

*Exposé: The artificiality of socio-economic statistics on the new nations.*

## AFRICAN NUMBERS GAME

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The proliferation of independent tropical African states has been reflected in a proliferation of U.S. government publications, including intelligence papers, on these countries. The National Intelligence Survey program has sharply increased both the coverage of its series on Africa and the frequency with which articles are updated. National Intelligence Estimates on the area have multiplied. More recently there have been a number of National Policy Papers. These publications require, in varying degree, supporting socio-economic statistics. At a minimum they are likely to carry population data (present size and rate of growth), Gross National Product, and per capita variations on the GNP theme. Many, if not most, such statistics contained in these reports—and drawing prestige from the high classification at the top and bottom of every page—are patently absurd.

### *National Accounts*

Official numbers coming out of tropical Africa are apt to be more misleading than helpful. The state of backwardness in these underdeveloped—or developing, to use the second-generation euphemism—countries is such that the elaborate statistical organizations taken for granted in the industrial West just do not exist. Many kinds of data considered basic to economic measurement simply are not available, and where data does exist it is often suppressed or grossly distorted by government leaders for assorted political purposes. Despite these obstacles, numbers which suggest great accuracy are continually enshrined in intelligence publications and by repetition have quickly gained currency.

Emergent nations promptly acquire the accepted badges of independence—flag, anthem, national flower and bird. They also, largely because Western—as well as Eastern—suppliers of financial aid insist, soon formulate development plans, make population esti-

mates, and devise systems of national accounts. Reasonable development planning and population estimating are defensible and desirable, but national accounting in most African countries is by almost any standard ludicrous. And the countries that fail to provide their own national accounts find in Washington people eager to play the make-believe game for them.

The theoretical and practical problems of calculating national accounts for underdeveloped countries with very large non-monetized sectors—that's *lingua economica* for "most of the people living in the bush"—are formidable ones that would be of interest chiefly to economists were it not for the current propensity of the policy maker and others to make welfare comparisons among African countries and between Africa and the rest of the world. To suggest by statistical comparison, such as is contained in the CIA-prepared Basic Intelligence Factbook, that Cameroon, with a "per capita GNP of \$86," is a shade better off than the Malagasy Republic with a "per capita GNP of \$85" misleads rather than informs. The uselessness of such comparisons has been pointed out by one economist as follows:

... the usual African economic aggregates are certainly valueless at present for most purposes; welfare comparisons using per capita income . . . are obviously nonsensical when income estimates themselves are in part derived by multiplying per capita averages of doubtful accuracy by population estimates equally subject to error.<sup>1</sup>

The development of national accounts which reflect the actual economy is a sophisticated process, assuming a great quantity and variety of accurate statistics. It is the more practicable the smaller the non-monetized, or subsistence, sector, for it involves valuing the product of the whole economy, including, in the case of Africa, the output of those who live by the shifting agriculture of the bush and the even more primitive hunting-and-fishing societies; and village chiefs and subchiefs do not forward detailed statistical reports on wages, output, and village government services to central statistical offices maintaining the accounts.

In this situation, economists resort to imputation. Prices are assigned, where in fact money prices don't exist, to goods and services in the subsistence sector; huts are valued and given rates of depreciation. The figures for the products of one person are summed, multiplied by the estimated subsistence population, and lumped with the output of the monetary sector. When this total is divided by the

<sup>1</sup>P. Ady, *African Studies in Income and Wealth* (London, 1963).

estimated population of both sectors combined, the result is the statistic called per capita GNP, which is supposed to tell something about the nature of the economy and its rate of growth.

National accounting is most useful when applied to modern economies. But even when national accounts are quite accurately developed they are often used improperly, and the resulting comparisons are sometimes ridiculous. What useful purpose, for example, is served by a finding that Kuwait in 1963 had the highest per capita national income in the world, \$2,800 as against the United States' \$2,500 and Germany's mere \$1,300?

#### *Head Counts*

Let us look closer, not at statistical practices involving complex concepts or requiring some economic sophistication, but at the simpler matter of counting population. This, perhaps the most basic of all statistics, is a building block for most of the more complicated economic and social aggregates and the one from which all per capita series are derived. Unless population statistics are relatively accurate and detailed, the economic aggregates derived from them can only be wrong, the sole question being how wrong. From our survey of African censuses we conclude that the officially released economic and social aggregates for most of these countries must be wildly erroneous.

Census-taking in tropical Africa is subject to all of the technical difficulties it encounters in industrial societies. In addition it is hampered by special circumstances typical of countries with large subsistence sectors and also by factors peculiar to the African scene. Finally, there is the problem of political manipulation of the census.

Many African population figures currently in vogue were initially the product of a colonial administration, later embellished by national statistical offices. Generally the colonial figures tended to be low; underreporting was fairly widespread because of general colonial disinterest in the indigenous population and because the colonial census was used as a basis for taxation or corvée. Independence has usually brought no notable improvement in either procedures or results.

Even when trained census takers are used, social problems can markedly distort the data. Take the question of age. Few Africans live by the clock, fewer still by the calendar, so enumerators must attempt to date their lives by important local events such as memorable floods or fires. Even those who keep better track of years have a tendency to report in decades, giving the age of 40, say, instead of

46. In Muslim Africa the tendency is to omit daughters, especially those who have reached puberty but are not yet married, there being a stigma on unmarried daughters. This results in a sharp drop in the number of reported females from about 12 years old until time of marriage, when they can be reported respectfully as wives. Such phenomena are not limited to the more primitive African countries. The age data in the 1960 census of Ghana, which had been under British colonial administration for more than a century, was characterized by the United Nations as "Very Rough," in the lowest category of reliability.

Outright dishonesty in handling population statistics is quite common throughout Africa. Even when that is absent, a conscientious attempt to alert the user to the limitations of the data is rare except on the part of foreign statisticians with reputations to preserve. The disclaimers are in any case soon detached from the statistics, and these magically assume exactitude when printed in intelligence reports. The classic disclaimer quoted below was attached to the 1953 Pilot Population Census in the Sudan.

It must be clearly understood that the Department of Statistics accepts no responsibility for what will be said in this chapter. It must be stated clearly and without any qualifications that most, if not all, comments and remarks in this chapter are of little value. Nevertheless, the temptation to aim at producing a figure in respect of a country where no such figure has been produced in the past is too great, even if in the process of doing it more guesswork is undertaken than any respectable statistician, having the good name of his trade in mind, would care to admit. It must also be stated that should, by any chance, the population figures arrived at during the main census agree in any way with the sheer guesses in this chapter, it will be pure coincidence and no credit will be claimed by the Department of Statistics. On the other hand, should the guesses, as guesses often are, be widely off the mark, no blame will be admitted.

The problems with African population statistics are best illustrated by example. The countries discussed below were selected not because they are the worst cases but because they exhibit different typical forms of technical or politically inspired distortion.

#### *Ghana*

Ghana, often described as having a well-trained civil service and administratively head and shoulders above its African neighbors, was thought capable of producing a reasonably good census. The 4,118,000 Ghanaians reported in 1948 were expected to increase to 5,100,000

by 1960. The 1960 census, however—the first since independence—counted 6,728,820. Underestimation in the last colonial census would account for some of the unexpectedly large increase, but not all; an examination of the census procedure shows government manipulation to achieve a political end.

President Nkrumah clearly decided to inflate the census. Instead of having a single cut-off date for the entire country, as in usual practice, he decreed two, one for the north and a later one for the south. At first glance this would not seem cause for major distortion. But in Ghana there is a substantial seasonal migration from north to south. The northern area was counted before the migration began, the southern after the displacement reached its peak. This procedure not only increased the total population by double-counting the Ghanaians that moved from north to south and including as Ghanaians the large number of non-Ghanaians from neighboring countries who regularly join the southward migration, but it exaggerated in particular the population of the southern area from which Nkrumah has drawn much of his support.

The population figure is therefore probably inflated by about 30 percent, and the more than 4 percent annual increase indicated is likewise an overstatement, the true figure probably lying closer to 2 percent. While double-counting gives Nkrumah the political benefit of a larger population to rule, it also yields a larger divisor for the derivation of per capita statistics. By government manipulation Ghana thus became a larger but a per capita poorer country.

#### *Liberia*

Estimates made before the Liberian census suggested a population anywhere between 750,000 and 2,500,000. The lower figure was based on a hut count made on aerial photographs and multiplied by 5 inhabitants in some areas, 6 in others. The larger number was President Tubman's personal estimate made on the eve of the census. When the census then produced the disappointing figure 1,089,000, he promptly suppressed it.

Apparently Tubman found it embarrassing to become ruler of a country with only a million people after twenty years of ruling more than twice that many. The higher figure was also convenient when seeking foreign aid; the United States and other benefactors often use per capita aid comparisons. It suggested an abundant untapped labor force, moreover, to work new rubber plantations and mining con-

cessions. It promised a good domestic market for foreign investment in consumer industry; a German investor was in fact dissuaded from building a plant in Liberia by the information that the population was less than half the number he had been told officially. (The census results had become an open secret, and Tubman has recently been leaning toward releasing them.)

#### *Upper Volta, Sierra Leone*

Some countries find it inconvenient to change the official population estimates even when better data become available. In Upper Volta, for example, the government reported for 1960 an "administrative" population of 3,500,000, derived from a head count for tax purposes. Then in 1961 a well-qualified Frenchman estimated, on the basis of an adequate sample, a total of 4,400,000—an upward revision of roughly one-fourth. Nonetheless the government still uses its old figure as the basis for fiscal planning. Acceptance of the better estimate would deflate all the Upper Volta per capita statistics and present the country as even more abysmally poor than must be admitted now.

Sierra Leone's census, undertaken with substantial U.S. assistance, gave a population of 2,183,000 as of 1 April 1963. Initially the government refused to accept the census at all because it created problems of political representation. It now accepts the total figures but not the regional breakdown. The reason is clear. The opposition party is allowed only two seats in the legislature for an area (Koinadgu) which the census shows to have a population of 729,000, while the ruling party gets six seats to represent the population of the Western Rural Area, enumerated at only 69,000. The government also continues to report the total of registered voters—males and females of 21 years and older—as 1,129,000. Such a voting list suggests a population approaching 4 million, more than 70 percent too high. Tombstone voter registration is not unknown in Africa.

#### *Ethiopia*

In all the countries discussed above there was at least some basis for the cited estimates. But there are population statistics for which no basis at all can be discerned. Ethiopia is a case in point. The U.N. Demographic Yearbook generously describes the source of Ethiopian figures for 1961—giving a population of 21,600,000—as "con-

jectural." Most likely the statistics developed from official Ethiopia statements rather than any basis in fact. Even now a new Ethiopia population estimate is gaining currency in just this fashion. The *Ethiopian Herald* of June 27, 1964, reported an interview with Ato Seyoum Ejigu, Director-General of the National Election Board, who had just completed an extensive study tour of the country. Here is an excerpt:

... the present population of the country is 27,824,120 ... this figure was according to his personal findings while he was touring the Empire. He received the figures and facts of the increase of population from provincial and district governors, electoral stations and officers of the Governorates General. According to Ato Seyoum's estimate of population the number of parliamentarians to the Chamber of Deputies would have risen to 28 but, he said, since the official figure is 22,000,000 the number would be 25. However, the Director-General believed that when his findings are approved the 4th General Election Chamber of Deputies would have 236 representatives.

Thus Ethiopia will probably add 5,824,120 citizens to the population rolls. But we have no reason to assume that the result will be any closer to the true number than the old 22 million was. We really have no idea at all how many Ethiopians there are.

The situation would be amusing were it not that people insist on making welfare comparisons based on per capita statistics. Should we use the new estimate now to reduce further the Ethiopian per capita GNP, already reported as one of the lowest in Africa? By simple arithmetic Ethiopia might become the poorest country on the continent. The absurdity of the entire per capita exercise becomes apparent with this question.

### *Nigeria*

The most extreme example of population confusion is currently Nigeria. The 1952 official census reported a population of about 32 million, which, with a subsequent partial census, suggested a 1963 population between 37 and 41 million. But the 1963 census results announced last February 24 put the number at 55,653,821 (a delightfully precise statistic). There is substantial evidence that chicanery in taking the census greatly inflated the population; because of the federal structure in Nigeria, changes in regional representation have very serious political implications. But we are concerned here with the economic aspects.

Many analysts are reluctant to use the new data; they would prefer to use the 40 or so million. Even on the basis of this figure it had been concluded earlier:

Even if all the economic development plans were successfully completed, the annual per capita increase in private consumption would be about 1 percent during the plan period, hardly enough to make a significant impression on the consuming public; per capita GNP currently is less than \$85.00. We conclude that successful fulfillment of the development schemes is not likely to make an appreciable contribution to political or social stability. On the contrary, the necessarily slow pace of economic growth postulated is likely to engender disillusionment with the machinery of government and the country's relatively democratic institutions.<sup>6</sup>

The outlook is even gloomier if we accept the new population figures, which—probably falsely—depress the whole series of per capita economic and sociological indicators—doctors per thousand, hospital beds, investment, GNP, etc. But we may be required to accept them by our customers.

#### *Pakistan*

The inadequacies of African statistics are paralleled in much of the undeveloped world. At present the African statistical bias is usually upward, but it can also be down. Mr. Said Hasan, Chairman of the Executive Committee of Pakistan's Institute of Development Economics welcomed members of a seminar<sup>7</sup> some years ago with the following observation.

We decided that population and its growth in South and Southeast Asia must be understated so that the task of economic development of this area may not appear to be a hopeless one. Again in our own country when the first Five Year Plan was being framed I urged, and successfully too, that the rate of [population] growth should not be shown as higher than 1.4 percent. This was to keep despair away. We are, however, convinced that population is growing faster than that. But as has been said, hope builds sooner than knowledge destroys.

#### *Prospects and Some Suggestions*

There is little the intelligence analyst can do to improve the quantity or quality of African statistics. Better statistical information will come only with time and with the development of statistical offices in

<sup>6</sup> CIA/ORR comment on Nigeria Policy Paper, January 1964.

<sup>7</sup> On Population Growth and Economic Development with Special Reference to Pakistan, September 8-13, 1959.

the countries concerned. Deliberate, politically inspired distortion of social, economic, and political data by African leaders will probably continue also for some time, until these leaders or their successors reach a degree of political and economic maturity.

Although unable to improve the African statistics, we could at least avoid giving them the currency and respectability they now enjoy by virtue of inclusion in high-level intelligence reports. It is recognized that it would be difficult to dispense with such numbers entirely; it is proposed only that they be treated gingerly. If reports which persist in using statistics with too many significant digits don't mislead the reader, they must at least impress him with the naiveté of the drafting officer.

The solution to the problem requires a command or customer decision: in present practice the analyst is compelled by the requirements laid on him to include in his reports statistics which he knows are silly at best. Officers at all levels who request reports, whether short papers for the same afternoon or long ones months ahead, should so frame their requirements that the analyst's judgment may prevail with respect to statistical presentations, as in the case of Nigeria. The present assumption on the part of requesting officers that all countries have common statistical series suitable for comparative purposes ought also to be discarded. Fact books and other statistical compendia should recognize that in a great many cases "facts" just do not exist.

Intelligence publications rarely originate statistics on the non-Communist countries. The intelligence operation on them is for the most part a sifting and evaluating process intended to qualify them properly. The most copious source of the new statistics is probably the U.S. foreign aid program, for which voluminous "data" are produced in connection with various country aid schemes. These country program books are later reduced and presented, with the field's caveats removed, in expensively bound volumes to the Congress and the Executive. Here the process really takes off; the proliferation of new "statistics" gets under way in earnest.

Knowledge of the utter unreliability of Ethiopian data on population, as discussed above, is by no means the exclusive property of the writer. Yet consider what happens when Ethiopia is reduced to "numbers" and printed in a foreign aid publication. We find that the annual population growth is 1.4 percent. We really have no idea what the population growth is at all, but the report says 1.4 percent, which means that the true rate of Ethiopian population increase falls

between 1.35 percent and 1.45 percent. Put another way, it implies that our information on the rate of increase is accurate to 5 one-hundredths of 1 percent. The same report contains a population total of 19.4 million for 1962, a per capita agricultural production index, electric power per capita, acres per capita, literacy rate, pupils as a percent of population, and people per doctor. This exercise in pseudo-accuracy is repeated over and over again, country by country, with ingenuous indifference to the real situation. It recalls Mark Twain's observation that "one gets such wholesale returns of conjecture out of such a trifling investment of facts."

Where we must give statistics we could use rounded figures. We could express doubtful data in ranges, doing more qualitative and less quantitative analysis. Population statistics, in particular, would be more useful to the consumer presented in ranges, as perhaps 40-55 million for Nigeria. The loss in aura of exactness would be more than compensated by increased credibility. Per capita GNP could be given as "under \$100" rather than \$67. This rougher measure would convey adequately the subsistence nature of the economy; \$100 per year is only about 27 cents per day.

And that is all it needs to convey. Simple welfare comparisons made among per capita GNP's for relatively primitive economies are not very profitable. When you come down to it, it is quite apparent that an individual cannot exist on 27 cents per day. And he doesn't. He actually exists, in Africa, on a variety of goods and services provided largely by himself. These are valued at some kind of market prices (usually by a foreign economist and often using city prices), expressed in the local currency, and converted into dollars by simple arithmetic. The result is then viewed, in our community, by an individual who has a weekly income that is some multiple of the African's annual "per capita GNP," who is familiar chiefly with his own price structure, who knows nothing of the original sins committed in the GNP data, and who has little or no conception of the statistical errors upon which his mental comparative processes must rest.