immediately from the effects of drought, and an increased land area was necessary to support the animal population. This need for more pasture prompted the migration of herders and livestock in search of food, which brought neighboring groups into conflict with one another over border areas. Drought thus precipitated conflict over pasture land for livestock, and ensuing war conditions often led to famine, linking droughts indirectly with famines even when the drought was not itself a direct cause of famine.

Droughts and natural disasters interrupted arable and pastoral production in southern Africa during the 1810s and 1820s and may have further stimulated migrations and competition for land in the context of existing and ongoing political struggles. Drought exacerbated famine conditions during the *mfecane*, and wars hindered food production and recovery from drought and famine. The 1820s were therefore characterized by a vicious cycle of continued famine and competition over scarce food resources: land, cattle, and standing crops.

Many actors, events, and circumstances combined in the early 1820s to provoke the *mfecane*, and no one factor can be singled out as its primary cause. However, the periodic droughts which affected southern Africa clearly contributed to the devastating conditions which resulted from the ensuing migrations and wars. The devastation caused by the hostilities interacted with that caused by drought to prevent economic recovery and perpetuate famine.

In the 1840s and thereafter, the impact of drought on the BaSotho was determined by changing economic and political relations with neighboring Europeans. Drought was not a direct cause of land competition, which was a function of expanding production in both the Boer and BaSotho economies. In addition, the Boers had originally fled the Cape Colony for political reasons, and imperial ambitions continued to influence British aggression in the region. British land speculation was also an important stimulus to Orange Free State pressure on the land of Lesotho.[47] But the coincidence of wars with droughts strongly suggests that the timing of overt border conflict was governed to some extent by the occurrence of droughts. It also indicates that in the mid nineteenth century, control over land *as a factor of production* played a primary role in

initiating the wars between Europeans and the BaSotho.[48]

These early conflicts between BaSotho and Boer were manifestations of a continuous struggle for control of land. Conflict became overt during periods when drought brought the two groups into more direct competition for additional grazing lands. A scarcity of food for human consumption did not occur as a result of these droughts, nor did famine play a role in prompting the early border wars. However, the widespread famine among the BaSotho in 1858-59 was a consequence of the war, after both livestock and standing crops had been destroyed by the Boers.

The recurrence of drought and locusts in the early 1860s led to the final confrontation between the Boers and BaSotho. In contrast to earlier conflicts, in the 1860s a severe regional food scarcity was caused by the drought and was a significant factor in provoking war.

As indicated above, the drought of the early 1860s was extraordinary in its length and severity. The most significant consequence was that for the first time transportation ceased entirely between the Cape Colony and the Orange Free State, and the Boers were completely cut off from food supplies from the south.

This crisis demonstrates again that distinct historical and geographic features gave rise to famines in southern Africa in the nineteenth century. There are no navigable rivers in the region, and before the construction of railroads in the 1880s, transport was accomplished primarily by means of draught oxen and wagons. During the early 1860s, pastures were so dry that transport oxen could not find sufficient forage to survive the route from the Cape Colony to the Orange Free State, and they literally dropped dead in their tracks.[49] As at the beginning at the century, the interior was isolated, so that the appropriate unit of analysis for determining an absolute decline in food availability was the interior region itself. The interruption of pastoral and arable production caused a severe food shortage which in turn induced famine among both the BaSotho and the Boers.

The Boers therefore experienced famine for the first time in 1863. One missionary noted that in times of drought herds could be reduced by half.[50] This was disastrous to the Boer economy, which was based solely on commercialized pastoral production. Even in years of normal production, the Boers were not self-sufficient in food because they no longer raised meat-producing animals. The earlier transition from herding cattle and Cape fat-tailed sheep for consumption and exchange to herding wooled (part-merino) sheep solely for trade purposes meant that even their stock did not afford them a reliable food supply. For food, the Boers depended almost entirely on the grain supplies which they received through trade with the BaSotho. During the drought of the early 1860s, they were completely cut off from relief provisions from the Cape Colony.

The circumstances of the Boers in this period show remarkable similarities with the experiences of pastoral groups who suffered during droughts in Ethiopia and the African sahel during the 1970s. On the one hand, pastoralists suffer the loss of livestock during drought, constituting a direct depletion in their capital reserves and in their direct food entitlement. In addition, pastoralists supplement their diets by exchanging animals for grain because grain tends to be a cheaper source of nutrition. During droughts the quality and quantity of animals declines and the scarcity of grain

increases, causing the terms of trade for the pastoralist to decline drastically.[51] Since the Boers did not raise animals for consumption, they were especially dependent on trade for obtaining food.

In the 1860s the Boers suffered from a decline in their terms of trade, which constituted a trade entitlement failure. Unfortunately, price data from this period are very sketchy, and prices tended to be quoted when they were unusual, as during droughts. It is therefore difficult to determine the normal terms of trade during years of average rainfall and production. However, several sources from the 1860s establish that the "usual" price for grain was 10 to 12 shillings per muid.[52] This figure appears only twice in the specific years for which there are price quotes, but most other prices reflect post-drought conditions, and the figure appears to be realistic. Evidence for prices of sheep and cattle is similarly scanty. Nevertheless, Table 2 demonstrates that during droughts the value of livestock declined dramatically relative to the value of grain, even when it increased in real terms.[53]

These data suggest that during years of average rainfall and production when the price of grain was approximately 10 to 12 shillings per muid, one muid of grain was valued at two sheep, and two muids were valued at four sheep or one head of cattle. Although livestock prices were two to four times higher after droughts, grain prices were three to eight times greater. Therefore in periods following droughts in 1841, 1859-60, and 1864-66, the value of livestock declined by half relative to grain, and one muid of grain was approximately equal in value to four sheep or to one head of cattle. The Boers, who relied solely on commercialized pastoral production (i.e. trade in wool) through these decades, suffered not

Table 2

COMMODITY PRICES, 1841 - 1880

Year	Grain/muid		Sheep/head	Cattle/head
1841*		18s.		18s.
1844		12s.	3s.-4s.	18s.
1845				18s.-20s.
1852*	L3	4s.		
1854		7s.6d.	4s.-7s.	17s.
1859*	L4			
1860*			18s.-20s.	L4-L5
1862*			3s.-6s.	L2
1864*	L1	10s.	5s.-8s.	L2-L5
1866*		12s.		
1868		12s.		
1877		7s.		
1880*	L3	5s.		

*Years affected by drought

only direct entitlement failures during these droughts, but also trade entitlement failures.

The drought of the early 1860s made the Boers painfully aware of their dependence on the grain trade with the BaSotho. A French missionary in the Orange Free State observed:

> Hunger is beginning to make itself felt everywhere. Basutoland, which, as you know, is the granary of the Free State and of part of the Colony, has been completely drained. The Dutch farmers continue to go there with wagons full of sheep on the hoof which they transport in this way because the latter are no longer in fit condition to attempt to walk. They also have ploughs and merchandise of every description with which they hope to induce the Basuto to part with their remaining corn. Provisions can no longer reach them from the sea ports for lack of transport. Laden wagons are stranded on the highways because the teams have died.... The effects of the scourge... have been less severely felt in the higher country occupied by the Basuto. Besides, this tribe, which is essentially agricultural, usually has grain in reserve for a year or two.[54]

The Boers suffered severe hunger during these 1860s droughts, largely because of the reorientation of the Boer economy to commercial wool production and away from subsistence herding. Furthermore, growing inequalities in the distribution of wealth, in the form of both land and livestock, meant that the poorer segments of the community suffered disproportion-ately. Already leading a marginal existence, they had small herds which afforded them little security against disaster. Ultimately it was hunger, and the impotence they experienced when the BaSotho refused to sell them their own diminishing grain supplies, that prompted the Boers to provoke conflict in the hope of expropriating arable BaSotho land. Over the next five years the Boers conducted successive military campaigns against the BaSotho, wresting from them more than half of Lesotho's arable land. This confiscation freed the Boers from their dependence on the BaSotho grain trade, as the conquered territory became the new granary of the Orange Free State.[55]

Strategies of Famine Resistance

Strategies of famine resistance are of major interest to scholars studying drought and famine. This section surveys the food production system of the BaSotho in order to determine how they were sometimes able to avoid famine during droughts. The BaSotho were better able to subsist during the 1834 drought than they were later, in part because production was more diversified and less commercialized and in part because there were still sufficient resources. They practiced arable agriculture and stored their grain for consumption during droughts, and they lived on the milk from their cattle. They were also proficient at hunting and gathering.

As the century progressed, the BaSotho became less able to prevent famines during droughts. Most importantly, the productive capacity of the BaSotho was significantly curtailed following the Boer expropriation of BaSotho land. The BaSotho also suffered other

losses in their available food supply. War depredations deprived them of cattle and crops. The disappearance of wild game depleted a traditional source of famine relief. The increasing commercialization of BaSotho agriculture depleted grain reserves and increased BaSotho dependency on a volatile market, which induced both chronic hunger and famines in the later part of the country.

When the missionaries first arrived in Lesotho in the 1830s the BaSotho were primarily cultivators because they had lost most of their cattle during the previous ten years of war. By reaping large crops the BaSotho were able to trade for livestock with their African neighbors, and they gradually rebuilt their herds, which provided them with milk and meat. In 1838 a missionary noted the recent success of the BaSotho in acquiring livestock to expand the pastoral sector of the economy and diversify production:

> Nothing [is] more beautiful than the harvest of the last three years in particular. Stocks of millet have been stored in the capital to last seven or eight years.... The Barolong, the Bahlaping, and the Griquas come daily to buy grain and to supply this nation with cattle; it was hitherto very poor in the latter...[56]

The BaSotho also expanded their arable production dramatically in the 1840s and subsequent decades by increasing labor inputs and using improved technology to bring more and more land under cultivation. The initial phases of expansion from the 1830s through 1850s occurred entirely because of greater inputs of labor, made possible by a rapid growth in population. In the 1850s plows were still rare, but in subsequent decades continued expansion was made possible by the introduction of the ox-drawn plow. By 1890 the plow had replaced the indigenous hoe everywhere except in the mountains, where the soil was not always deep enough for plows.[57]

The use of adaptive strategies also contributed significantly to the dramatic success of agriculture in Lesotho, in spite of recurring drought. BaSotho crop choices were based not only on taste preferences but also on an awareness of the risks associated with drought. Sorghum was preferred to maize because it was more drought resistant. Maize needs a lot of rain while it is growing, but after it has matured, too much rain will cause it to turn yellow.[58] The BaSotho benefited from the adoption of maize, however, because the rotation of sorghum and maize helped regenerate the soil.[59]

The cultivation of wheat, strongly encouraged by the missionaries, was initially resisted because wheat was very susceptible to drought. In 1891 an observer wrote that wheat was just beginning to be extensively grown in the central districts.[60] There wheat was grown as a winter crop, alternating annually with other crops planted in the same fields, which allowed increases in crop production in spite of limitations on available land.

The adoption of wheat cultivation also allowed for the successful exploitation of mountain regions. Wheat grew better there than in the lowlands because of greater annual rainfall. In addition it required a much shorter growing season than sorghum and maize, which were ruined by early frosts in the mountains.[61] The ability to make use of mountain areas delayed the impact of the earlier loss of lowland areas.

In addition to pastoral and arable production, the BaSotho supplemented their food supply through hunting and gathering. These food supplements were especially important to the BaSotho during droughts. Many varieties of antelope were hunted for food in the region of Lesotho.[62] A single springbok or blesbok antelope weighed 200 pounds, and the meat could be dried in the sun and wind, cut into strips, and carefully stored for food.[63]

Locusts were also dried and stored for human consumption. Because of the life cycle of locusts, they appeared in the wake of lengthy droughts. Locusts frequently caused severe destruction just as crops were recovering from drought, but they also provided relief from famine. In 1851 the locusts swarmed at the Bethulie mission station for over two months, and Pellissier commented that the people ate little else for several months of the year.[64] They were collected and stored by the ton, and eaten dry after their heads and wings were pulled off, or made into porridge. They were also fed to livestock, who grew fat on them.[65]

The consumption of wild roots and vegetables was important during droughts and crop failures. The tiny grains of *moseeka* grass were threshed and ground to make the food most commonly eaten during famines. Andrew Smith first saw people collecting this grass on the mountains in 1834 and wrote that they subsisted on it when the corn was gone.[66] Other missionaries observed the use of *moseeka* grass during droughts, and it was the food most often mentioned by informants with reference to food-gathering.[67] Herd boys also dug up roots and tubers, *lihoete*, while women gathered other vegetables and greens, *meroho*.

During the nineteenth century, the BaSotho became more susceptible fo famine during droughts because the resources available for food production declined. The potential for growth in agricultural production was severely limited by the quality of the land left to the BaSotho when the boundaries of the country were fixed in 1870-71. As noted above, the BaSotho lost approximately one half of their arable lands to the Orange Free State in successive wars. Of the land retained by the BaSotho, two thirds comprised a mountain range at an altitude of 7,000 to 10,000 feet. A report from the 1960s classified 59.6 per cent of the total land area of Lesotho as suitable only for grazing, and 12.2 per cent as unsuitable for either grazing or cultivation. Only 28.1 per cent of the land area of Lesotho was classified as suitable for cultivation.[68]

BaSotho production also suffered from the progressive erosion and depletion of soils over the course of the nineteenth century.[69] Soils with the highest fertility in Lesotho as defined by its colonial (permanent) boundaries also tend to be stoney or impermeable, and the hill and mountain slopes create severe drainage problems.[70] The deep ravines which criss-cross the country today and serve as evidence of severe erosion which was already a problem in the nineteenth century. A missionary described these dongas in 1873 as twenty feet deep and thirty to forty feet wide, and getting larger every year from the rain.[71]

At the same time, the population which had to be accommodated on a diminishing area of increasingly poor land grew steadily over the century. Early population estimates show a dramatic increase in the population of the Morija district from approximately 4,000 people in 1837 to 20,000 in 1848.[72] In 1845 a British commandant

estimated that there were 50,000 to 60,000 people under Moshoeshoe's rule.[73] Three years later Casalis estimated the population under Moshoeshoe at 80,000, although this may have been exaggerated.[74] Later estimates put the population of Lesotho at 70,000 in 1852 and 80,000 in 1855.[75]

The 1850s and 1860s were a period of demographic turmoil because of the fluctuating borders of Moshoeshoe's country. Following a tremendous influx of refugees, the population of Lesotho in 1865 was estimated to be 180,000. The first census taken in 1873 reported a lower population of 127,323, but observers suggested that a more accurate estimate would be 200,000.[76] A missionary explained the massive immigration in the 1860s:

> The issue of this war has changed the configuration of the country. A considerable part of the state of Moshesh has been annexed to the Free State.... But as the Boers do not like to have Kafirs under their rule, very different is that from the English in Natal, all the Basutos who occupied the conquered territory, that is *more than half the nation of the Basutos* are obliged to leave the land which they inhabited to come and establish themselves on the left bank of the Caledon.[77]

Extensive immigration continued in the 1870s and 1880s. The official census of 1891 reported a total population of 218,902, and the annual Colonial Report of 1894-5 estimated the population at 250,000.[78] The official census of 1904 showed that the population had increased dramatically to a total of 347,731.[79] The rapid rise in population resulting from both natural increase and immigration is shown in Figure 2.

As population growth accelerated and the area and quality of available land declined, the BaSotho became less successful at generating surplus food for storage and consumption during droughts. The loss of land produced a direct entitlement loss which became more significant as the size of the population which needed food steadily increased. The ability of the nation to feed itself was reduced even further as the BaSotho were deprived of other food resources.

War conditions and the deliberate destruction of BaSotho food resources by the Boers were primarily responsible for producing famine conditions in Lesotho in 1858-9 and 1865-6. In the 1858 war the Boers destroyed BaSotho crops, and most BaSotho lost their cattle.[80] In 1863 the BaSotho began suffering from hunger because of the regional food scarcity described above, and many subsisted on roots and grass. In 1865 the Boers raided BaSotho cattle and standing crops, and severe famine prevailed. Adele Mabille, wife of a missionary, described famine in Thaba Bosiu in 1865:

> You must remember that the Boers had burnt all the villages and carried off the maize and mabele, burning that which they could not take away with them. Their [the BaSotho] cattle had been seized. Thus began a long time of suffering which lasted for over three years.... Famine made terrible ravages among us. These poor wretches dug up the bones of the cattle which had thrown themselves from the rocks at the time of the seige, to try to find yet some remains of tendon

> or skin. In the early morning at dawn, girls and women were seen leaving for the fields to try to gather some grains of grass (moseke) or some roots. They came back at night with a tiny handful of these seeds which they made into broth for their little children.[81]

Over the course of the nineteenth century the availability of wild game declined dramatically, depriving the BaSotho of a significant food resource during famines. In 1880 an official report noted that antelope were shy and scarce even in the mountains, and each year hunters had to go further into the "innermost reaches" of the mountains to find game.[82] Instead hunters relied on catching hares, rock-rabbits, small rodents, birds, and snakes.[83]

In addition, the storing of excess grain declined over time as the result of two factors. First, as the land area of Lesotho decreased, the rapidly increasing population consumed much of the surplus grain which had traditionally been stored for emergency use. Second, in later decades the people increasingly sold their surplus grain to white traders to acquire guns and plows as well as luxury goods, and to pay taxes.[84]

In 1853 a British official reported that the BaSotho "grow almost all the corn that is used in the Sovereignty [Orange Free State]," and in 1865 Lesotho was described as the granary of the Orange Free State and part of the Cape Colony.[85] Even after the BaSotho lost over half of their arable land, they continued to intensify production by converting pastoral land to arable use. By the early 1870s the BaSotho were exporting 100,000 bags of grain annually, including wheat, maize, and sorghum.[86] The quantity of cereal exports reached 200,000 muids (bags) by the early 1890s and peaked at almost 250,000 muids in 1895, as shown in Figure 3. The decline in exports in the late 1890s reflects poor production in these years.

It is a mistake to assume, however, that high levels of exports reflected rising levels of production. The evidence indicates that export levels rose because over time the BaSotho were induced to market larger proportions of their produce. Although there were significant fluctuations in grain prices from year to year, a gradual rise in prices over time within Lesotho indicates a steady decline in local supply relative to demand. Exports rose because the local demand for imported goods and colonial taxation prompted the sale of grain which had previously been stored for use in times of food shortages. This too reduced BaSotho resistance to famine in times of drought.

The increasing commercialization of BaSotho production made the country susceptible to trade entitlement failures in the later part of the nineteenth century. Agricultural production and trade were interrupted by the Gun War between the Cape Colony and Lesotho in 1880-1881 and by civil war in 1883-1885. In 1886 the railroad was completed through the Cape Colony to the diamond mines at Kimberley and to the Orange Free State. Thereafter grain could be transported more cheaply to these areas from as far away as Australia and America than from Lesotho. The price of grain plummeted accordingly. A muid of grain, which had previously been worth 15s. to 20s. during years of average production, could be sold for only 2s. to 4s. in 1888.[87] Subsequent fluctuations in grain prices,

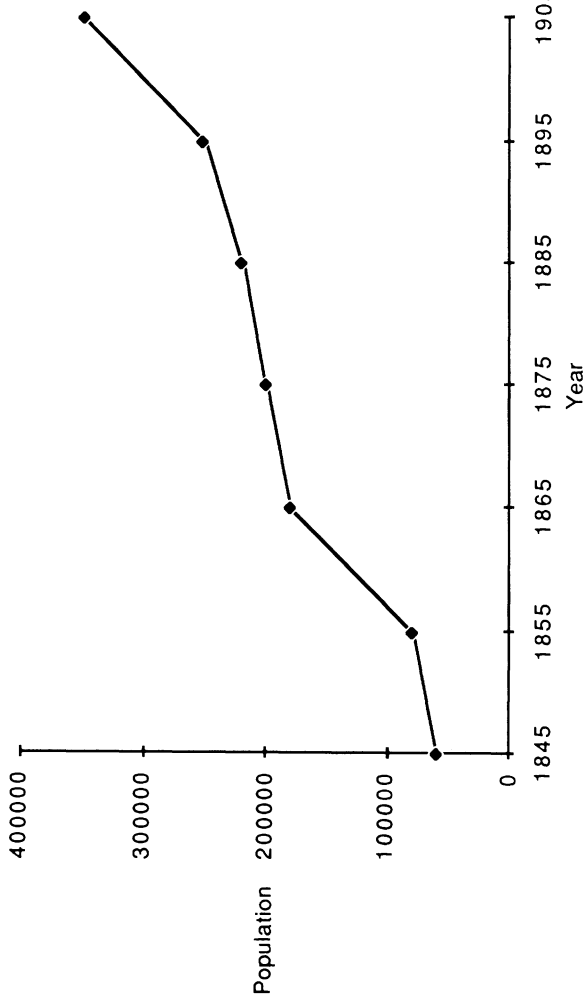

Fig. 2. Estimated population of Lesotho*, 1845-1905

*The boundaries of Lesotho were shrinking throughout this period, and a constant geographic area is not implied.

illustrated in Figure 4 below, reflected changing supply and demand conditions in the latter part of the century, and these affected BaSotho trade entitlement during this period.

Because of colonial taxation policies, many BaSotho with marginal incomes also became subject to the disadvantages associated with the chronology of grain distribution over the course of the agricultural year.[88] As soon as the season's crops had been harvested in mid-July, taxes were due, which obliged BaSotho who had no money in reserve to sell enough of their grain immediately to pay the tax. Grain sales created a glut and drove down prices. Many households were forced to sell grain which was needed for the family's subsistence. When their food supplies ran out, these households had to sell livestock to purchase food for subsistence at prices which were much higher than those they had received when they sold their crops. This exaggerated the period of seasonal hunger which normally preceded harvests.

The situation was exacerbated during droughts. The obligation to pay taxes explains why some grain was sold by the BaSotho to traders even after extremely poor harvests. With the prospects of poor harvests looming, traders used high prices to induce the BaSotho to sell, later reselling grain to the same BaSotho at higher prices.[89]

Both direct entitlement failures and trade entitlement failures caused severe food shortages and famine among the BaSotho once again in the 1890s. The country suffered a prolonged drought from 1894 through 1898. Locusts destroyed crops in 1892, 1893, 1895, and 1898. The Rinderpest cattle epizootic entered the country in 1896 and killed 80 percent of the country's cattle.[90] Food was scarce, and the BaSotho did not possess the resources with which to command a trade entitlement to import food. A civil war in 1898 further disrupted food production, and famine became severe throughout the population.[91]

Within Lesotho, the distribution of entitlements became increasingly skewed during the colonial period, which further increased the already disproportionate burden of suffering born by the poorer segments of the population. During the pre-colonial period, the main leverage retained by the people to elicit justice and generosity from their chiefs was the ability to move beyond the control of a chief with whom they were dissatisfied. Because a chief's political power depended on the people under his authority, he had a strong incentive to attract and retain followers. Chiefs therefore provided their people with food as compensation for labor and during droughts and times of scarcity and hunger.

Once all land was allocated, emigration as an expression of discontent with a chief was no longer a viable option for his subjects. The BaSotho lost a major source of leverage for claiming the resources of their chiefs, who now stopped providing their people with food.[92] Because of the lack of unoccupied land, successive generations of chiefs were placed in overlapping territories with authority over one another.[93] Individuals found themselves subject to more and more chiefs who exercised jurisdiction over the land on which they lived, and they therefore incurred additional service obligations. As the power of chiefs was further entrenched by the colonial authorities, the chiefs used their power arbitrarily to deprive people of their land and property. Both the opportunity for exploitation and the incentive

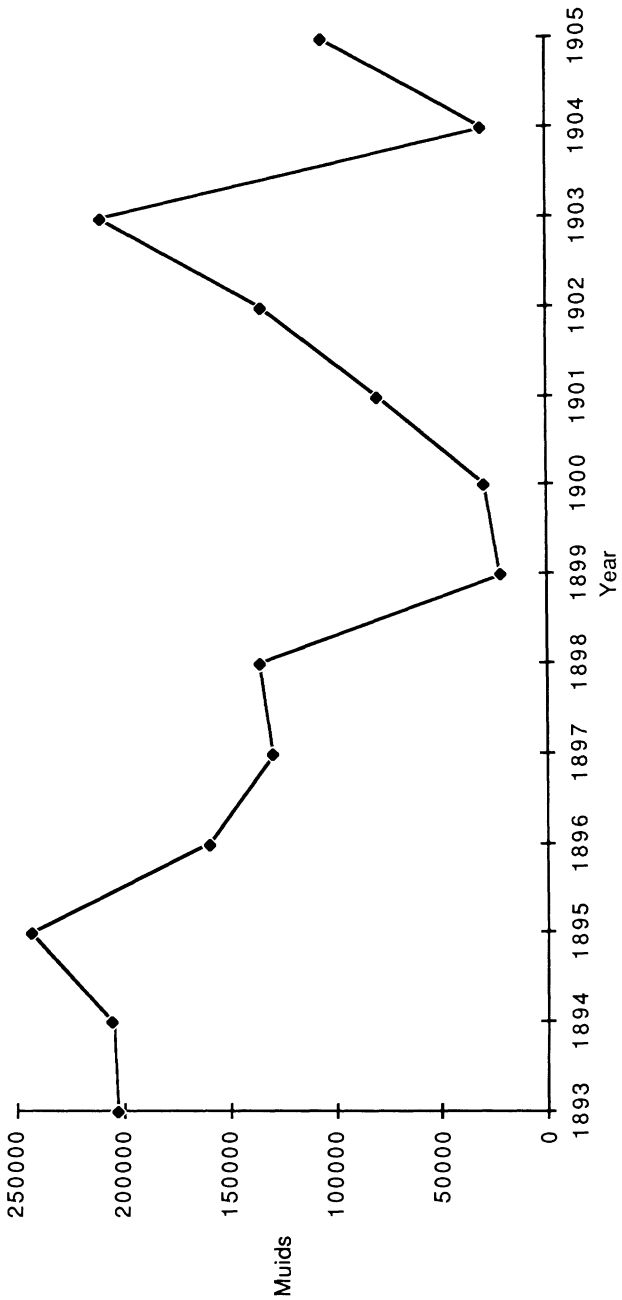

Fig. 3. Grain Exports from Lesotho, 1893-1905

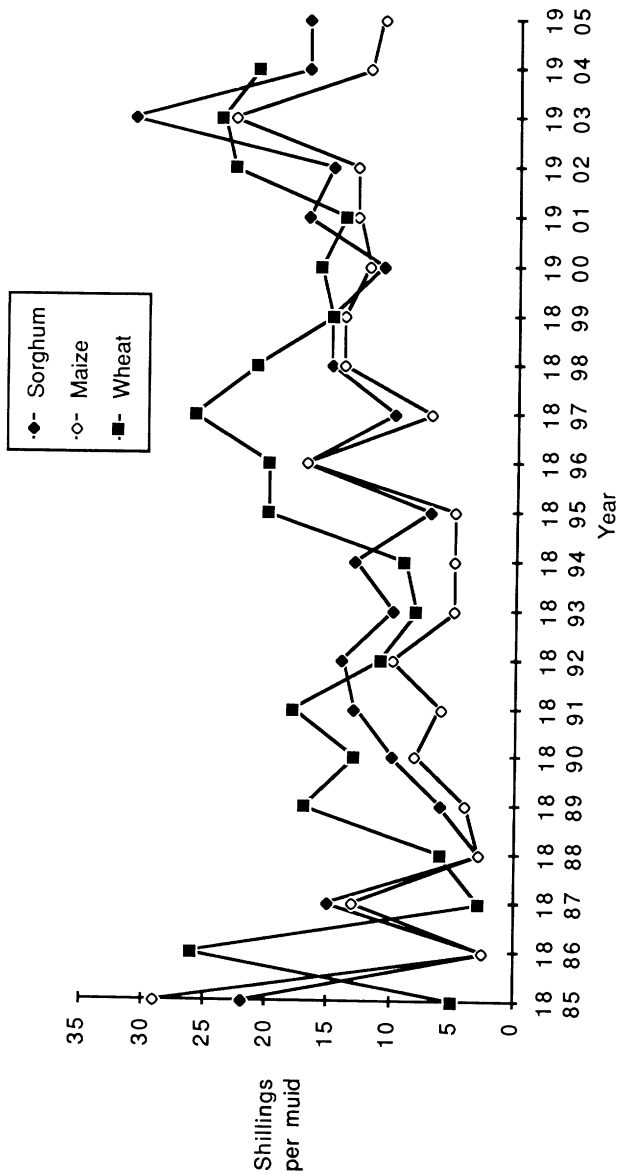

Fig. 4. Grain prices in Lesotho

for exploitation increased as a consequence of diminishing resources and colonial politics.[94]

Wealthy BaSotho suffered less from food scarcity during droughts and often increased their status relative to the poor. They produced more grain because they had access to larger areas of land for cultivation,[95] and this advantage allowed them to hold grain in reserve for consumption during shortages. Moreover, their cattle were widely distributed among their clients so that they did not lose all their livestock if only some areas suffered from drought. A man with few cattle in a single area was much more likely to lose his entire herd. As chiefs and wealthy families became less inclined to share their food, the poorer segments of the population became more vulnerable both to famine during food shortages and to chronic hunger.

The Relationship Between Drought and Epidemic Disease

In nineteenth century Lesotho, epidemic disease invariably coincided with drought. The medical relation between nutrition, famine, and disease has been widely debated, with some studies indicating that famine may increase the morbidity and/or mortality rates of disease, causing epidemics.[96] No consensus has been reached in this debate. However, the evidence from Lesotho indicates that it was drought-induced scarcity, and not famine itself, which accelerated the spread of disease and caused epidemics. Poor grazing and crop failures prompted the migration of people and animals in search of food, creating conditions which promoted epidemics.

Epidemics occur either when a community first comes into contact with a disease, or if the disease has not been in the area for a long period so that an insufficient proportion of the population has immunity. Without population disruptions such as those caused by war or famine, a disease will remain at an endemic level: individuals contract the disease and either die or acquire immunity. Although the immunity is not always permanent, enough people in a community have immunity at any given time so that, when precautions are taken to isolate victims as much as possible, an epidemic can be avoided. An epidemic can also occur in an area which normally sustains the disease at endemic levels, when large groups of people migrate and congregate for any reason, because large numbers of people without immunity are suddenly exposed to the disease environment, and it is difficult to maintain traditional methods of isolation and inoculation to prevent the spread of the disease. Some diseases, notably typhoid fever and dysentery, spread when sanitation is poor and drinking water is contaminated with human waste, as is common during droughts when water is scarce.[97]

Numerous studies have attempted to link famine and malnutrition with the rate of morbidity and mortality of diseases. The evidence is not conclusive, but malnutrition does not appear to increase the morbidity rate, i.e. the number of people who contract the disease, for most diseases. However, it may possibly increase the mortality rate, i.e. the number of people who die from the disease, especially among children.[98] Children are most likely to be infected because they are the least likely to have immunity from earlier exposure to the disease, and they are the most likely to die from the disease.

The above arguments using demographic and social explanations to link drought, scarcity, and epidemic levels of disease remain valid whether or not there is a synergistic effect between nutrition and disease.

During the nineteenth century, the BaSotho were affected by epidemics of smallpox, typhus, yellow fever, dysentery, typhoid fever, measles, whooping cough, and influenza.[99] Every prolonged drought after European contact was accompanied by an epidemic, and every epidemic occurred in the aftermath of a drought. However, as indicated in Table 1, epidemics could appear in the absence of famines after partial droughts, as in 1887 and 1890. This indicates the important role of drought-induced scarcity and migration in spreading disease. In these cases the BaSotho who migrated apparently succeeded in finding food and avoiding famine, but the unusual movement and concentration of people nevertheless promoted epidemics of diseases which were normally maintained at endemic levels.

Epidemics of smallpox occurred following droughts in 1861, 1884, and 1898. It is not clear when smallpox first entered the region of Lesotho, but it is possible that a smallpox epidemic among the Tswana in 1831-33 spread to the BaSotho.[100] In 1843 smallpox vaccine was introduced into Lesotho by missionaries, which helped prevent major outbreaks.[101] During the 1884 smallpox epidemic, vaccination, fumigation, quarantine, and the burning of huts were all used in the attempt to combat the spread of the disease.[102]

Typhus was also prevalent, and epidemics of typhus occurred along with yellow fever during the 1842 drought. A typhus epidemic recurred during the disastrous year of 1868, when the BaSotho were also plagued by drought, famine, and war with the Boers. A French missionary reported in December of 1868 that typhus had been in the country for ten months and had already killed more people than the war had.[103] Typhoid fever, which had first reached epidemic levels in 1858, also remained at epidemic levels from 1866 through 1870 and recurred following drought-induced disruptions in 1890 and 1898.[104]

The critical factor in controlling epidemic diseases in Europe after the middle of the eighteenth century was the presence of increasingly centralized and efficient governmental agencies capable of instituting effective measures of food distribution, quarantine, and sanitation.[105] In pre-colonial Lesotho, the distribution of food by chiefs in times of distress helped alleviate famine but did not prevent the migration and congregation of people searching for food. The early colonial administration of Basutoland made no attempt either to alleviate famine through food distribution or to control epidemic disease through quarantine and the improvement of sanitation. The practice of isolating sick people was traditional and quarantine measures were encouraged by the missionaries, but compliance remained purely voluntary. In the absence of an effective political structure willing or able to implement measures to counter the spread of disease, the BaSotho continued to succumb to epidemics in the aftermath of droughts, famines, and wars.

Conclusion

In this article I have demonstrated the coincidence of drought, famine, and disease in nineteenth-century Lesotho, and I have argued that the impact of drought in nineteenth century southern Africa was determined by prevailing sociopolitical and economic circumstances. I have demonstrated how migrations, wars, and shifts in food entitlements caused famines and epidemics in the wake of droughts. Political crises, diminishing resources, and an increasingly inegalitarian socioeconomic distributive system interfered with the ability of the BaSotho to cope with droughts and prevent famines. The migration of people in search of food brought large numbers of people lacking immunity into contact with endemic diseases, causing epidemics.

The primary purpose of this article has been to examine how sociopolitical and economic factors affected the impact of drought. However, the article also indicates ways in which future research should consider the indirect role of drought in political and economic change. The evidence presented here suggests that the frequent incidence of drought in the nineteenth century had far-reaching consequences in the history of Lesotho. Drought may have been a contributory factor in the migrations and wars of the *mfecane*. It certainly exacerbated famine conditions at that time and hindered demographic and political stabilization and economic recovery. Later droughts played a role in provoking border conflicts over grazing land between the BaSotho and their European neighbors.

Famine and disease had further political ramifications. The famines which often accompanied drought and war made it difficult for the BaSotho to defend their land during periods of conflict. By destroying BaSotho crops the Boers used famine to weaken the BaSotho and undermine their efforts at resistance. The ability of the Basotho to defend their country was further reduced by the high mortality caused by epidemic disease. In the 1860s the BaSotho were devastated as much by famine and disease as they were by war.

By the end of the nineteenth century, the BaSotho had lost their capacity to withstand periods of food scarcity. Given the arrival of modern means of transportation, famine could no longer be attributed to an absolute decline in food availability in the region, as had been the case in 1802-3 and in the 1860s. Instead, these famines can be explained primarily in terms of trade entitlement failures. The disruption of agricultural production within the borders of Lesotho, whether from drought, locust, epizootics, or war, deprived the BaSotho of their only source of both direct and trade entitlement to food. Participation in the regional wage economy through the migrant labor system supplying mines and farms in the Cape Colony, Orange Free State, and Transvaal was no longer an option but a necessity.[106] Earned wages constituted the only source of food entitlement available to the BaSotho when agricultural production failed.

More fundamentally, hunger in Lesotho at the end of the nineteenth century was a consequence of the narrowness of the BaSotho economy, which was limited to agricultural production and which depended on land resources insufficient to support the population even in times of normal output. On the one hand, the loss of territory and subsequent exhaustion of land resources was a

consequence of earlier expropriations by the Boers. On the other hand, the colonial system drained the economy of whatever surpluses were generated and made economic diversification impossible. Furthermore, at the end of the nineteenth century it became the explicit policy of white governments in South Africa systematically to deprive Africans of the resources for self-support, so as to mobilize labor for capitalist industry. For the BaSotho, chronic hunger and continued susceptibility to drought, famine, and epidemic disease were a legacy of successful European efforts to gain and maintain control over regional agricultural production and trade.

NOTES

1. The name Lesotho was the indigenous term referring to the nation of Moshoeshoe in the nineteenth century and continued in use among both BaSotho and Europeans even after the British substituted the name Basutoland in the Colonial period. The geographic area of Lesotho was not constant, but changed over time. See Figure 1.
2. For examples see: Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford, 1981); Robert I. Rotberg and Theodore K. Rabb, eds., *Hunger and History: The Impact of Changing Food Production and Consumption Patterns on Society* (Cambridge, 1985); Michael H. Glantz, ed., *Drought and Hunger in Africa* (Cambridge, 1987).
3. The term *mfecane* is used to refer to the chain of wars and migrations set off in response to the formation of the Zulu nation under Shaka throughout southern Africa, while the term *lifaqane* is used to refer to these disruptions among the Sotho-Tswana.
4. This does not include droughts of less than a year's duration, which were much more frequent.
5. Sen, *Poverty and Famines*; Glantz, *Drought and Hunger*; Michael F. Lofchie, "Political and Economic Origins of African Hunger," *Journal of Modern African Studies*, 13, 4 (1975), 551-567; Nicole Ball, "Understanding the Causes of African Famine," *Journal of Modern African Studies*, 14, 3 (1976), 517-522.
6. W. I. Torry, "Economic Development, Drought and Famines: Some Limitations of Dependency Explanations," *Geojournal*, 12 (1986), 5-8, quoted in Michael H. Glantz, "Drought and Economic Development in Sub-Saharan Africa," in Glantz, *Drought and Hunger*, 55.
7. Leonard Thompson, *Survival in Two Worlds: Moshoeshoe of Lesotho 1786-1870* (Oxford, 1975); Peter Sanders, *Moshoeshoe: Chief of the Sotho* (London, 1975); S. B. Burman, *Chiefdom Politics and Alien Law: Basutoland Under Cape Rule 1871-1884* (New York, 1981).
8. John Barrow, *An Account of Travels into the Interior of Southern Africa in the Years 1797 and 1798...*, (London, 1801); reprinted (New York, 1968) II, 55.
9. Jeff Guy, "Ecological Factors in the Rise of Shaka and the Zulu Kingdom," in Shula Marks and Anthony Atmore, eds., *Economy and Society in Pre-Industrial South Africa* (London, 1980), 111;

Mabokoboko, informant, in letter of D. F. Ellenberger, 1 July 1884, *Journal des Missions Évangéliques* (*JME*), (Paris, 1884), 420; F. Laydevant, O.M.I., "La Misère au Basutoland," *Les Missions Catholiques* (1934), 333-337; Nehemiah Sekhonyana Moshoeshoe, "A Little Light from Basutoland," *Cape Monthly Magazine*, 3rd series, v.2, pt. 10 (April 1880), 221-233 and v.2, pt. 11 (May 1880), 280-292; *Almanaka ea BaSotho*, Selemo sa 1894, Khatiso ea A. Mabille (Morija); *Litaba tsa Lilemo* (Morija, 1931). Note that N. S. Moshoeshoe appears to have confused the dates of the famines he mentions.

10. Letter of D. F. Ellenberger, 1 July 1884, *JME* (1884), 420; *Almanaka ea BaSotho*, Selemo sa 1894; *Litaba sa Lilemo*; N. S. Moshoeshoe.
11. *Litaba tsa Lilemo*.
12. "Liketso tse etsagetseng Lesotho 1820-1870," *Leselinyana la Lesotho*, (Mphalane, 1871), 73-77; *Litaba tsa Lilemo*; N. S. Moshhoeshoe.
13. Letter of J. Gerard, O.M.I., 1 April 1862, *Records from Natal, Lesotho, Orange Free State and Mozambique concerning the History of the Catholic Church in Southern Africa*, Book one, 1859-1863, Leo Sormany, O.M.I, trans., (Roma, Lesotho, n.d.); *Andrew Smith"s Journal of his Expedition into the Interior of South Africa, 1834-36*, ed. by William F. Lye, (Cape Town, 1975), 63.
14. Alfred W. Cole, *The Cape and the Kaffirs: Notes of Five Years Residence in South Africa* (London, 1852), 105; Letter in *Graham's Town Journal*, 18 June 1840; Wm. W. Collins, *Free Statia: Reminiscences of a Lifetime in the Orange Free State* (1907), reprinted (Cape Town, 1965), 25.
15. Cole, *The Cape and the Kaffirs*, 105.
16. Letter in *Graham's Town Journal*, 18 June 1840.
17. In 1933 the profits from herding woolled sheep were estimated to be forty times greater than profits from herding the same number of Cape fat-tailed sheep. E. A. Eldredge, "The Cape Colony: Economic Influences on the Eastern Frontier, 1835-1847" (M.A. thesis, unpublished, Northwestern University, 1978), 26-29, 45-49.
18. H. B. Thom, *Die Geskiedenis van die Skaapboerdery in Suid-Africa* (Amsterdam, 1936), 179-183.
19. Collins, *Free Statia*.
20. "Sensus van Bevolking...," Bylaag 59, 1865. V.P. 187, 127-169. Also quoted in Thompson, *Survival in Two Worlds*, 220.
21. Special Commissioner S.C. 4/1/2: Documents re The Land Board 1853 June - 1854 June, Free State Archives, Orange River Sovereignty Depot.
22. J. D. Theron, "Die Ekonomiese en Finansiele Toestand van die Oranje-Vrystaat Republiek, 1854-1880" (M.A. thesis, unpublished, Unisa, 1943), 24-5.
23. *Ibid.*
24. *Ibid.* For subsequent developments in Orange Free State farming involving the growth of sharecropping systems at the end of the century, see Elizabeth A. Eldredge, "An Economic History of Lesotho in the Nineteenth Century," (Ph.D. Dissertation, unpublished, University of Wisconsin-Madison, 1986) 304-347. For comparative studies of land speculation and white farming in other areas see Henry Slater, "Land, Labour, and Capital:

The Natal land and Colonization Company 1860-1949," *Journal of African History*, 16, 2 (1975), 257-283; Stanley Trapido, "Landlord and Tenant in a Colonial Economy: The Transvaal 1880-1910," *Journal of Southern African Studies*, 5, 1 (1978), 28-38; Peter Delius, *The Land Belongs to Us: The Pedi Polity, the Boers and the British in the Nineteenth-Century Transvaal* (Berkeley, 1984), 126-157; and articles by Timothy Keegan including "The Sharecropping Economy on the South African Highveld in the Early Twentieth Century," *Journal of Peasant Studies*, 10, 2-3 (1983), 201-226.

25. Schedules of Confiscated Farms Sold by Government During the Period of the Orange River Sovereignty 1848-1852, Free State Archives S.C. 5/18; S.C. 5/19; S.C. 5/20.
26. Thompson, *Survival in Two Worlds, passim.*
27. British Agent John Burnet to the High Commissioner of Aliwal North, 15 Sept. 1856, *Basutoland Records*, G. M. Theal, ed. (Cape Town, 1883), reprinted (Cape Town, 1964), II, 237.
28. Many Boers began herding their stock across the Orange River because of a shortage of grazing land even before the Great Trek; Eldredge, "The Cape Colony," 25.
29. T. Arbousset, 28 Jan. 1834, Société des Missions Évangéliques de Paris (P.E.M.S.) Archives (Paris), AL 80.
30. *JME* (1842), 244, 362, 372-3, 452; *JME* (1843), 326; *JME* (1944), 7-14; Report of C. Gosselin, P.E.M.S. Archives (Paris), ALG33 #3878; Sir George Napier, 7 Sept.1842, *Basutoland Records*, I, 48; Sir George Napier to Lord Stanley, 15 Sept. 1842, Basutoland Records, I, 49.
31. *JME* (1851), 408; *JME* (1852), 31; C. Gosselin, 10 Jan. 1851, P.E.M.S. Archives (Paris), ALG 50 #381; C. Gosselin, 30 August 1852, P.E.M.S. Archives (Paris), ALG 52; Assemblée Générale de la Société des Missions Evangéliques chez les Peuples non-Chrétiens (Paris), 29 April 1852.
32. *JME* (1855), 179; Chief Paulus Moperi to Landdrost of Winburg, 6 Nov. 1855, *Basutoland Records*, II, 163.
33. *Almanaka ea BaSotho* (1894); D. F. Ellenberger, 3 Sept. 1862, *JME* (1862), 405; "Notes et Souvenirs du Missionaire L. J. Cochet," (unpub.), ed. by R. Ellenberger, 2 Oct. 1862, 27 Oct. 1862, 3 Nov. 1862: 2è cahier, 68, P.E.M.S. Archives (Morija); C. Gosselin, 5 Jan. 1863, P.E.M.S. Archives (Paris), ALG 71.
34. P. Lemue, 6 Feb. 1863, *JME* (1863), 41; *JME* (1865), 289; "Rapport de la Conférence," 1864, P.E.M.S. Archives (Paris), Al 805 [1864-5]; E. Casalis jr., 1 Sept. 1864, P.E.M.S. Archives (Paris), Al 805 [1864-5]; Civil Commissioner of Aliwal North to Secretary to the High Commissioner, 18 Sept. 1865, *Basutoland Records*, III, 476.
35. Eldredge, "Economic History of Lesotho," 86-92.
36. Sanders, *Moshoeshoe*, 12.
37. Thompson, *Survival in Two Worlds*, 53-61; Sanders, *Moshoeshoe*, 23, 32, 55-56, 154-155. For a Marxist interpretation, see Judy Kimble, "Towards an Understanding of the Political Economy of Lesotho: The Origins of Commodity Production and Migrant Labour, 1830-1885," (M.A. thesis, unpublished, National University of Lesotho, 1978.)
38. Eldredge, "Economic History of Lesotho," 23-30.
39. Sen, *Poverty and Famines*, 1.

40. *Ibid.*, 7.
41. *Ibid.*, 43-4.
42. *Ibid.*, 45.
43. *Ibid.*, 51.
44. Mabokoboko, informant, in letter of D. F. Ellenberger, 1 July 1884, *JME* (1884), 420.
45. F. Laydevant, O.M.I., "La Misère au Basutoland," *Les Missions Catholiques* (1934), 333-337.
46. Michael Watts, "Drought, Environment and Food Security: Some Reflections on Peasants, Pastoralists and Commoditization in Dryland West Africa," in Glantz, *Drought and Hunger in Africa*, 205-6; James McCann, "The Social Impact of Drought in Ethiopia: Oxen, Households, and Some Implications for Rehabilitation," in Glantz, *Drought and Hunger in Africa*, 262-5.
47. J. M. Orpen, *Reminiscences of Life in South Africa from 1846 to the Present Day* (Durban, 1908) and articles in *Natal Advertiser*, 1916, reprinted (Cape Town, 1964), 221-222. Letter from the British Resident to Secretary to the High Commissioner, 18 Aug. 1850, *Basutoland Records*, I, 315; letter from Sir George Clerk to the Duke of Newcastle, Bloemfontein, 10 Nov. 1853, *Basutoland Records*, I, 72.
48. The circumstances surrounding land expropriation in this case differ from situations elsewhere in the region in the late nineteenth and early twentieth century, when land was expropriated to mobilize African labor, rather than because it was needed for production.
49. P. Lemue, 6 Feb. 1863, *JME* (1863), 41; *JME* (1865), 289; "Rapport de la Conférence," 1864, P.E.M.S. Archives (Paris), Al 805 [1864-5]; Civil Commissioner of Aliwal North to Secretary to the High Commissioner, 18 Sept. 1865, *Basutoland Records*, III, 476.
50. S. Rolland, Report of the Annual Conference, Sept. 1838, in R. C. Germond, *Chronicles of Basutoland* (Morija, 1967), 439.
51. Sen, *Poverty and Famines, 105.*
52. "Quelques Traits de la Vie Missionaire: Extraits de la Correspondance Particulière de M. et Mad. Mabille," unpubl. ms. copy, P.E.M.S. Archives (Morija) 263; *JME* (1866), 452.
53. One muid was equal to 203 lbs. The data in Table 2 was derived from the following sources: James Backhouse, *Extracts from the Journal of James Backhouse*, Part IX (London, 1841), 26; *Assemblée Générale de la Société des Missions Evangeliques* (1841), 69; Annual Conference Report, P.E.M.S. Archives (Paris) A1293 [1844-45:161]; *Petit Messager* (1845, 1853, 1854); *JME* (1859), 322; Maeder, 15 Oct. 1860, P.E.M.S. archives (Paris), ALM 67; Dr. E. Casalis, 1 Nov. 1864, P.E.M.S. Archives (Morija); *JME* (1866), 452; "Quelques Traits de la Vie Missionaire," 263; *BR* IV, pt. II, 534; James Walton, *Father of Kindness and Father of Horses: The Story of Frasers Limited* (Morija, 1958), 22.
54. P. Lemue, Feb. 1863, in R. C. Germond, *Chronicles of Basutoland* (Morija, 1967), 459.
55. Wm. W. Collins, *Free Statia*, 278.
56. T. Arbousset, 26 June 1838, Germond, *Chronicles*, 438.
57. Samuel Rolland, 19 March 1855, *JME* (1855), 202; F. Maeder, 4 March 1856, P.E.M.S. Archives (Paris), ALM 52; Marzolff,

11 March 1889, *JME* (1890), p. 55; *JME* (1891), p. 51; *Leselinyana*, 1 Nov. 1891.

58. M. Molelekoa Mohapi, *Temo ea Boholo-holo Lesotho* (Morija: Morija Sesuto Book Depot, 1956), 46.
59. Peas were also sometimes rotated with sorghum and maize. Often crop rotation was impractical for physical or economic reasons. Certain soils were best suited for a specific crop, and it was common to use the most fertile field for the crop which was most desirable, either because of consumption preferences or greater market profitability. Intercropping was unusual but not unknown. Eldredge, "Economic History of Lesotho," 118-121.
60. John Widdicombe, *Fourteen Years in Basutoland: A Sketch of African Mission Life* (London, 1891), 8.
61. Sir Marshall Clarke, "Unexplored Basutoland," *Proceedings of the Royal Geographical Society*, 10 (1888), 523.
62. *The Diary of Andrew Smith*, Percival R. Kirby, ed. (Cape Town, 1939), I, entry dated 27 Nov. 1834.
63. Fanny A. Barkly, *Among Boers and Basutos* (Westminster, n.d.), 119.
64. F. Daumas, *JME* (1843), 323; J.-P. Pellissier, 15 May 1851, *JME* (1852), 31; Adolphe Mabille, 3 Dec. 1866, "Quelques Traits de la Vie Missionaire," 281; Spencer Weigall, 4 Jan. 1899, *Quarterly Paper of the Orange Free State*, Quarterly Paper, 124 (1899), 78.
65. Fanny Barkly, *Among Boers and Basutos*, 45; interview with Maria Tsekuoa, 2 June 1982; F. Laydevant, *Missions Catholiques* (1934), 336.
66. *Diary of Andrew Smith*, 25 Nov. 1834.
67. Cochet, "Notes", 22 Jan. 1859; T. Jousse, 15 May 1859, *JME* (1859), 322; interviews with Mamphoho Peshoani, 14 Dec. 1981; Lefaufau Maama, 14 Dec. 1981; Mantele Mishaka, 16 Dec. 1981; Dixon Rafutho, 14 Jan. 1982; Mathakane Matooane, 14 Jan. 1982; Lineo Koromo, 29 Jan. 1982; Mamotoai Letsosa, 26 March 1982; Ntorobaki J. Matabane, 15 April 1982; Mateba Sokosoko, 2 June 1982.
68. M. G. Bawden and D. M. Carroll, *The Land Resources of Lesotho* (Surrey, 1968), 27-57, 75; P. Smit, *Lesotho: A Geographical Study* (Pretoria, 1967), 3-4.
69. Germond, *Chronicles, passim.*
70. Bawden, *Land Resources*, Table I, 86.
71. P. Berthoud, 19 March 1873, *Letters Missionaires de M. e Mme. Paul Berthoud de la Mission Romande, 1873-1879*, (Lausanne, 1900), 60.
72. J. Backhouse, *Extracts from the Journal of James Backhouse* (London, 1841), 25; Annual Conference Report, *JME* (1848), 372.
73. Report of Commandant Gideon D. Joubert, 1845, *Basutoland Records*, I, 109.
74. Despatch of Sir H. G. Smith to Earl Grey, 3 Feb. 1848, *Basutoland Records*, I, 163-4.
75. J. Fredoux, 13 Oct. 1852, *JME* (1853), 55; F. Maeder, "Notice sur la Nation des Bassoutos," *JME* (1855), 43.
76. John Burnet, Civil Commissioner of Aliwal North, to the High Commissioner, 17 Dec. 1865, *Basutoland Records*, III, 571; *JME* (1873), 456.
77. Bishop Jean Francis Allard, O.M.I., 3 March 1866, *Missions de*

la Congrégation des Oblats de Marie Immaculée (Missions O.M.I.), 22 (June 1867), 214-219.

78. *Missions O.M.I.*, 118 (June 1892), 226; Great Britain. Colonial Reports - Annual No. 152. Basutoland 1894-5. c. 7944-4.
79. Great Britain. Colonial Reports - Annual. No. 444. Basutoland. Report for 1903-4 With Returns of the Census, 1904, cd. 2238-21.
80. Cochet, 6 Feb. 1863, P.E.M.S. Archives (Paris) AL 746 [1863-4:2].
81. Adele Mabille, extracts from "Souvenirs, 1864-5," in J. E. Siordet, *Adele Mabille née Casalis (1840-1923), D'Après ses "Souvenirs" et sa Correspondance*, (Paris, n.d.) 125-127.
82. Great Britain. War Office. *Basutoland* (1880), 9.
83. Interviews with Moleko Thateli, 14 Jan. 1982; Sekaute Letle, 30 Jan. 1982; Makoloti Koloti, 30 March 1982; "Mabatho Serobanyane, 30 March 1982; Selbourne Moeketsi Lefoka, 30 March 1982; Moselantza Sehloho, 30 March 1982; Malibote Makoetlane, 30 March 1982; Thabo Fako, 14 April 1982; "Mamapote Kobile, 14 April 1982; Lira Motlhotlo Khalala, 14 April 1982; Kichinane Ratoronko, 15 April 1982; Moetsuoa Mohlahloe Mzwane, 23 April 1982; Morai Moeletsi, 1 June 1982; Mamohloli Nkuebe, 1 June 1982; Setabele Morahanye, 1 June 1982; Masimphole Mokoaleli, 2 June 1982; Makrika oa Mosuoe Kukame, 7 June 1982.
84. Anthony Atmore and Peter Sanders, "Sotho Arms and Ammunition in the Nineteenth Century," *Journal of African History*, 12 (1971), 535-44; Germond, *Chronicles*, 191, 235, 250, 272, 438, 441, 461.
85. George Cathcart, 13 Jan. 1853, *BR* II, 8, also quoted in Thompson, *Survival*, 190; E. Casalis, 24 Oct. 1865, *BR* III, 500.
86. Germond, *Chronicles*, 325; Governor's Agent C. Griffith, 26 Aug. 1872, *BR* VI, part II (unpub.), 499; Cape of Good Hope, *Blue-Book on Native Affairs*, 1874, G. 27-"74.
87. Germond, 8 March 1887, *JME (1887), 61; T. Jousse, JME* (1888), 87; Ellenberger, Oct. 1887, in Germond, *Chronicles*, 470; R. Henry Dyke, *The Basutoland Evangelist Aid Fund* (Morija, 1888), 4.
88. For a detailed description of the chronology of grain distribution elsewhere, see Olwen Hufton, "Social Conflict and the Grain Supply in Eighteenth-Century France," in Rotberg and Rabb, *Hunger and History*, 122-6. Watts also discusses the importance of "the timing of crop purchase and disposal in relation to class position"; Watts, "Drought, Environment and Food Security," 203-5.
89. Alfred Casalis, 1 Nov. 1892, *JME* (1893), 19.
90. P.E.M.S. Archives (Paris), 1896: H. Marzolff, 13 Jan. 1896 and 17 Feb. 1896; D. Jeanmarait, 8 April 1896; F. Kohler, 12 March 1896; *JME* (1897), 136 140; Great Britain. Colonial Reports - Annual. No. 224. Basutoland, 1896-7, c.-8650-22.
91. *JME* (1898), 17, 91, 24, 298, 880; *JME* (1899), 104; *Quarterly Paper*, 119 (25 Jan. 1898), 11, 16; and 121 (25 July 1898), 97-102; *JME* (1898), 243, 880; Great Britain. Colonial Reports-Annual. No. 255. Basutoland, 1897-8, c.-9046.-23; *Quarterly Paper*, 121 (25 July 1898), 97-102; R. H. Dyke, 22 Nov. 1898, *Gospel Work in Basutoland by Native Agency* (1898). Unfortunately, there are no specific mortality figures available for this period or for previous famines and epidemics. Population data for the BaSotho in the nineteenth

century are limited to the few references, mostly estimates, cited earlier in this article.

92. Eldredge, "Economic History of Lesotho," 356-7.

93. Political infighting at the end of the century was in large part caused by the lack of available unoccupied land in the lowlands where new generations of chiefs could be placed. Infighting, and the move into the mountains, would not have been necessary had there been an adequate supply of good land. For example, see Great Britain, *Colonial Reports - Annual, No. 152, Basutoland*, 1894-5, c. 7944-4, 5-6.

94. Eldredge, "Economic History," 356-9.

95. Land was allocated according to the number of wives a man had. Since wealthy men had more wives they were allocated more land.

96. Rotberg and Rabb, *Hunger and History, passim.*

97. Although the diseases discussed below are transmitted in various ways, including some by vectors such as flies, fleas, lice, and mosquitos, and the period of immunity acquired from contracting the diseases differs, the dynamic by which endemic levels of disease become epidemic during population dislocations is similar. For general information on infection and immunity, and specific information on the various diseases, there are numerous sources including the following: Sir MacFarlane Burnet and David O. White, *Natural History of Infectious Disease*, 4th ed. (Cambridge, 1972); A. H. Gale, *Epidemic Diseases* (Baltimore, 1959); Ronald Hare, *Pomp and Pestilence: Infectious Disease, Its Origin and Conquest* (New York, 1955); Justina Hill, *Silent Enemies: The Story of the Diseases of War and their Control* (New York, 1942). See also Marc Dawson, "Disease and Social Change: Smallpox in Kenya, 1880-1920," *Social Science and Medicine*, 13V, 245-250; and Gerald W. Hartwig and K. David Patterson, eds., *Disease in African History* (Durham, 1978).

98. Dawson, "Disease and Social Change," 245.

99. In addition to the specific sources noted below, evidence of drought and outbreaks of epidemic disease has been drawn from missionary reports in the *JME* and the P.E.M.S. Archives (Paris).

100. *Assemblée*, 9, 19 April 1833, 26.

101. *Ibid.*, 4 May 1843.

102. Letter of Frederic Porte, O.M.I., to Joseph Fabre, 30 May 1884, Correspondence Files, Archivum Generale, O.M.I. (Rome), (unpub.); *JME* (1884) 44, 128.

103. L. Duvoisin, 31 Dec. 1868, P.E.M.S. Archives (Paris), AL 1128 [1869-70:2].

104. L. Cochet, "Notes et Souvenirs," 7 Dec. 1868 and 20 Dec. 1869, P.E.M.S. Archives (Morija); Adolphe Mabille, *Correspondance Missionaire*, 4, 19 Jan. 1870; C. Gosselin, 10 Dec. 1869, P.E.M.S. Archives (Paris), AL 1176 [1869-70:132].

105. John D. Post, "Famine, Mortality, and Epidemic Disease in the process of Modernization," *The Economic History Review*, 2nd series, XXIX, 1 (1976), 26-37.

106. For a discussion of the changing nature of labor migration from Lesotho, see Judy Kimble, "Labour Migration in Basutoland c. 1870-1885," in Shula Marks and Richard Rathbone, eds. *Industrialization and Social Change in South Africa*, (London, 1982), 119-141. In the period she studies, the chiefs

encouraged young men to participate in migrant labor. This did not hurt agricultural production in Lesotho, however, because throughout the nineteenth century the BaSotho refused to enter into any contracts which took them away from Lesotho during the agricultural season. Instead, young men went to the mines only during non-productive seasons, especially the winter months, for no more than three months at a time. Recruiters found it impossible to recruit BaSotho for longer contracts until after the turn of the century. Eldredge, "Economic History of Lesotho," 296-302.