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The Political Demography of Conflict in Modern Africa

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Abstract:

Sub-Saharan Africa has shifted from having a very low population density and no population growth in the 19th century to an extremely high population growth today. While some political demographers have linked the continent's high population growth rate to various civil wars, we argue here that a more important cause behind contemporary conflict has been this rapid demographic shift over the past century and a half. Specifically, we show that low population densities historically contributed to poverty, communal and unequal property rights, and high levels of ethnic diversity in the pre-colonial and colonial periods. In the post-colonial era, however, these three variables have provided the opportunities, motives and collective action necessary for conflict, thereby combining with high population growth rates to produce large amounts of 'sons of the soil' conflict over land. To test this argument we examine cases of contemporary civil wars in Sudan and the Democratic Republic of Congo, where we find significant evidence supporting the theory. We then examine the counterfactual case of the Rwandan genocide, where we not only find that the genocide was not a 'sons of the soil' conflict, but that Rwanda's historically high population density played a indirect but significant role in the genocide.

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1. Introduction

The politics of population growth in contemporary Africa has largely been a neglected topic in political science. While there is growing interest in the long-term causes and consequences of Africa's historical low population density (Austin, 2008; Herbst, 2000; Nunn, 2008), there remains relatively little interest in assessing the political consequences of demographic change in contemporary Africa. Our goal here is thus to assess these consequences, especially in relation to issues of conflict and violence.

The literature on conflict and demography has long moved away from a simple Malthusian model whereby high population density leads directly to violence. Rather, as suggested variously by such authors as Goldstone (1991), Homer-Dixon (1999) and Kahl (2006), high population growth can lead to violence only indirectly through such mechanisms as rigid political institutions, the high salience of group cleavages, unequal access to resources and the lack of institutional inclusivity, among other factors. However, the analysis of these mechanisms have largely remained at the non-geographical level, with little attention to why or how population growth might affect some parts of the world more than others.

In this paper we focus on the link between conflict and demographic change in Sub-Saharan Africa. We argue that historically low population densities in Africa have indirectly provided the opportunities, motives and collective action necessary for conflict via the existence of wide-spread poverty, inefficient and unequal land-holding structures and ethnic diversity, respectively. More specifically, we claim that recent population growth has combined with these three variables to produce a specific type of conflict, namely 'sons of the soil' conflict over land. The preponderance of this type of conflict across Africa can thus can be traced to a large and, by world historical standards, very quick shift from low population densities to high population growth over the past century and a half.

The paper is structured as follows. First we explain how Africa's historic low population densities have resulted in poverty, communal and unequal land-holding structures, and ethnic diversity. Second, we detail how high population growth from the 1920s onwards has impacted African states

negatively through these three processes, with attention to examples from Sudan and the Democratic Republic of Congo. Third, we examine the counterfactual case of Rwanda, where we demonstrate that an historically high population density did not contribute to 'sons of the soil' conflict but did indirectly result in the 1994 genocide, thereby adding further support for our theory. Finally we conclude with some wider thoughts on political demography and conflict in Africa.

2. The Consequences of Low Population Density in Modern Africa

Debates have raged among historians as to the causes of Africa's low population density: while some have suggested that Africa was sparsely populated due to 'ancient rocks, poor soils, fickle rainfall, abundant insects and unique prevalence of disease' (Iliffe, 2007: 1), others have placed more emphasis on the role of the intercontinental slave trade in extracting people from the continent (Manning, 1990; Nunn, 2008; Zuberi, Sibanda, Bawah, and Noumbissi, 2003).[2] Regardless of the causes, there is almost universal agreement that pre-colonial Africa's population density was low and, due to large population growth elsewhere, sharply decreasing relative to other regions by the beginning of the colonial period in the late 19th century. The political and economic consequences of low population density have not, however, drawn as much attention. Here we focus on three major consequences for pre-colonial and colonial Africa, namely poverty, a communal and unequal property rights system, and ethnic diversity, each of which we examine in order.

2.1. Poverty

Malthus originally argued that there is no link between per capita income and population density, since economic growth would spur higher fertility and lower mortality, thereby increasing population but not per capita income. However, in recent decades economists and historians have

[2] A third group of scholars merely claim that the relative importance of these causes is unclear (Collins and Burns, 2007; Livi-Bacci, 2007).

moved away from Malthus's argument to the point where many economic historians like Acemoglu, Johnson, and Robinson (2002) and Oster (2004) have used population density as a proxy for per capita income in the pre-modern world. Several reasons lie behind this assumption, including the economies of scale and increased levels of specialisation that come with higher densities alongside higher agricultural productivity and greater technological change that can spur economic growth (Boserup, 1965; Kremer, 1993; Livi-Bacci, 2007).

As specifically regards Africa, there is good evidence that its low population density posed an impediment to pre-colonial economic development in at least four ways. First, economists and historians have long emphasised how Africa's high land/labour ratio has led to high labour costs and a subsequent reliance upon labour-saving, land-extensive agriculture (Austin, 2008). As a result there were few incentives to increase agricultural productivity, while widely dispersed farms were difficult to link together with transport infrastructure (Herbst, 2000). Moreover, the practice of extensive agriculture led inevitably to migration once a piece of land was fully exploited, which meant a necessary lack of non-transportable material possessions (Sjaastad and Bromley, 1997).

Second, a scarcity of labour also meant that slave raiding arose before the arrival of the Europeans, thus aiding the development of the intercontinental slave trade. Iliffe (2007: 133), for instance, notes that 'underpopulation, with the consequent difficulty of commanding labour by purely economic means, had already stimulated slavery and slave-trading among many, but not all, African peoples.' The effects of the slave trade were economically pernicious in many ways. Not only did it 'remove labour from a labour-scarce continent, the opposite of what the economies required for long-term growth' (Austin, 2008: 613), but it also encouraged the growth of 'theft, bribery and [the] exercise of brute force… slavery thus may be seen as one source of pre-colonial origins for modern corruption' (Manning, 1990: 124). Moreover, ethnic fractionalisation, whose negative effects on economic development have been widely discussed (Easterly and Levine, 1997), has a positive relationship with historic slave exports, suggesting that the slave trade prevented the formation of larger ethnic identities (Nunn, 2008).

Third, those areas which did develop significant industries and export goods were surrounded by low density populations, which meant that they had no one to whom they could sell their goods. In the example of the emirate of Kano in northern Nigeria,

> Underpopulation in vast areas of Africa (including West Africa) severely limited the development of markets and commodity production in regions that could have become major trading partners… Because prevailing conditions prevented the development of a mass external market for Kano's manufacturing goods in Africa, the multiplier effects of long-distance commerce were limited. West Africa was made up of several regional economies that were not closely linked. Although transport chargers per ton per mile were no more expensive than in other parts of the world, they were higher per consumer (Mahadi and Inikori, 1987: 71).

Fourth, a low population density put Africans at a severe disadvantage in resisting the onslaught of European imperialism, whose links with economic underdevelopment in Africa are now well established in the literature (Acemoglu, Johnson, and Robinson, 2001; Bertocchi and Canova, 2002). Many scholars have noted the remarkable speed with which Europeans conquered the continent, which was in part due to the continent's low population density. To use Hirschman (1970)'s terminology, given a choice between the 'voice' of resistance and 'exiting' by escaping to open land away from colonial domination, most Africans naturally chose the latter option (Herbst, 2000). Indeed, the most prominent example of African resistance to imperialism, namely the Ethiopian defeat of the Italians at Adowa in 1896, was partially a consequence of Emperor Menelik's ability to draw upon an army of 100,000 soldiers compared to less than 20,000 for the Italians. What made Ethiopia different in this regard was her highlands, which across Africa contain 4% of total land mass but almost 20% of its population, and which allowed for a great abundance of population in central and northern Ethiopia (McCann, 1995: 23, 89).

2.2. Communal and Unequal Land Rights

As already noted, low population density meant that labour was much scarcer than land in pre-colonial Africa, which explains why the concept of private property was often absent while laws

regulating labour, marriage and cattle-ownership were regularly highly detailed and intricate. Far from being inefficient at the time, economists like Ault and Rutman (1979) and Binswanger and Deininger (1997) have suggested that this lack of land ownership rights was not problematic in that the benefits of private property were outweighed by their enforcement costs.

In their subsequent attempts at codifying customary laws according to individual 'tribes,' European colonisers created a system of land tenure that was dually problematic. First, these attempts at designating customary law by tribe rather than by country meant that each colonial state had multiple and overlapping systems of land tenure. Precisely because land rights were largely uncodified in pre-colonial times, these property laws were contradictory and ever-changing according to new interpretations of what constituted African custom. While colonial rulers were initially happy to support customary land ownership, especially after World War II they began to realise the necessity of private property rights for capitalist development in Africa and thus began supporting individual land ownership (Binswanger and Deininger, 1997). Yet, while some resettlement schemes took place in such colonies as Kenya, Malawi, Tanzania and Zimbabwe, over 80% of all land across Africa remained in customary tenureship (Boone, 2007b), in part because of the political disruption such a shift could cause at the local level.

The second problem caused by the codification of customary land law was the way colonialists vested these customary land rights in tribal chiefs and thereby created local 'decentralised despots' across rural Africa (Mamdani, 1996). These chiefs, whose power over their subjects was enhanced by colonial restrictions on labour movement outside Africans' designated tribal territories, suddenly found themselves in charge of vast amounts of land. These chiefs were thus able to acquire control over large tracts of land, thereby greatly increasing rural inequality. Moreover, colonial rulers allowed non-Africans to take up ownership of vacant land, both as settlers and investors. The consequences of allocating land to both tribal chiefs and non-Africans, while beneficial to colonialists looking to use the chiefs as indirect rulers and European settlers/investors as a means to develop the colonies economically and ease population pressures back at home, were to create a highly unequal system of

property rights ownership. As a result, it is no surprise that there is a negative and significant relationship between pre-colonial population density and contemporary land inequality on a global scale (Frankema, 2006).

2.3. Ethnic Diversity

Africa is widely known for its high levels of ethnic diversity (Easterly and Levine, 1997). While the consequences of Africa's ethnic diversity have been widely researched, its causes have been less so identified. However, there is a good deal of evidence that low population density has been a significant cause of ethnic diversity, either indirectly or directly. As regards the former, we have already seen that low population density led to an inability to resist colonialism, and there is evidence that colonialism itself contributed to higher levels of ethnic diversity. For instance, in colonial Ghana 'missionary and colonial policies, by providing educational and administrative benefits based on tribal boundaries, gave incentives for local chiefs to emphasise linguistic differences from their neighbours' (Laitin, 1994: 623). It is thus not surprising that Michalopoulos (2008) finds a positive and significant relationship between British, French, German and Portuguese colonisation and ethnic fractionalisation for a world-wide sample of countries.

There is also evidence for a direct link between low population density and ethnic diversity. Africa's ethnic diversity may have even been greater in the pre-colonial period, inasmuch as many missionaries 'reduced Africa's innumerable dialects to fewer written languages' due to budgetary constraints (Iliffe, 2007: 239). Geographers and anthropologists such as Cashdan (2001) and Moore et al. (2002) have suggested that cultural and biological diversity are correlated, inasmuch as areas which support highly diverse ecological environments do not create the incentives for local inhabitants to establish the large trading networks that can lead to the creation of large ethnic groups. In other words, biological diversity could be responsible for both cultural diversity and the aforementioned abundance of disease that contributed to low population densities in most of Africa. This proposition has also

found empirical validation by Michalopoulos (2008), who shows that pre-colonial population density is inversely and significantly related to ethnic fractionalisation, even with continental dummies and other controls.

3. Africa Under High Population Growth

The low population density which did so much to contribute to low economic growth, inefficient land rights and ethnic diversity has not, however, been a constant factor throughout African history. As noted in Tables 1 and 2, Sub-Saharan Africa had a higher average annual population growth rate than Asia, Europe or the global average for the first 1600 years of the common era, and actually had a larger population than Europe between the 14th and 18th centuries. After experiencing negative population growth between 1600 and 1900 – possibly the only region in the world to do so over this period[3] – since 1900 Africa has suddenly experienced one of the largest growth spurts ever recorded in human history.

[Insert Tables 1 and 2 here]

The cause for this shift are simple: Africa is the last region of the world to enter the demographic transition, whereby societies move from a high birth/high death equilibrium to a low birth/low death equilibrium via a high birth/low death transition phase. It is this intermediate period which produces high population growth, via both a high fertility rate and low morality rate. What is remarkable about the transition in Africa is that the continent is experiencing large increases in population despite the fact that, thanks to war, HIV/AIDS, malaria, and other diseases, mortality still remains relatively high compared to other parts of world.

[3] Due to poor data demographic historians do not necessarily agree on this point. While Biraben (1979), Iliffe (2007), Livi-Bacci (2007) and Manning (1990) write of population stagnation and/or decline, others like Caldwell and Schindlmayr (2002) and Collins and Burns (2007) claim that African population increased over this period due in large part to the importation of new crops like maize and manioc. In any case, there is a consensus that African population growth was the lowest among all regions in the world from the 17th century through the mid-19th century.

The evidence suggests that, in part due to the political stability and western medicine introduced by colonialism after World War I (Clapham, 2006), African fertility and population growth rates rose for decades to peak in 1983 and 1990, respectively (Iliffe, 2007). Yet, at 41.7 births per annum per 1000 people, African birth rates remain at almost twice that of the next highest region (Latin America, 23.1 births), and its average fertility rate, while in decline, is not converging with the rest of the world (Zuberi et al., 2003). This extraordinary quick shift from negative population growth in the early 19th century to a peak of around 3% a year in the late 20th century has given Africans very little time to adjust to the very different political, economic and social conditions brought by rapid population growth.

One result of this sudden change has been a high level of civil strife, specifically 'sons of the soil' conflict over land between migrants and natives. Coined by Weiner (1978) in regards to India, this type of conflict has received a growing amount of attention from scholars of Africa in recent years (Bates, 2008; Boone, 2007a; Dunn, 2009; Englebert, 2009; Geschiere and Jackson, 2006; Green, 2007; Jackson, 2006; Kraxberger, 2005). Yet heretofore no one has attempted to explain its origins through a political demography framework. Thus we now return to the three outcomes of low population density, namely low economic growth, communal and unequal property rights and ethnic diversity, and how they have interacted with high population growth in the post-colonial era.

3.1. Low Economic Growth

Not surprisingly, political economists have long suggested that poverty can lead to conflict, especially in Africa. More specifically, on the government side Fearon and Laitin (2003) argue that poverty inhibits governments from developing their militaries and suppressing insurgencies, while from the rebel side Collier (2006) suggests that it decreases the opportunity costs for rebellion compared with other nonviolent activities. Robust evidence has been difficult to gather, in part because of the problems of endogeneity and omitted variables, but Miguel, Satyanath, and Sergenti (2004)'s use of

rainfall as an instrumental variable suggests that poverty has indeed increased the risk of conflict in post-colonial Africa.

The relationship between poverty, population growth and conflict is also well established. Goldstone (2002) shows that the combination of rising urbanisation, a good proxy for rural population pressure, and low levels of GDP/capita lead to an increased propensity for conflict. More specifically, high-fertility countries in the initial phase of the demographic transition often see a 'youth bulge' of 15-24-year-olds, who are already easier to mobilise politically due to fewer responsibilities and openness to new ideas. When youth bulges coincide with low economic growth, thereby leading to under- and unemployment, this combination can have a strong link with civil wars (Sambanis, 2004; Urdal, 2006). While data on unemployment in Africa is notoriously weak, there are strong suggestions that it has, for instance, played a significant role in the Sierra Leonean civil war, where unemployed youth were highly susceptible to being recruited as combatants (Keen, 2005).

3.2. Land Rights

As noted above, upon independence African states had land tenure systems that were largely communal, with very unequal distribution of what small amount of private property did exist. As regards the former, most post-independence regimes nationalised communal land ownership, with some states like Ethiopia, Nigeria, Tanzania and Zambia going so far as to nationalise private land as well. Undertaken partially for reasons both political (undermining the power of traditional authorities) and economic (the need to allocate land productively for economic development), one significant effect of these reforms was to remove the power of local chiefs to prevent the acquisition of land by internal migrants.

As regards unequal private land ownership, the nationalisation of public land only exacerbated this trend inasmuch as it allowed politically powerful Africans to acquire and expand their land holdings. Thus inequalities in private land ownership have only increased since independence, with a

quarter of rural households in many parts of Africa virtually landless as rural population densities continue to grow (Jayne et al., 2003). Ironically, various attempts by governments to enact land reforms designed to alleviate inequalities associated with customary land ownership only compounded the problem inasmuch as land became 'dissolved once more into a network of patronage administered by committees on which traditional rulers sit alongside more bureaucratic patrons' (Francis, 1984: 24).

At the same time as these shifts in land tenure were occurring population density in some regions had grown to the point where many rural Africans could no longer access enough land in their 'tribal' areas. Efforts that had previously focused on expanding the amount of land under cultivation, which was easy with low population densities, had thus largely run their course by the 1980s in such places as Niger and southern Senegal (Raynaut, 1988; Wood, Tappan, and Hadj, 2004). Thus rural-rural migration thus became an increasingly viable option for many Africans, especially to other regions which had lower population densities and good quality farmland (Bilsborrow, 1992). Many of these labour migrants who had the ear of the central government could now access nationalised land in these new areas, and, as the labour migrants often came from areas which were more densely populated and thus had developed higher human capital levels than the natives of areas to which they migrated (Boserup, 1965),[4] resentment and sometimes rebellion developed amongst the indigenous population, leading to 'sons of the soil' conflict.

3.3. Ethnic Diversity

There has been a vast literature on the relationship between ethnic diversity and conflict, especially since the 1990s. Easterly and Levine (1997: 1223) argue that ethnic diversity, as measured by the ethno-linguistic fractionalisation index, 'is a meaningful predictor of the potential for ethnic conflict as measured by its worst possible manifestations,' namely civil war and genocide. While there has been a subsequent debate over whether ethnicity has a linear or quadratic relationship with conflict

[4] Examples of ethnic groups from high-density areas which have migrated elsewhere and assumed economic dominance include the Bakiga in Uganda, Chagga in Tanzania, Ibo in Nigeria, Kalanga in Botswana and, as per below, the Banyarwanda and Nande in the eastern DRC.

(Buhaug, 2006; Collier, 2006; Reilly, 2001), it is important to note that this literature has been concentrated at examining cases of full scale civil and international war without regard to differentiating wars according to their origins.

Rather, a closer analysis of 'sons of the soil' conflicts shows a greater propensity for violence when 'natives' and 'settlers' are from different ethnic groups. Thus, what dampens this type of conflict in more homogenous countries like China is what also exacerbates it in ethnically diverse regions like Africa (Kahl, 2006; Liangqun and Murphy, 2006). Moreover, the absence of cross-cutting cleavages, as exist in India, have helped to accentuate ethnic differences in Africa. Indeed, not only do ethnic differences make the demarcation between settlers and natives easy but they also allow for easier collective action among the natives, who are usually the instigators of 'sons of the soil' conflict (Fearon and Laitin, 2010). A growing literature thus suggests that ethnicity can provide the resources for collective action, specifically through the existence of ethnic norms and institutions that enforce cooperative behavior (Habyarimana, Humphreys, Posner, and Weinstein, 2007).

4. Empirical Evidence

The above analysis shows how a combination of an initial low population density and subsequent high population growth can provide the opportunities, motives and collective action necessary for rural conflict over land. First, high population growth and migration increase demand for local resources, especially land. Second, poverty lowers the opportunity cost to engage in violence while also raising the value of land relative to other resources. Third, the unequal distribution of private land and the nationalisation of public land creates a motive for violence in order to gain control over land for the purposes of redistribution. Fourth and finally, ethnic diversity helps to provide for collective action among groups who are already primed for violence. Table 3 summarises this causal story.

[Insert Table 3 here]

Yet demonstrating the effect of the interaction between low pre-colonial population densities, our three intervening variables and conflict is difficult, for several reasons. First, pre-colonial population data for individual African countries is highly speculative, as noted by the aforementioned debate on whether African population rose or fell in the three centuries prior to European colonialism. Second, attempts to measure population density only on arable land, as in Acemoglu et al. (2002), run into the further difficulty of how one defines (potentially) arable land, not to mention how one calculates it historically. Third, as noted above our dependent variable here is not civil war but rather 'sons of the soil' conflict, of which there are no available cross-country data sets.[5]

Thus a case study approach appears necessary here. For our cases we have chosen perhaps the two most prominent contemporary case studies of African civil war, namely the Sudanese civil war in Darfur since 2002 and the civil war in the eastern Democratic Republic of Congo (DRC) since 1996. Both wars are obviously very complex in origin and we make no pretence here to examine all explanations for their outbreaks, which in both cases had much to do with external factors, individual agency and a variety of other causes. Rather, our goal here is merely to demonstrate that both conflicts, despite having been previously labelled as simple cases of natural resource-based conflict and racial genocide by Kristof (2006), Olsson and Fors (2004) and others, respectively, can be explained by our political demography theory.

We also examine a 'counterfactual' case to see if a shift in the key independent variable (pre-colonial population density) also shifts the dependent variable ('sons of the soil' conflict).[6] Here we take the case study of Rwanda – the most densely populated country in pre-colonial Africa – and its 1994 genocide, which we claim was not a 'sons of the soil' conflict and thus confirms our theory. Moreover, we find that demographic factors can help to explain the genocide, albeit not in the Malthusian model posited by André and Platteau (1998) and others.

[5] Fearon and Laitin (2010) do examine 'sons of the soil' conflicts that appear within their civil war dataset (Fearon and Laitin, 2003), but note that a database on 'sons of the soil' conflicts that includes non-civil war violence does not yet exist.
[6] Cf. Levy (2008).

4.1. Darfur

At the onset of colonialism Sudan had a particularly low population density of only 7 people per square kilometre of potentially arable land, or lower than the already-low African average of 8 people per square kilometre (FAO, 2000; McEvedy and Jones, 1978). Thus, with large amounts of available land, farmers such as the Masalit of western Darfur 'would farm an area of land until productivity declined and then move on to establish a new community' (Bilsborrow and DeLargy, 1990: 140). This low population density also contributed to the use of slavery in pre-colonial Sudan, whereby northern Sudanese would raid the South for slaves whom they would bring north to work as agricultural labourers or soldiers. In particular Darfur lay at the heart of one of the major Trans-Saharan slave routes, whereby African slaves were exported to Egypt and beyond. Moreover, as elsewhere low population densities contributed to Sudan's 'enormous ethnic and linguistic diversity' (Collins, 2008: 8), whose complexity has been the subject for numerous studies.

In the colonial period the British colonialists instituted an indirect tribal administration in Darfur, where each *dar* (province) was created to serve an individual ethnic group. More specifically, this system meant that land was communally administered by local paramount chiefs, who would allocate land rights to their ethnic brethren. Yet, far from being demographically static, low population densities for most of the 20th century meant that in Darfur 'there was sufficient free land' such that a 'very substantial settler population' from northern Sudan and Chad could move into the area through the 1970s without any problems (De Waal, 2005: 193).

This migration had a number of sources. First, President Gaafar Nimeiry's government nationalised 99% of all land in Sudan in 1970, thereby allocating land rights to higher levels of government and leading to growing inequalities in land ownership as politicians, soldiers and bureaucrats from central Sudan acquired land at the expense of the politically powerless Darfuris. Second, Nimeiry attempted to build Sudan into the 'Breadbasket of the Middle East' by acquiring large

tracts of land for mechanised agriculture in the 1970s. While successful in the short term, this policy had more serious longer-term consequences of promoting even more land inequalities, displacing farmers and pastoralists from their land and adding to the country's growing problems with external debt and inflation. The resultant economic collapse of the late 1970s was only exacerbated by a structural adjustment policy imposed by the World Bank and several years of drought, leading to chronic food shortages and the outbreak of famine in Darfur in the early 1980s (Bilsborrow and DeLargy, 1990; Collins, 2008). Third, Nimeiry's government centralised local government power in its Regional Government Act of 1980, thereby taking away power from the former tribal chiefs who had previously prevented internal migration and giving it to increasingly Islamist cadres allied with Khartoum (Manger, 2006). Fourth and finally, the whole region suffered from decades of decreasing rainfall, leading to a southward shift in the desert climate and forcing pastoralists to migrate southwards.

As a result of this migration alongside high fertility rates, Darfur's population increased from 1.1 million in 1956 to 6.5 million in 2003, or an annual growth rate of 4.0%, 1% higher than Sudan's population growth rate over the same time period. Moreover, desertification pushed up population densities on arable land even higher, with farmers responding by expanding the size of their plots to compensate for the decreased rainfall and an increased population (Fadul, 2006). These patterns thus led to the closure of many nomadic migratory routes and increasing conflict between pastoralists and farmers.

These shifts coincided with an increase in Arab supremacism in Sudan and the region led to an increased emphasis on 'Africanism' by the Sudanese People's Liberation Movement (SPLM) rebel leader John Garang and other supporters of a 'new Sudan' not dominated by Arabs. This increasing polarisation thus helped to promote ethnic/racial differences between 'Arab' migrants and 'African' natives in Darfur despite the fact that these differences had little to no historic basis in the region. As such many Fur 'started to talk about Darfur "being for the Fur," and that the Arabs were foreigners who should leave' (Manger, 2006: 19).

The various clashes between various migrant and native groups that had started in the 1970s continued through the famine and beyond a brief Arab-Fur conflict in the late 1980s (Ibrahim, 1998; Mamdani, 2009). Ongoing efforts to destroy the Fur and their army led to the gerrymandered creation of three provinces in the Darfur region in 1994, each of which was deliberately designed to have an Arab majority (Collins, 2008). This and other efforts at Arabisation in the region inevitably led to the formation of the Sudanese Liberation Movement (SLM) among the Fur and other non-migrant Darfuris, whose leaders deliberately copied their name from the SPLM of southern Sudan. In response in 2003 the Khartoum government armed local and Chaddian immigrant Arab militias, the *janjawiid*, who were largely unemployed youth and were thus spurred on as much by the prospects of gaining control over resources as any other motive (Mamdani, 2009: 156). Thereafter the conflict quickly spiraled out of control, with internal ethnic divisions within the SLM only further halting cease-fire efforts.

Without wishing to ignore the various other factors that contributed to the Darfur conflict, including external intervention of Chad and Libya and intra-Arab conflict, it is thus clear that the Darfur conflict is very much an example of a 'sons of the soil' conflict. To summarize, Sudan's historic low population densities encouraged low economic growth, communal land rights and ethnic diversity, and subsequent high population growth and desertification promoted migration into Darfur. Ongoing economic decline, land inequalities and increased polarisation between 'Arabs' and 'Africans' thus all contributed to the outbreak of conflict in 2003.

4.2. Eastern DRC

In the eastern DRC pre-colonial population densities were low enough that the private alienation of land was non-existent and migration could take place without any serious land pressures. Indeed, while a land tenure system known as *kalinzi* existed in pre-colonial region of Kivu (west of Rwanda), rents were free due to the abundance of land (Van Acker, 2005). Also corresponding to the analysis above was the presence of slave traders in the region from both Zanzibar to the east (for the Indian

Ocean slave trade) and the Kingdom of Kongo to the west (for the Atlantic Ocean slave trade). Due to various waves of migration in part linked to these slave trades the region became very ethnically diverse; indicative in this regard were confused understandings over whether President Mobutu Sese Seko was ethnically Ngbandi, Mongo, Ngala or even 'Sudanic' or 'Bantu' (Young, 1976: 194-195).

In the colonial period the Belgian government codified customary land laws but only for land 'already under the practical control of traditional authorities,' with all other land henceforth declared property of the colonial state with the goal of using these vast amounts of virgin land for plantations and wildlife parks (Vlassenroot and Huggins, 2005: 126). Due in part to the mass deaths of Congolese under early Belgian colonial rule in addition to decreasing national fertility levels (Hochschild, 1998), the Belgians encouraged Rwandan migration to the DRC after acquiring Rwanda from the Germans after World War I. While the Rwandans were welcomed by plantation owners, they were viewed as foreigners by local Congolese despite the fact that many Kinyarwanda speakers had lived in the DRC before colonialism. Thus Belgian attempts at creating a Banyarwanda (ethnic Rwandan) chiefdom in the North Kivu province in 1936 failed due to local opposition, leading Rwandan migrants to purchase local land instead (Vlassenroot and Huggins, 2005).

The eastern provinces were already a site of high population density relative to other parts of the DRC due to higher fertility rates and the higher quality soil that drew internal and Rwandan migrants. By the 1950s fertility rates had stopped growing in North and South Kivu but started to sharply increase elsewhere; as a result after 1950 population growth across the DRC took off at over 3.0% per year and was accompanied by increasing urbanisation and the clearing of new lands in rural areas (Romaniuk, 1980; Shapiro, 1995). In particular the 'unrelenting population growth' in eastern DRC led to the usual consequences of a growing number of migrant and landless labourers (Vlassenroot and Huggins, 2005: 138).

After independence President Mobutu echoed other African rulers with his 1973 land law, which abolished customary land and declared all land the property of the state. Henceforth those Congolese who had been able to access education during the colonial period and thereafter gain favor in

Kinshasa, which included the Banyarwanda in North and South Kivu provinces and the Hema in Ituri province (located north of the Kivus on the border with Uganda), were therefore able to take advantage of these land laws to allocate themselves land (Pottier, 2006; Vlassenroot and Huggins, 2005). Thus already by the early 1980s there was evidence of 'resentment against "intruders"' in the Kivus, where a local judge claimed 'he [would] do everything to ensure that ancestral land does not pass into "foreign" hands' (MacGaffey, 1982: 102-103). Yet simultaneously the Congolese economy started to collapse, with an increased acceleration after 1990 as the end of the Cold War led to both a drop in US aid to Mobutu's government and to the abandonment of the International Coffee Agreement which had previously helped to secure good prices for local coffee growers. In 1996 Laurent Kabila thus launched his rebellion that overthrew Mobutu's regime in 1997 and led to 'sons of the soil' conflict in both the Kivus and Ituri province, which we examine briefly in turn.

Previously the Kivus were the site of the colonial plantations and Rwandan immigration discussed above. Due in part to ongoing post-colonial migration from Rwanda and Burundi, population growth in Kivus was thus even higher than Ituri and other parts of the DRC at more than 4.0% annually between 1948 and 1970 compared to a Congolese-wide growth rate of 2.6% over the same time period (Vlassenroot and Huggins, 2005). Combined with increasing Banyarwanda purchases of the former colonial plantations after 1973 and the DRC's economic collapse, this growth meant increasing inequalities in land ownership. As a result local politicians from non-Banyarwanda ethnic groups initiated violence against the Banyarwanda in 1993; a subsequent ceasefire was forged only to be broken by the influx of more than one million Rwandan refugees the next year as a result of the Rwandan genocide. The genocide thus heightened ethnic differences between non-Banyarwanda on the one hand and Banyarwanda and their ethnic Banyamulenge brethren in South Kivu on the other, leading the former to accuse the latter of being 'foreign' or *allochtone*. This split manifested itself violently between different rebel factions, with the Banyarwanda and Banyamulenge initially represented by the Rally for Congolese Democracy (RCD) and later by the RCD-Goma splinter group, while the non-Banyarwanda were supported by the Congolese government and Mai Mai rebels and later by the RCD-

K/ML splinter group. Despite an official end to the civil war in 2003, however, conflict over land has persisted, in part because people who had fled the civil war are now returning home and attempting to regain their land (Vlassenroot and Huggins, 2005: 154).

Ituri province is split demographically between various ethnic groups, including Hema and Lendu who originally migrated into the area in the seventeenth century (Pottier, 2006). As noted above, due to political connections with Kinshasa – especially the appointment of a Hema as Minister of Agriculture in 1969 – many local Hema acquired land after 1973, and continued to do so through the 1990s while local population densities increased due to growing fertility and the internal immigration of ethnic Nandes from the Kivus. In 1999 Hema landowners started expelling Lendu squatters in Djugu territory, the most densely-populated territory in Ituri province, which led prominent Lendu to organize into self-defense groups (United Nations Security Council, 2004). At the same time the aforementioned RCD-K/ML rebel group moved its capital to Bunia in Ituri, whereupon its leadership was assumed by a Nande who then named a migrant as governor of Ituri province. As a result the Hema-dominated rebel movement *Union des Patriotes Congolais* (UPC) began to talk about 'Ituri for Iturians' and divided Ituri inhabitants into *originaires* (Hema) and *non-originaires* (Lendu, Nande and other migrant groups) on local radio stations (Pottier, 2006; Vlassenroot and Raeymakers, 2004; Woudenberg, 2004: 196). The conflict quickly spiraled out of control, with UPC attacks on Lendu and Nande groups coupled with Ugandan and Rwandan intervention contributing to the deaths of some 60,000 people in the area before UPC leader Thomas Lubanga was arrested by the International Criminal Court in 2006.

4.3. Rwanda

On the surface the Rwandan genocide would seem to disprove our demographic theory, inasmuch as it had the highest population density in pre-colonial Africa and still suffered from a civil war described by Mamdani (2001) as one between 'natives' and 'settlers.' Yet a brief look at Rwandan history shows how high population density led to significantly different outcomes for our three

intervening variables, while a closer examination of the genocide demonstrates not only that it fails to meet the criteria of a 'sons of the soil' conflict but also that Rwanda's high population density played a major role in its inception.

Rwanda's high pre-colonial population density, which was estimated at some 15 times denser than the African average in 1900 (McEvedy and Jones, 1978), had obvious consequences for our three intervening variables. First, as would be predicted by Boserup (1965), high population densities encouraged high levels of agricultural productivity in Rwanda, whose residents adopted banana cultivation alongside cattle whose manure enhanced soil fertility (D. Newbury, 2001). Rwandan peasants could even produce surplus food for the royal court, which could then redistribute food to the poor, especially during times of want (Pottier, 1986). Although it is hard to judge whether this level of agricultural productivity resulted in better living conditions for the average Rwandan peasant compared to other parts of Africa, it is at least certain that there was a distinct lack of internal slavery in pre-colonial Rwanda and that those at the top of the social hierarchy had a good deal of wealth, especially in cattle.

Second, unlike elsewhere property rights over land in central Rwanda not only existed but were highly intricate and detailed. The Rwandan *Mwami* (king) owned all of the kingdom's land, which he leased out to peasants in return for goods and labour in a tenure system known as *isambu* for farmers and *ibikingi* for pastoralists. Indeed, the latter system was 'created in response to increased scarcity of lands' in central Rwanda (Chrétien, 2003: 186), and itself could be considered a system of private land ownership in that Tutsis who held *ibikingi* could themselves lend out their land. Moreover, provincial chiefs 'had the "right" to dispose of [land], should it be or become unoccupied' (M. C. Newbury, 1978: 20). Of course, due to lower population densities in neighboring regions there were considerable 'exit' options for Rwandans on the periphery of the state to migrate elsewhere, which helps to explain the presence of large Hutu and Tutsi populations in surrounding countries today; it also explains why Tutsi control over land was strongest in central Rwanda but less so in more peripheral areas (M. C. Newbury, 1983).

Third and finally, the nature of ethnicity was and is radically different in Rwanda from elsewhere in Africa. Unlike other ethnic groups in Africa, Tutsis and Hutus 'speak the same language (Kinyarwanda), they belong to the same clans, they live in the same regions and, in most areas, the same neighborhoods, they have the same cultural practices and myths, and they have the same religions' (Straus, 2006: 19-20). The two groups were rather more like castes than ethnic groups, in that Hutus were farmers while Tutsis were pastoralists and Hutus which acquired cattle could thus become Tutsis. Under Belgian colonial rule, however, Tutsis became seen as a superior race to the Hutus and were re-classified as descendants of a group of ancient 'Hamitic' migrants from Ethiopia according to anthropological theories at the time.[7] Thus subsequent Tutsi/Hutu relations became radically different from elsewhere in Africa for two key reasons: first, there were no Tutsi or Hutu ethnic homelands within Rwanda, and second, the distinction between the two groups was racial rather than ethnic.

Due to the different outcomes of these three variables the Rwandan genocide thus evolved in a very different manner from the other civil wars examined here. First, despite previous claims from André and Platteau (1998) and others that the genocide was in large part motivated by demographic pressures, there is no evidence that perpetrators were motivated by the desire to obtain property or that they came from households with smaller farms, with evidence pointing instead towards a positive and significant relationship between income and perpetration (Verwimp, 2005). As noted by (Straus, 2006: 232), 'Rwandan perpetrators were poor, but they were not on average any poorer than other Rwandans; nor did violence start earliest in the poorest regions.'

Second, land inequality in pre-genocide Rwanda was not nearly as bad as other countries in Africa. Indeed, a 1990 agricultural survey showed lower land per household, land per capita and land per adult Gini coefficients for Rwanda than for Ethiopia, Kenya, Mozambique or Zambia (Jayne et al., 2003). In part this lower inequality was the result of a 1976 law that barred land sales either where the buyer owned more than two hectares of land or where the seller owned less than two hectares, as well

[7] This myth developed despite the fact that there is very little evidence that Tutsis are not indigenous to Rwanda, including a lack of local pre-colonial migration myths (Iliffe, 2007). The popular myth of labour division between Tutsis (kings/cattle keepers), Hutus (serfs/farmers) and Twa (pariahs/potters) only adds to evidence of a caste relationship (Chrétien, 2003).

as the *paysannat* government scheme of the 1960s and 1970s which resettled some 80,000 families to two hectare plots of land. Moreover, unlike in neighboring countries the Rwandan government did not nationalize land, leaving the 90% of land held under customary laws intact (Bruce, 1998).

Third, there is no evidence of any internal 'sons of the soil' conflict driving the Rwandan genocide in ways similar to that in DRC or Sudan. Other than the *paysannat* scheme, which moved people from western Rwanda elsewhere, rural-rural migration within Rwanda was minimal in comparison with out-migration to surrounding countries. As regards the claims that the Tutsis were actually foreigners from Ethiopia and that Rwanda was a Hutu country, survey data from (Straus, 2006, p. 130) showed that only 14% of perpetrators believed in the aforementioned 'Hamitic' hypothesis while only 6% claimed it was a country for Hutus only. In other words, Mamdani (2001)'s claims that the genocide was an attempt to rid Rwanda of 'settlers' has little empirical support.

Instead, Rwanda's legacy of high pre-colonial population densities played a major role in the three major reasons behind the Rwandan genocide posited by Straus (2006). First, high population density led to the creation of a highly intricate and coordinated state bureaucracy, which not only enforced the land laws listed above but which developed the capacity to commit violence on external and internal enemies. Moreover, high population densities could 'increase the capacity for surveillance, and … limit the opportunities for exit and escape' (Straus, 2006: 215). Second, as already noted Rwanda's high population density led many Rwandans to migrate to surrounding regions in large enough numbers that they became significant diasporas, as already explained in the case of the eastern DRC. Tutsi refugees and migrants launched a series of failed invasions from Burundi and Uganda in the 1960s, while in 1990 Paul Kagame and other Ugandan Tutsis launched a much more successful invasion from Uganda, thereby radicalizing the Rwandan Hutu population against local Tutsis whom they considered to be fifth-columnists. Indeed, Straus (2006: 226) claims that the invasion and resulting civil war was perhaps the single most important factor behind the genocide, in that it 'legitimized violence and caused the fear and uncertainty that led some to kill.' Finally, the degree to which Hutu/Tutsi divisions lacked geographical references within Rwanda meant that Tutsis had no

ethnic or local government institutional infrastructure to which they could appeal. In other words, unlike the Banyarwanda and Banyamulenge in the eastern DRC, the Tutsis could not claim any history of their own ethnic chiefdom or even a single *commune* (of a total of 145) where they comprised a demographic majority in Rwanda.

5. Conclusions

In this paper we have argued that Africa's historical low population density left it with a legacy of poverty, communal and unequal property rights and ethnically diverse populations upon independence. High population growth since the mid-20th century has interacted with these three legacies and produced large amounts of rural 'sons of the soil' conflict over land. Empirical evidence of conflicts in Darfur, the eastern DRC and Rwanda all gave supporting evidence for this argument.

As with other recent scholarship, the chapter thus suggests that a neo-Malthusian direct relationship between demography and conflict is implausible. However, it also suggests that the general neglect of demographic factors by many scholars has not been helpful in furthering our understanding of African conflict. Indeed, there is considerable evidence that the effect of the interaction between our intervening variables and high population growth played a major role in instigating not only the civil wars examined above but also contemporary conflicts in Côte d'Ivoire, Nigeria, Senegal and Uganda, among others (Boone, 2007a; Green, 2007; Kraxberger, 2005; Wood et al., 2004). In particular it is possible that attention to oil and other natural resources as a cause of conflict has overshadowed the way poverty, land ownership, ethnicity and demographic change has led to violence in such countries as Angola and Nigeria, both of saw 'sons of the soil' conflicts in the late-colonial period contribute to full-scale civil wars after independence (Anthony, 2002; Birmingham, 2002).

As such, four preliminary policy suggestions present themselves here. First, fertility decline should be an obvious target, inasmuch as high fertility has encouraged rural-rural migration; it is thus

no accident that Caprioli (2005) finds a direct and robust correlation between fertility and civil conflict in cross-national data. For example, there is evidence that one of the sources behind Mauritius's great economic and political success has been a population policy which helped to produce the lowest population growth rate in post-colonial Africa (Jones, 1989; Subramanian and Roy, 2003). Second, a focus on rural economic growth would help to alleviate rural poverty and address Africa's ongoing rural/urban gap. Third, the redistribution of land rights towards cultivators and away from landlords and the state could alleviate much rural conflict as well as spur economic growth, although good land reform is obviously much easier said than done.[8] Fourth and finally, it may be possible for politicians to make ethnic diversity less politically salient through various nation building policies, as arguably took place in Nyerere's Tanzania (Miguel, 2004).

In the end, however, further research into this area is important in order to refine our conclusions. Certainly more analysis of the causes and consequences of internal, rural-rural migration is badly needed, especially considering its general neglect in the social sciences relative to urbanisation and international migration. The relationship between population density, population growth and economic growth could be examined in more detail. Finally, more historical analysis of the long-term relationships between demographic change and different types of conflict would be helpful in understanding better the phenomena discussed here.

[8] Indeed, when land reform provides incentives for land invasions it can accentuate rather than alleviate conflict (Alston, Libecap, and Mueller, 1999).

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Table 1: Sub-Saharan African Population and Ratios, 1300 – 2050
Sources: (Biraben, 1979, p. 16; United Nations, 2007)

	Sub-Saharan African Population	Africa/Europe*	Africa/World
1300	60 million	85.7%	13.9%
1400	60	115.4	16.0
1500	78	116.4	16.9
1600	104	116.9	18.0
1700	97	102.1	14.3
1800	92	63.0	9.6
1850	90	43.1	7.3
1900	95	32.2	5.8
1950	180	45.8	7.1
2000	680	133.3	11.2
2050**	1,761	346.0	19.2

* Excluding ex-USSR
** UN Projection (Medium Variant)

Table 2: Average Annual Population Growth Rates, AD 0 – 2050
Sources: Same as Table 1

	SS Africa	Asia	Europe*	World
0-1600	0.14%	0.04%	0.07%	0.05%
1600-1900	-0.03	0.33	0.40	0.35
1900-2050**	1.95	1.18	0.37	1.15

* Excluding ex-USSR
** UN Projection (Medium Variant)

Table 3: Synopsis of Argument