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Statistics don't lie, but there are those who use them to lie shamelessly: The Example of Electoral Estimates in Mozambique

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Introduction

Statistics don't lie, but in Mozambique there are those who use them to manipulate the regional distribution of the population of voting age in general (presidential and parliamentary), provincial and municipal elections. In the electoral registration just held, the Electoral Administration Technical Secretariat (STAE) went public to declare that 80% of the population of Gaza province is 18 years or more old (18+). How does it explain this phenomenon? It simply does not explain.

From the demographic, social and statistical point of view, nothing can explain how Gaza suddenly appears with only 20% of its population consisting of children and adolescents under 18 years old. The data from the 2017 Census reveal a trend towards a reduction, rather than an increase, in the median age of the Mozambican population, estimated at 16.6 years in 2007. The last three population censuses show that the national average of people aged 18 years and above has varied from 48% of the population in 1997, to 49% in 2007 and 45% in 2017). This declining trend is consistent with the reduction in the national median age, because of the accelerated growth in the number of births and of children who are too young to vote, Likewise, if we compare the provincial data, at no time does Gaza appear with percentages as high as those claimed by STAE. In 1997, the percentage of people aged 18 and above in Zambézia was 48% and in Nampula 49%, exactly identical to that of Gaza (49%).

The recent challenge by the Centre of Public Integrity (CIP) to the supposed 80% of people aged 18 and above in Gaza is justifiable, but not for the reason given. It would be surprising if CIP or any researcher were to find some study showing that parents in Gaza province have had "…few children in comparison with those of Zambézia province". There is no sense in looking for any demographic or social phenomenon that answers for a percentage which STAE does not justify, and makes no effort to explain. It seems that STAE reached the alleged 80% of people aged 18+, by dividing the estimate it
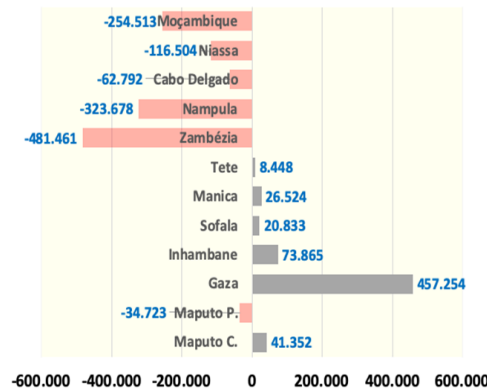
made of the population of Gaza in this age group in 2019 (1,114,337 people) by the total provincial population (1,422,460 people) in 2017. It is strange to divide a figure for 2019 by another for 2017. If this was not the calculation used, the blame for this and other doubts lies with STAE, since it does not make available the assumptions used in the estimates it publishes.

This text seeks to justify and give details of the revelation I recently made about the mysterious number of the Gaza population. This revelation arose by mere chance, in response to a request from "ADS Eleições 2019", for me to interpret the declaration of STAE about the supposed 80% in Gaza and 40% in Zambézia (Francisco, 2019). This motivated me to review the population projections made by the National Statistics Institute (INE), in order to analyse better the STAE estimates.

Graph 1: Discrepancy in the estimated population of voting age (18+) given by STAE, in comparison with the INE data for Mozambique, 2019

The result of this brief research shows the subtlety and scale of possible statistical juggling, which are much more serious than analysts have understood, in investigating the contradictory data of the electoral administration bodies, and particularly of STAE.

Context of the Electoral Estimates

Questioning the voter registration and the electoral registers that result from it has been recurrent over the past decade, and is seen by some analysts as weakening the electoral process (Brito, 2011). While there may be various grounds for such questioning, one of the possible reasons has been surprisingly overlooked. In general, analysts have placed their trust in the official statistics, namely the data from

the INE's population censuses, used as a point of comparison for the voter registration.

For want of a better source, it is not the omission rates of the INE censuses, which are in general relatively low, which justifies questioning their coverage and inclusiveness. Since we do not have reliable civil records and a system of vital statistics, we have no alternatives. Furthermore, the INE is one of the few Mozambican bodies that draw up national statistical data, with sufficient logistical capacity and financial support, to meet adequate technical skills, in order to draw up population projections, nationally and broken down by provinces, districts and localities. In this context, since there is no blatant evidence or proven motives to doubt the quality of the INE statistics, its data base has served as a reliable reference point for estimates with various purposes, such as the case of electoral data.

The INE's original sin

Despite the good reputation of the INE, can we imagine that its data hide a mysterious and serious mistake, resulting from carelessness, but without bad intentions, or committed deliberately for motives that it would be difficult to admit?

Before pointing to the mysterious error, for the benefit of readers who are not familiar with the population projections of the INE, it is worth explaining the following. Since the 1997 Census, the INE has made available two types of annual population projections (national and provincial) which are, or should be, consistent with each other. Based on the 1997 Census, the INE published projections for the total population (1997-2020) and provincial projections (1997-2010) (INE, 1999a, 1999b). As was predictable, the total Mozambican population in 1997 is equal to the sum of the provincial totals (16,075,708 people).

Surprisingly, the projections based on the 2007 Census do not show the same consistency (INE, 2011, 2010). When comparing the national total of the sum of all the provincial totals (see INE 2011) with the total of the annual projections (urban and rural) from the publication of 2010 we find a difference of 986,197 people. In this latter publication, with

overall projections for the period 2007-2040, the population of Mozambique in 2007 is 20,632,434 inhabitants. But in the 2011 publication, Table 1 of the projected population by province and sex by age, shows a total of 21,618,631 inhabitants in 2007. And where is this numerical difference found? Solely and exclusively in Gaza province. The total population in 2007 in Gaza (used by STAE) is 1,236,284 people, but the total in Table 1 mentioned above is 2,222,481 people. All the other provinces, without exception, have the same figures in the two publications.

Based on the 2.2 million in Gaza, which includes the 986,000 extra ghosts, the population aged 18 and above which resulted for 2007 was 1,225,109 people. Comparing this number with the estimated population of Gaza used officially (1,236,284), the 18+ population in 2007 would represent 99% of the population of this province. A figure far too scandalous for any credibility.

Until proof to the contrary, the 986,000 extra people in Gaza provides the key for understanding the allegation of STAE about 80% of the population being aged 18+. Very probably, the STAE statistics opted for 80% in the hope that it would not cause surprise and reaction. Hence it makes sense to suspect that instead of correcting an aberrant mistake, the choice was made to arrive at an apparently more modest percentage, based on the strange division mentioned above. Like the difference in the total population of Mozambique, an identical discrepancy can be found between the total projection and the projections disaggregated by province of the population aged 18 and above. In the 2010 INE publication, the total population aged 18 and above is 9,890,193 people, but in the provincial projections in the 2011 publication, the total is 10,505,726 people. In this case, the difference falls to 615,533 people, because it only covers the 18+ age group.
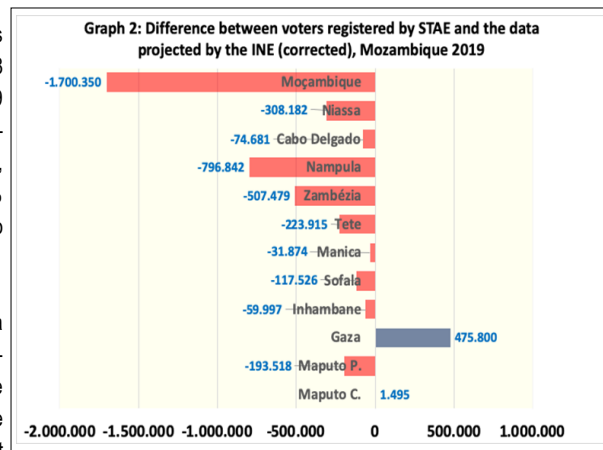
Impact of the 986,000 ghosts
What is the reason for the mysterious and ghostly number which appears unexpectedly in Gaza? Immediately, the only reasonable and justifiable explanation is that it was introduced, inadvertently or deliberately. A mistake, intentional or not, but a very serious mistake. How did it escape the attention of analysts for so long? Perhaps because at official level, and for public consumption, the estimate for the total Mozambican population in 2007, is 20.6 million, instead of 21.7 million. Likewise, whenever the population of Gaza is mentioned, the figure used for 2007 is 1.3 million and not the 2.2 million that includes the 986,000 extra ghosts in Gaza.

But we should not be naive. It is unlikely that STAE did not notice that there was something wrong. Not much attention is needed to understand that a ghost figure was inflating the Gaza population, to such an extent as to make the 18+ population identical (99%) to the total population of the province. To obtain a total of 1.2 million in 2007, the population of Gaza would have to have grown between 1997 and 2007 at an average

annual rate of 7.1%. It is unlikely that anybody in STAE, with a minimum of statistical sensitivity, did not notice the numerical inconsistency shown here.

Once the secret of the alleged 80% of people aged 18 and above in Gaza is revealed, it is clear that the mystery is much more simple and easy to explain than it seemed. However, while this numerical ghost is not removed from the statistics we are using, it could continue to distort our analyses, and political and operational options and actions. For example, even before the

Graph 2: Difference between voters registered by STAE and the data projected by the INE (corrected), Mozambique 2019

problem of the allocation of brigades, raised by CIP (2019), the figure revealed here affects the regional distribution of the electorate. This is shown in Graph 1, drawn up after removing this figure and estimating the evolution of the population of voting age between 2017 and 2019. The ghost figure changes the Gaza electorate by about 457,000 people, as I indicated in the interview with ADS Eleições 2019, on 2 June (Francisco, 2019).

As for the estimate of 700,000 potential voters excluded in the north and centre of the country, after reviewing the projections for growth between 2017 and 2019, I admit that the scale of the omission is much greater than I estimated initially, Graph 2 shows that the exclusion of voters in the north and centre could exceed 900,000 people. 500,000 of these are in Niassa, Cabo Delgado and Nampula. In Zambézia the omission could exceed 400,000 people. In the south, only Maputo Province shows an omission, of around 34,000 people.

Since STAE (2019) has now published the data for people registered during the voter registration, it was possible to draw up Graph 2, showing the difference between the number of people registered and the estimate based on the (corrected) data from the INE. In this case, the omission of voters in the north and centre rises to about two million (1.2 million in the north and 880,000 in the centre). All the provinces of the north and centre show more or less significant deficits in the electoral registers. In the south, while Gaza shows a surplus of voters of more than 475,000 people, Maputo Province is the only province with a substantial level of omission (about 193,000). Hence the surplus in the south comes to more than 220,000 voters.

Conclusion and Final Comment
The revelation presented and explained in this article may give rise to various interpretations: technical, political and moral or ethical. There is no space to discuss them here, nor was that the purpose of this reflection. Nor will I try to speculate or predict, as CIP did, whether or not Filipe Nyusi will win an extra 370,000 votes. This, or other hypotheses, will not depend only on the strong base for manipulation provided to STAE by the INE statistics. No less important is that the greater or lesser capacity of the Frelimo candidate to capture votes will depend on other forms of manipulation, at various levels – that is, in the count, and the verification, control and approval of the final results.

As for the statistical data, I will merely add that the example shown here illustrates well how a "small" mistake can lead to countless misunderstandings and speculations. In due time we shall see how STAE, used as it is to provoking doubts and distrust, for reasons that have nothing to do with the quality of the statistics, will deal with the implications of the revelation of the secret of the alleged 80% in Gaza. As for the INE, unfortunately it too does not emerge well from this picture. While the serious mistake shown here is not enough to call into question the good reputation that the INE has won, the ridiculous situation in which it finds itself in no way benefits the INE. The least I expect it to do, to redeem itself from the mistake, is to correct it because the data of statistical evolution will continue to form part of the analyses made by users of INE products. And after this precedent, we shall wait for the new national and provincial projections based on the 2017 Census. Considering the electoral experience of Mozambique in the past, what is increasingly important is not who votes, but who counts and controls the final result. I will not be surprised if Filipe Nyusi achieves what the Frelimo militants desire at all costs: a resounding victory! Mainly in Gaza, no doubt; all is being channelled so that next October, Nyusi and Frelimo obtain this resounding victory.

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