

First Release from the Second Population Census of Pakistan, 1961

KAROL J. KROTKI*

The field enumeration for the purposes of the Second Population Census of Pakistan was completed at dawn of February 1, 1961. The first Bulletin with provisional results is dated 27 days later¹. The less than five weeks in the case of Pakistan compare with about four weeks in the case of the latest Census of India², and just over six weeks in the case of United Kingdom³. Such figures are seldom directly comparable, but the least that can be said is that Pakistan is in the first league. With such standards of performance as to speed already reached, the need now is to concentrate on increasing the extent of information provided, ensuring greater comparability, providing some preliminary analysis and elucidation and finally eliminating clerical mistakes through more checking. The swift results in Pakistan in the prevailing communication and literacy circumstances suggest that the work was well planned and must have been carried out by an exceedingly efficient organisation.

The Bulletin under review covers following subjects:

statistical information on the total population,
sex,
area,
literacy,
unoccupied structures,
occupied residential houses, and
households

The items listed above are presented for the following areas:

Pakistan as a whole,
the then three component parts—East Pakistan, West Pakistan and the
Federal Territory of Karachi,

*The author is Research Adviser in the Institute of Development Economics.

1. Census of Pakistan, 1961. Provisional tables of population. Census Bulletin No. 1. Preliminary release. Karachi: Population Census Commission, Ministry of Home Affairs, Government of Pakistan, 1961. 24 pages and 15 tables.

2. *The New York Times*, March 28, 1961, p. 7. India's 438,000,000.

Time, the weekly news magazine, April 7, 1961, p. 17. India. Head count.

3. *The Economist*, June 10, p. 1134. Snapshot of the British.

all the administrative divisions,
all the administrative districts, and
eighteen selected (presumably largest) towns, the smallest of which is
Montgomery with 75 thousand people.

The tables of the Bulletin are striking by their clarity and consistency of presentation. The triplicating of all tables (for East, West and Karachi) is unfortunate, because it provides no figures for the West as a whole, which could be readily compared with the 1951 figures for the West as a whole. It is also probably no longer justified now that Karachi has become for all practical purposes another division of West Pakistan.

The purpose of this review is to present some more important findings of the census and to offer some hypotheses explaining them.

Population Total

The figures reported cover the present area of the Republic of Pakistan, "excluding Jammu and Kashmir, Gilgit and Baltistan, Junagadh and Manavadar". The latter are areas partly run by the pro-Pakistan Azad (Free) Kashmir Government, partly incorporated in the Union of India and partly occupied by China. Their boundaries have not yet been—at least in Pakistan understanding—finally determined.

The treatment of the few small territories, which were subject to exchanges, mostly in the nature of frontier adjustments between India and Pakistan in the recent past, is not clear, but demographically they must be quite insignificant. Some further areas, called in the Bulletin "Special Areas", were excluded from the housing census.

In the areas covered by the population census enumeration 93.81 million persons were reported. In the absence of independent checks and until a more detailed analysis of fuller releases is carried out, it is of course quiet impossible to say how accurate this figure is. There is no doubt that it can not be accurate to the last thousand as published. It is estimated by American researchers that in 1950 some five million people were omitted in the United States⁴ and in 1951 some twenty or twentyfive million may have been omitted from the Indian census⁵. The impression of the writer is that the degree of underenumeration in this very efficiently conducted Census was

4. Coale, Ansley J., The Population of the United States in 1950 classified by age, sex, and color—a review of census figures. *Journal of the American Statistical Association*, 1955. Vol. 50, pp. 16—54.

5. Coale, Ansley J., and Hoover, Edgar M., Population growth and economic development in low-income countries. A case study of India's prospects. Princeton: Princeton University Press, 1958, p. 354.

less than one would expect in a country with similar circumstances. There is, however, a feeling in the bones that it was greater than in Japan in 1959 and that, therefore, Pakistan should replace Japan as the fifth most populous country of the world (see inside back cover of the Bulletin). Indeed, it is already possible to suggest tentatively that it would not be surprising, if further research indicated that the true population of Pakistan was hitting the 100 million mark somewhere around the middle of this year (1961).

Population Growth in the Country as a Whole

A more interesting and important question than the total population figure is its rate of growth. The reported population increase between 1951 and 1961 by 23.7 per cent gives a compound rate of annual growth of nearly 2.2 per cent. This rate is substantially above the 1.4 per cent or 1.8 per cent which were assumed in the five-year plans. The correctness of this figure (2.2 per cent) depends not on how accurate the 1961 census was, but how accurate it was relatively to the 1951 census.

Suppose that only 50 per cent of the population were enumerated on each occasion, but an exact 50 per cent. Then the comparison of the figures for 1951 and 1961 would be an exact measure of the growth between the two years. For that matter, even a 10 per cent enumeration would give a correct measure of growth. On the other hand, suppose that the population in 1951 was underenumerated 5 per cent, while there was no underenumeration in 1961. The true rate of annual growth would be in such a case only 1.6 per cent against the reported 2.2 per cent. Suppose, on the other hand that the population in 1961 was underenumerated 5 per cent and that there was no underenumeration in 1951. The true rate of annual growth in this situation would have been 2.7 per cent. The two figures show the absolutely critical consideration of relative accuracy.

This incidentally shows that for some purposes a full count census is unnecessary and a sample survey would suffice. To measure growth a larger sample is required than to obtain a reasonable estimate of the total at any one time, although with the Pakistan order of growth somewhat larger sampling errors could be tolerated than with smaller growth. An increasing number of censuses are now conducted either wholly or partly on a sampling basis.

There is no strong evidence, but there is a number of indications, that some parts of the apparent growth may have been spurious.

- (1) Certain less-than-average-of-Pakistan-developed areas, particularly

in the mountainous and frontier regions, show increases above the average rate of increase for the whole country. There is the possibility that they were more effectively enumerated in 1961 than in 1951.

- (2) One could accept the suggestion that in 1961 towns were enumerated almost 100 per cent correct⁶ against the possibility of much greater underenumeration in towns in 1951⁷.
- (3) The increase in the number of women was greater than in the number of men. The census coverage of women may have been greater in 1961 than in 1951.
- (4) There is the generally prevailing impression that Pakistan gained by net immigration.
- [(5) The addition of the ex-Oman-and-Muscat enclave of Gwadar since the 1951 census may have overindicated the true population growth to the extent of the population of Gwadar.]

The trouble with these four or five arguments is that they are merely plausible suggestions. In the absence of evidence one can advance in each case equally reasonable counter-arguments.

- (1) For each underdeveloped area with high population increases another underdeveloped area with low population increases can be pointed out. Furthermore, some of these increases took place in areas with development projects. The increases may, thus, have been due as much to immigration from other parts of Pakistan as to better coverage.
- (2) One could advance the hypothesis that the degree of urban underenumeration was greater in 1961 than in 1951. Even if the same, with the presumably higher proportion of urbanities the effect on national underenumeration was greater. In fact, depending on the increase in the proportion of the population living in towns even a decrease in the degree of underenumeration of urban areas could

6. 99 per cent according to the Census Commissioner in *Dawn* newspaper of January 23, 1961; "most accurate" according to the Deputy Census Commissioner in *Dawn* newspaper of February 2, 1961; 98 per cent "with more to come" according to the Deputy Director of the Census in Karachi in *Dawn* newspaper of January 28, 1961.

7. Slade, E.H., Census Commissioner of Pakistan, *Census of Pakistan, 1951. Volume 1. Pakistan. Report and tables.* Karachi: Manager of Publications, Government of Pakistan, 1955, p. 2.

have produced a higher degree of underenumeration for the country as a whole.

- (3) The extraordinarily high ratio of men to women may be due to female selective underenumeration. On the other hand it may be due to female selective mortality. If the latter, the increase in the proportion of women is a natural and true one in conditions of increasing enlightenment and probably rising age at marriage of women⁸.

If thus the causes are improvements in female mortality, the contribution to population growth on this count is not only real but has increasing potentialities in the future. Thus, it may have been lesser underenumeration of females which brought down the masculinity ratio, but it may have been equally well a true increase. It remains to be seen.

- (4) While there is the general impression that West Pakistan was gaining on balance by migration since 1951 it is in the nature of the migratory movements that those coming in are more conspicuous than those who left. Furthermore, it is generally true that registers of immigrants, inevitably contain those who changed their minds and went back, as well as those who registered fraudulently. They, of course, exclude by the same token all those, who for one reason or another did not register, but in circumstances where there are distinct benefits connected with registration, such numbers must be small. Finally, there is some evidence, that at least East Pakistan was losing population by emigration. The rate of reported population increase inclusive of migration thus underindicates, at least for East Pakistan, the true rate of natural increase excluding migration. This would mean, that when the emigration dries out, the true rate of growth will be higher than the one reported for the intercensal period, other things being equal.

- [(5) The 1961 population was reported as of end of January. The 1951 population was reported as of end of February. If the 1961 population were counted at the end of February, upto 200,000 more Pakistanis would have been found by virtue of natural increase. This downward effect of the one month earlier census date dwarfs any influence which the inclusion or exclusion of Gwadar may have had.]

8. The rising age at marriage of women in India is well documented. See: Agarwala, S.N., *The Men Age at Marriage as Ascertained from Census Data*. Unpublished Ph. D. thesis in Princeton University Library, 1957. Also: Agarwala, S.N., *The age at marriage in India. Population Index*, 1957, Vol. 23, pp. 96—107.

The foregoing discussion of the possible points of over and under-enumeration is not intended to be an exhaustive discussion of possible biases in either census. This would require a much longer argument and would be primarily directed to answer the question "what was the true population of the country in February 1951 and in January 1961"? Our purpose here is less ambitious. It is to consider the biases of 1961 relatively to 1951 and how far they may have influenced the reported change between the two censuses.

The reported high rate of increase must have come as a surprise to many⁹. This growth is generally recognised as one of the most serious obstacles to generating a rising per capita income in Pakistan. Unlike, say, the shortage of foreign exchange, there are no obvious and acceptable ways of dealing effectively with population growth. With growth of the dimensions indicated and apparently as unexpected as this one, all conventional means of dealing with it may prove ineffective as they have, at least so far, in India.

It is idle to speculate on the reasons for the increase in the growth rate in the absence of further information and analysis. Many observers doubt whether there were spectacular enough improvements in mortality. They point, e.g., to the fact that the anti-malaria campaign has not yet started in earnest. However, one hypothesis, at least plausible, may be advanced. Although the child marriages among Moslems in undivided India were not as common as in the Hindu community, there were early marriages. As there seems to have been a raising of the age at marriage of women in the more recent past, the increase in the growth rate could be due to a considerable extent to the survival of previously dying young mothers and to their no longer early impaired child-bearing capacity. It is hoped to investigate this hypothesis at a later time.

Population Growth in Divisions and Districts

The discussion of the differential increases between districts and divisions would provide an opportunity for a fascinating study, but is quite outside the scope of a brief review article. However, at least the differential increase between East and West must be noted. Should it continue at the rates reported for the decade 1951-61 the population of West Pakistan will in 1994 catch up with that of East Pakistan at the level of some 95 million in each wing. This exercise must not imply the suggestion that the differentials will continue in the future at the rates reported in the past, though Bengal of undivided India which is nearest to East Pakistan of today for comparative

9. See, however: Krotki, Karol J., A first glance at the Pakistan age distribution, *The Pakistan Development Review*, 1961, Vol. 1, No. 1, pp. 64-75.

purposes, had always had somewhat lower rates of increase than most other parts of India.

Among the areas with low reported growth in the intercensal period outstanding is Noakhali District with 4.7 per cent during the ten years. The 4.7 per cent is an average of the 1.1 per cent for males and the 8.8 per cent for females. A brief trip to East Pakistan suggested to the writer that most of the itinerant labourers came from Noakhali District. Alternatively one can wonder whether in this district, heavily tried by cyclones, all the reportedly lost housing schedules¹⁰, on which the population census was based, were recovered. The comparison of the 1951 area¹¹ of Noakhali, which excluded large rivers, with its 1961 equivalent¹², which included the rivers, does not help very much.

Quite a class of their own are districts where contrary to the experience of most of the country, the number of females increased by less than males. They seem to have two characteristics: their average increase of both sexes is higher than that of the whole country and they seem to be areas which benefited from development schemes. Presumably and not unexpectedly male migrants were the first to move in.

It is noticeable that areas which nomads consider their homeland show small increases. This is not inconsistent with findings about nomads elsewhere¹³, though strangely enough the cause seems to be lower fertility rather than higher mortality. The Pakistan "nomadic" areas also show lower increases in the number of females than males. While the *burka* (veil) itself is less in physical evidence among the nomads than among the villagers, obtaining information on the women is a difficult task. Neither the 1951 nor the 1961 census provide a detailed system to enumerate nomads. The most positive suggestion in connection with nomads is made in the training manual, where it is noted that ".....for the most part, these large classes of persons must be caught by the Enumerators during Census Night¹⁴," the night from 31 January to 1 February. This suggestion while applicable

10. Census Commissioner in *Dawn* newspaper of November 13, 1960.

11. 4139 sq. km., Nomani, H.H., Census Superintendent of East Bengal, Census of Pakistan, 1951. Volume 3. East Bengal Report and Tables. Karachi: Manager of Publications, Government of Pakistan, 1958, Table 1-2.

12. 4735 sq. km., Census of Pakistan, 1961. *op. cit.*, p. 6.

13. Krotki, Karol J., Estimating vital rates from familiar and inadequate age distributions (Sudanese experience). An unpublished Ph.D. thesis in Princeton University Library, 1960.

14. Population Census of Pakistan, 1961, Manual of Instructions. Part II: Enumeration Period. Karachi: Office of the Census Commissioner, Ministry of Interior (Home Division), 1960, p. 6, para 3.5.

to beggars sleeping at railway stations is not designed to meet the case of the nomadic tent lost in the vastness of the desert.

Masculinity Ratio

The first and central fact to note about the masculinity ratio is that in January 1961, 4.79 million more men than women were reported in Pakistan. For a population of Pakistan's size this result is most unusual. We have the choice of thinking that either women were underenumerated or that relatively fewer than in other countries of the world are being born and/or more die. The second alternative (relatively fewer born than in the rest of the world) would be the more surprising demographically, but cannot be ruled out entirely. There were recently some reports from medical researchers which suggest that in conditions of cousin marriages certain blood groups occur with increasing frequency and the almost universal slight predominance of boys among babies at birth is strongly increased. Female selective mortality later underlines this predominance still further.

The dull truth lies probably somewhere in between the first alternative (female underenumeration) and the third alternative (female selective mortality). Some women were underenumerated, but women are also, in the high mortality conditions of Pakistan, subject to more severe mortality than men. In any case there is no reported surplus of women, as many men like to think.

The masculinity ratio is the number of males per 100 females. It dropped from 113 in 1951 to 111 in 1951. The drop was 3 points (from 110 to 107) in East Pakistan and only 1 point in West Pakistan (from 116 to 115). If these increases in the number of reported women were due to better coverage one would expect East Pakistan to have experienced a higher growth rate than the West. Unfortunately, it is lower, but then Bengal always had a relatively low rate of growth and in any case some emigration can be suspected there since 1951. We are thus no nearer to a firmer conclusion. While East Pakistan is approaching more usual levels of the masculinity ratio, the very high figure for the West part of the country must remain under a grave cloud of doubt.

Density

The reported density at the time of the census was 356 persons per sq. kilometer in East Pakistan and 52 in West Pakistan. The most densely populated districts are Dacca (680) and Comilla (650), both in East Pakistan; in West, apart from Karachi (587) and Lahore (432), it is Sialkot (299) and Lyallpur (295). The most sparsely populated districts are Kharan, Chagai

and Mokran, all in the West, with one or two persons per sq. kilometer. In the East the Chittagong Hill Tracts is the least densely populated district with 29. The next lowest district is Khulna with 203.

The central fact is the much higher and more uniform density of the East in comparison with the West. In the field of external comparisons the even more important fact is that East Pakistan is the most densely populated territory of the world, when special cases with unusual features like Melilla, Lagos, West Berlin, Ceuta, East Berlin, Hong Kong, Singapore and the like, are ignored. East Pakistan is an easy first (356) after Netherlands (345), England and Wales (299), Belgium (297), China (274) and Japan (248). West Pakistan (52) compares with, say, Albania (52), Malaya (50) and Cuba (56). Yet inspite of its deserts, it is more densely populated than many similar countries, not to mention the extremes of Libya (1), Mangolia (1) and Canada (2).

Literacy

Literacy is a nebulous term, it is almost impossible to compare internationally, it suffers from individual and national prestige and inspires misreporting with an upward bias. It is often equated with school attendance even if the latter is not productive of permanent and effective literacy. Compared with total population, as it was in the Pakistan release, the literacy rate depends heavily on the proportion of small children who cannot be literate anyhow on account of young age. Even the change since 1951 cannot be discussed adequately, because an entirely different definition has been applied (the ability to read the Holy Quran without understanding used in 1951, was excluded in 1961). However, it is readily granted that this view is controversial, e.g., the first release from the 1961 census of India also shows literacy¹⁵. On the other hand, parallel doubts were raised about the reliability of the literary figures collected in India in a recent review article¹⁶.

An attempt was made to compare the figures for 1951 with those for 1961. Two methods were used. Their details and findings will be reported on another occasion. By coincidence both methods give for the whole country in 1951 the same literacy percentage, 10 per cent. The 1961 figure is 15 per cent, and may be used as an index (150) for territorial comparisons without prejudice as to whether the base figure is correct and meaningful or not.

15. Government of India, *op. cit.*

16. Vipra, (nom de plume of Pravinchandra M. Visaria), The Indian Census of 1961. Need for checks and follow-up. *The Economic Weekly*, June 10, 1961, pp. 879—884.

The relative increase in the number of "literate" was less in the East than the 150 index for the whole country, and hence also less than in the West. It must, of course, be remembered that the East started from a wider base, but in the same way as we suggested that the West may catch up with the East numerically in 33 years, one could calculate in how many years (14) the West will catch up in terms of literacy with the East at the level of 28 per cent in each Wing. But this calculation assumes, among other things, that the rate of progress will be the same as in the intercensal decade. However, such differences in literacy as shown for the East and West Wings of Pakistan are not unusual. Those between the States of the Union of India are greater, *e.g.*, Delhi has 51 per cent, Himachal Pradesh has 14.6 per cent.

The striking fact emerges that in a number of areas the ratio of literates was lower in 1961 than in 1951 at least according to one of the methods. They were all in the Western wing: Bahawalpur Division and District, Dera Ismail Khan Division, Gujranwala District and Montgomery District. A distributional study of the budget of the education authorities might throw light on these phenomena. A wider study of the meaningfulness of the literacy statistics has been undertaken in the Institute of Development Economics and should some positive results be arrived at, they will be reported.

Housing

The number of persons per household and per inhabited dwelling, 5.7 and 5.9 persons respectively, is not only surprisingly low, but also being close to each other, show that Pakistan is a one-household-one-dwelling country. The two figures are less surprising to students who have come across similarly low figures in other fast growing countries. In any case they under-indicate the true average, as they include both the population and the number of institutional households¹⁷, but exclude the number of households, though not the population of "special areas", in which the housing census has not been conducted. Were the housing census population totals published more exact figure could be calculated and a study of the correlation between growth rates and household sizes could be undertaken which might shed further light on to this field of growth problems.

Both averages are somewhat higher in the West than in the East. This, it could be claimed, is due to the extended family system being more prevalent in the West than in the East. Alternatively, it could be taken as a sign of

17. Housing Census Register, Copy No. 1. Place and publisher not stated. Presumably: Karachi, Office of the Census Commissioner, 1960, para 8.

consistency with the higher growth rate of population in the West. The larger families/households could be viewed as an aspect of faster growth, though in a really fast growing population, and in the absence of extended families, the proportion of young families, and therefore, small families, is high. This counterbalances the effect of the otherwise large families/households and tends to lower the average size. Further research may throw additional light on this question, but it is doubtful whether it will ever be resolved satisfactorily.

The Bulletin reports some $2\frac{1}{2}$ million unoccupied structures, which reads strangely when put against the frequently mentioned housing shortage. The definitions used during the housing census, however, make this result less surprising.

Repeated reference has been made to the possibility of arriving at firmer views with further evidence. It should be explained that no new census is required. It may be that even no additional and intensive (as distinct from an extensive census) surveying will be necessary. There are powerful demographic techniques available which can confirm or disprove some of the more essential parts of census information without recourse to further field work. They are effective when *all* the information is made available for analytical purposes. The information should also be presented in the form as collected in the field.

There is also another requirement. Modern demographic techniques can be used particularly effectively with age and sex distributions to give firm information on birth rates and only slightly less definite information on growth rates. If it is, therefore, agreed that these two questions are the most crucial ones just now facing the country, everything possible should be done, which may throw additional light on to them. It must, therefore, be hoped that in the sorting, tabulating and publishing plans of the Census Commissioner the provision of information on age and sex distribution has an early priority.