

# Long term population dynamics in Africa: A perspective from the urban structure

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## 1. Historical population of Africa – the sources and controversies

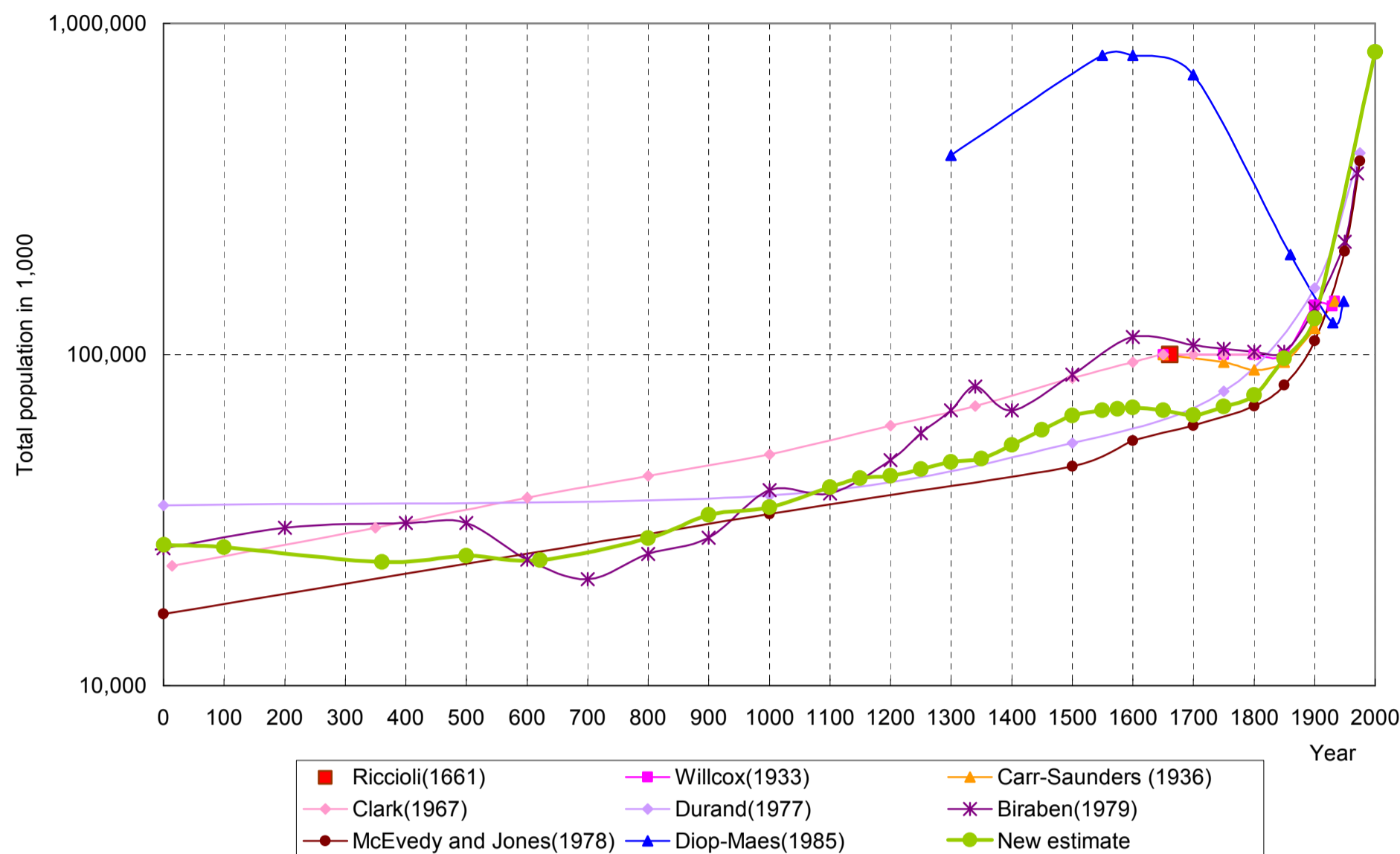


Figure 1 Various estimates of historical population of Africa

History of African population estimate started with that of Riccioli, an Italian Jesuit astronomer, and he allocated 100 million for his time in 1661 assuming that Africa contained people as much as Europe. This figure was unchallenged and succeeded by Willcox(1933) who further extended the figure up until 1850. This view of stable African population was criticized by Carr-Saunders(1936) who insisted that the slave trade had a substantial negative impact on African population. This debate on the effect of slave trade is not yet fully settled and estimates vary up to the most drastic one which suggested that the slavery had reduced 650 million Africans in 1500 to 150 million level in 1900(Diop-Maes:1991). Even though this estimate is far too different from existing estimates, in the total absence of any quantitative evidence, it is not possible to rule it out, unless politically motivated.

Recent progress on the micro analysis of historical population is revealing new appearance of African past, but here I would like to propose one method of past population reconstruction using city population. It has been shown in historical context that city population, defined as top x cities' population (for example, when x=10, the total of top 10 cities' population) can be a good indicator of total population(Hayashi:2007). For China, the ratio of top 10 cities' population to total population from year 100 to 1900 was almost stable around 2% and similar stability is observed for Japan(from 1650 to 1898) and France(from 1750 to 1851). Assuming that the ratio of city population of 1900 in Africa was stable for the period beforehand, the total population was calculated (Figure 1)

The new estimate shows that the population trend was basically increasing throughout the period which support the point of view of Durand or McEvedy and Jones(1978), except for the notable decrease from 1600 to 1700. This decline is due to both Sub-Saharan Africa and North Africa but the degree of decrease is far more apparent in North Africa. The slave trade was most virulent in 18<sup>th</sup> century (Lovejoy:1982), a century later. It can be noted that during the 17<sup>th</sup> century, the world is under Maunder Minimum, colder climate, which might be one of the causes of population decline.

As for the historical city distribution, most cities in Sub-Sahara Africa were concentrated in fewer regions, such as West Africa (Mali-Niger-Nigeria) and Sudan-Ethiopia (Figure 2). However, this pattern of distribution had changed since 1900 (Figure 3)



Figure 2 Major cities in Sub-Saharan Africa before 1850



Figure 3 Major cities in Sub-Saharan Africa in 1900

## 2. Estimating smaller region – case of Nigeria

If there are sufficient city population data, it is also possible to calculate the total population. In case of Africa, for the moment the city population data available to author is limited but one can try calculating the country level historical population such as Nigeria. Figure 4 shows the trend of population of Nigeria. The population of Nigeria was around 10 million in 1500 and until 1700 it was almost unchanged but for the 18<sup>th</sup> century, there is a substantial increase. A population dip in 1850 is followed by gradual increase until 1950, then sharp increase started.

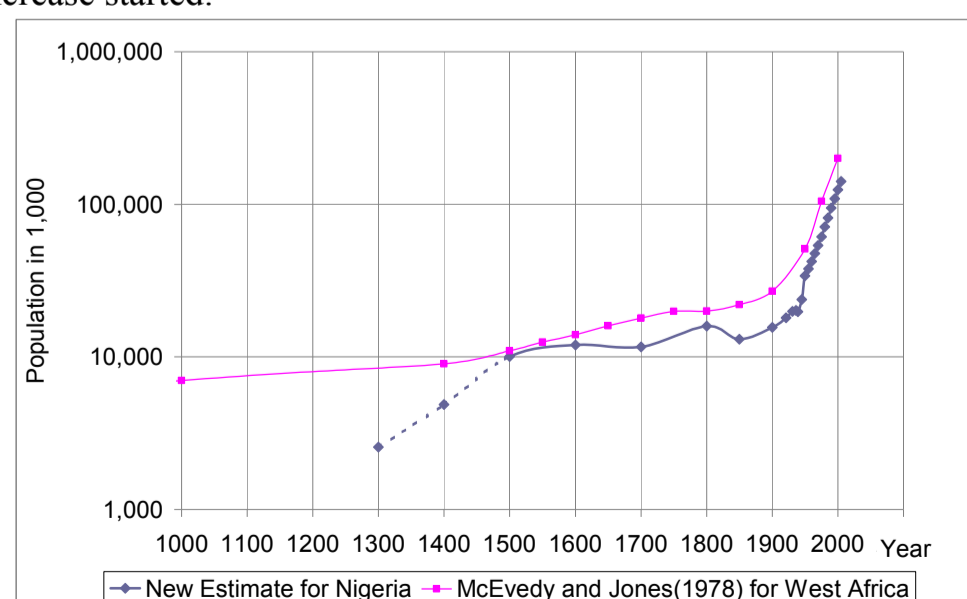


Figure 4 Major cities in Sub-Saharan Africa before 1850

## 3. The changing urban structure in Africa after 1900

The stability of city population ratio is only found until 1900 and since then, the growth of top 10 cities' population speeded up compare to the total population. Since 1950, this speed is unchanged until 2000 (Figure 5). For the period from 1950 to 2000, the biggest city in Africa is Cairo, but its growth slowed down in comparison to total population growth. Among the most populous cities, the growth of Lagos, Kinshasa and Khartoum is notable.

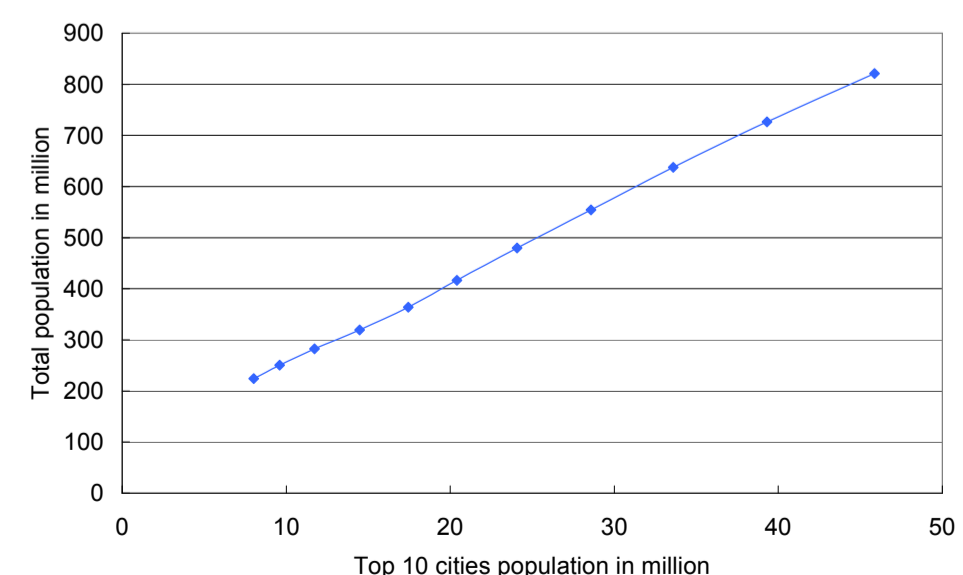


Figure 5 Top 10 cities and total population relation (Africa : 1950 - 2000)