

OFFICE OF THE
SUPERINTENDENT OF CENSUS OPERATIONS
MADHYA PRADESH

Review of the Proceedings
OF THE
First Census Study Group

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RADESH

PREFACE

The first Census Study Group met at Delhi from the 17th to the 22nd March 1952, in the office of the Registrar-General, who presided. From amongst the Census Superintendents Shri Dubey from Vindhya Pradesh and myself from Madhya Pradesh attended the Study Group. Shri Natarajan, Assistant Census Commissioner, and Shri Kaul, Central Tabulation Officer, were also present.

2. The general procedure adopted was that the Registrar-General initiated the discussion on the Subsidiary Tables and after full discussion a plan of study was chalked out and later the Subsidiary Tables were individually reviewed and discussed at length, in accordance with the scheme. During the course of the discussion certain points of general interest connected with the population problems were also reviewed.

3. In the notes, which follow, an attempt has been made to give the impressions which I carried with me at the end of the week.

Nagpur :
The 27th March 1952.

J. D. KERAWALLA.

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REVIEW OF THE PROCEEDINGS OF THE FIRST CENSUS STUDY GROUP

SECTION I.—PRELIMINARY

Within a very short time of our beginning the discussion and examining the long manuscript Subsidiary Tables as well as the Madhya Pradesh printed proof copies, it was decided that unless the Subsidiary Tables were in a handy form, it would not be practicable to make substantial progress in the study without wasting considerable time, as during the study of a particular table you have frequently to refer to a number of other tables to appreciate the significance of the figures under review. The conclusion reached, therefore, was that at the subsequent Study Groups the Superintendents should come with printed proof copies of their Subsidiary Tables or at least they should have with them a number of typed copies so that the members present at the Study Group can easily handle them during the discussions.

2. The necessity of getting the Subsidiary Tables thoroughly checked as also the proof copies became very obvious when some printing errors leading to unnecessary confusion were noticed during the course of the study of the tables. The Registrar-General remarked that it was of the greatest significance that no wrong figures were passed on to the public as they might lead to wrong conclusions and might prove very harmful.

3. **Report to be in two volumes.**—In view of the fact that the Subsidiary Tables would consume about 150 pages in large States like Madhya Pradesh, it was decided to bring out a separate volume of the Subsidiary Tables as Part I-B of the Census Report. The Registrar-General also remarked that he would be prepared to allow the printing of this second volume of the Report along with the full notes on each table. Thus the Census Report, Part I, will consist of two distinct volumes. The first will contain a lucid precise and well connected concise account of the conclusions drawn from the results of the Census unencumbered by tables and figures as far as possible while the second will contain the Subsidiary Tables ~~and detailed notes thereon in form of broad sheets for the individual tables as explained in the next Section and Section VI below. The first would provide the meat for the intensive reader and the scholar, and the second for the average citizen and the administrator.~~

SECTION II.—PLAN OF STUDY OF THE SUBSIDIARY TABLES

4. **Plan of study of the Subsidiary Tables.**—It is necessary to have a clear mental picture of the method to be adopted for the study of the Subsidiary Tables, which is an intermediate stage to be gone through to enable you to extract the essence for your report after you have prepared the tables. Proceed first of all to prepare a broad sheet in respect of each table you take up for study by first listing (a) the probable significant facts, and (b) the possible explanations of the probable significant facts. You next proceed to track down the specific cause or causes of the probable significant facts. In this final discussion in the broad sheet you might be able to prove or disprove certain possible explanations listed by you and you might thereby be able to give a conclusive and convincing answer to

explain a particular significant fact or you might find that the result of your effort is inconclusive. In either case your broad sheet will show to what extent your attempt has gone and in what direction further investigation is indicated. For example, during this study you may have to prepare lengthy additional statements or tables to arrive at a conclusion. All these statements and tables would form part of your broad sheet from which you will include in your report only your conclusions indicating their significance. The Registrar-General illustrated this point from the first draft of the Movement Section of Chapter I prepared for Madhya Pradesh. With a view to bring out clearly the significance of migration in rural areas I had prepared an additional table of the type prescribed for the general population and had also extracted figures of migration into individual districts and finally arrived at the conclusion in the draft that the nature of the movement was really the phenomenon of "marriage migration". The Registrar-General stressed that while it was necessary for me to go through the process of collecting the figures to reach at the particular conclusion, the proper place for the tables and the discussion connected with them was the broad sheet and that in the report I should refer only to my conclusion arrived at on the firm grounds mentioned in the broad sheet.

5. Importance of the Broad Sheets.—~~Although the broad sheets and the Subsidiary Tables would be printed, nevertheless~~ The Registrar-General desired that a copy of the original broad sheets should be sent to him as soon as they were ready for his own reference, and that the original broad sheets should be retained as important Census record in the Superintendent's own office.

6. Listing of probable significant facts in the Broad Sheet.—With a view to note down the probable significant facts revealed in a table you should first of all study the State figures at the top of the particular table and determine the features to be studied for the State as a whole and try to fix limits for normal and abnormal features before you study figures for the Natural Divisions and districts. Having done so, run down the columns to study the figures for the Natural Divisions and districts and note down the similarity or dis-similarity and abnormilities, if any, in respect of particular Divisions or districts as the case may be. These are the probable significant facts for your broad sheet.

7. Listing of possible explanations in the Broad Sheet.—Your next step is to note down all probable circumstances, which tend to explain the significant facts already noted by you. For this purpose you will have to refer to your different Subsidiary Tables, which might throw light on the probable significant points noted down by you. Thus for example during your study of table 1.3 (Mean decennial growth rates during the three decades—General Population) which is one of the most important tables to be reviewed by you, you would have noted down the significant points in your broad sheet about—

- (a) the growth rate (columns 11—13);
- (b) the birth rate (columns 17—19);
- (c) the death rate (columns 23—25);
- (d) the migration-*cum*-registration error (columns 29—31).

Your next step would be to list the possible explanations for the abnormalities noted and in doing so you will have to bear in mind the following points and will have to deal them at full length in your broad sheets marshalling all relevant statistics and evidence :—

(1) Are the Census figures for the four Censuses (1921 to 1951) reliable to equal extent ?

(2) Is there reason to believe that under-enumeration has diminished from Census to Census ?

(3) Are the Vital Statistics figures reliable ? Has there been deterioration or improvement in registration of Vital Statistics between 1921—1931, from 1931—1941 and from 1941—1951 ? Weigh the birth and death rates in the light of these conclusions.

(4) Having discussed the facts about the Census and Vital Statistics, improvement or deterioration and pointing out their effects on the rates, proceed to examine the relation between the growth, birth and death rates and the movement factor.

(5) While examining the birth rates, you will have to refer back to birth and death rates far beyond 1921 to notice rhythm or nature of trends depending on unusual occurrences of mortalities by famines and pestilence and their effect in succeeding decades. Refer to previous reports to find out not only the extent of mortality, but also to see if the epidemic had any selective character. Thus you might find that in a particular epidemic the infants and young people between 15 to 45 were mostly affected, while old ones and boys and girls between 5 to 15 were spared. This selective catastrophe will have far reaching effects on subsequent birth and death rates for obvious reasons. Thus even after the epidemic the death rate would appear to be high because of the number of the old people, who would die normally but as the total number of people is less the death rate would come out high. Again the birth rate must shrink because the reproductive age group was hit hard by the epidemic and until the age group 5 to 15 advances further the birth rate would continue to be small.

(6) Compare the birth rates in tables 1.3, 2.3 and 3.3. While doing so it should always be very carefully borne in mind that the rural urban break up in the Public Health reports would not perhaps be identical with the Census rural, urban break-up, because certain towns which may have been treated as towns for one Census, might have been treated as villages in the next Census and *vice versa*, and the effect of the change in the rural and urban area thus brought about might not have been adopted in Public Health Reports. Thus for example a perusal of columns 17 and 19 of table 3.3 for Madhya Pradesh would show abnormal birth rates for Akola being of the order of 58 during 1921—30; 49 during 1931—40; 52 during 1941—50. This is purely due to the removal of the towns from the Census list without corresponding changes in the urban area of the Public Health administration.

(7) Death rates by specific age groups of 0, 1—4, 5—14 and 15 and above for 1931—40 and 1941—50 should be prepared for each State from Public Health Reports. These would be very helpful in studying the death rates and their effect on the birth rates.

(8) The effect of Marriage Legislation (Sharda Act) should also be carefully studied while considering the birth figures in the different decades.

(9) Make use of your Subsidiary Tables 6.7 and 6.8 (Marital Status—age distribution of married persons by sex) and also Subsidiary Tables 6.9 to 6.14 showing distribution of persons of different age groups in the population. These tables will help you in appreciating your birth rates (columns 17 to 19 of Subsidiary Table 1.3).

(10) You should arrive at the estimated birth and death rates as distinguished from the recorded birth and death rates by omitting those districts for which reliable statistics are not available. This should help you considerably in getting the true picture of the trends.

(11) (i) Migration-cum-Registration errors must be intelligently analysed and explained for the three decades for the State as a whole. This is a matter of great importance. You have to determine the components representing the error due to registration and that due to migration. This cannot be done exactly, but you should give as close an approximation as you can. It would not be practicable to attempt to break up the migration-cum-registration error into its component parts in the case of districts, but general discussion leading to probable conclusions should be given for the Natural Divisions.

(ii) An important point to be considered in the discussion relating to the migration-cum-registration error is about the change in the mode of enumeration since 1941. This point should be carefully taken note of and discussed fully. Thus, the seasonal migrants were recorded up to the 1931 Census in Madhya Pradesh, but were not so recorded in 1941. Reference to the seasonal migration in previous reports should, therefore, be noted and commented upon and the fact that the modified *de facto* enumeration omitted most of them should be brought out and taken into account during the discussion. At this Census the modified *de facto* system was applied uniformly. At the last Census it was perhaps not so uniformly applied and if authentic information is available on record of what exactly was done in 1941 it should be carefully examined and discussed in the broad sheet.

(iii) In Madhya Pradesh the modified *de facto* system adopted in 1941 was for practical purposes the same as in 1951 Census and, therefore, in considering the figures of columns 29—31 of table 1.3 allowance has to be made on account of the different systems of enumeration in 1931. The change of system in 1941 is estimated to have omitted the seasonal immigrants to the tune of about one hundred thousand. The drop from 2.4 in column 31 to 0.23 in column 30 must be due to change in the mode of enumeration to a certain extent, *i.e.*, seasonal migrants would have been recorded in the 1941 Census if the old system had been followed. In other words, a small proportion of the error in the figures must be set off on account of the change in the enumeration procedure between the 1931 and 1941 Census. In view of the fact that the seasonal migrants were omitted at the 1941 Census, but were enumerated in 1931 the correction of the migration-cum-registration error will have to be adjusted to the order of 0.5. In other words, the error 0.2 for the decade will have to be increased to 0.7 for the decade 1931—40 and then explained. As the enumeration procedure for the 1941 as well as the 1951 Censuses was for all practical purposes the same in Madhya Pradesh, no such adjustment is needed for the decade 1941—50.

(iv) Applying the above correction to the figures of 1931—40 in respect of the migration-cum-registration error, the figures in columns 29—31 of

table 1.3 would be of the following order in the case of Madhya Pradesh (see proof copy of Madhya Pradesh tables):—

1921—30	...	...	...	...	...	...	...	2.4
1931—40	...	...	...	...	...	...	...	0.7
1941—50	...	...	...	...	...	...	...	1.0

In Madhya Pradesh the position with respect to immigrants and emigrants is as follows (figures in thousands):—

Immigrants, 1951 Census	...	...	...	...	727
Deduct pre-1931 immigrants	...	...	...	...	648
Add estimated deaths of pre-1931 immigrants	...	...	...	...	324
<hr/>					
Estimate of immigrants (1931—51)	...	...	...	...	403
<hr/>					
Emigrants at 1951 Census	...	...	...	...	408
Deduct pre-1931 emigrants	...	...	...	...	421
Add estimated deaths of pre-1931 emigrants	...	...	...	...	210
<hr/>					
Estimate of emigrants (1931—51)	...	...	...	...	197
Estimate of net gain (+)/loss (-) by migration	...	...	...	...	+206
Adjustment for difference in enumeration procedure between 1931 and 1941.	...	...	...	...	+100=306

(v) The real migration into Madhya Pradesh is believed to have taken place during the decade 1921—30 for economic and other reasons. It was then levelled off during the subsequent decades and showed slight prominence in the last decade 1941—50 on account of immigration of displaced persons.

(vi) On the basis of the adjusted value of the migration-cum-registration error of 0.7 for 1931—40 and 1.0 during 1941—50, we can calculate the number of persons accounted for by this total error of 1.7 per cent in the two decades on the basis of the mean population for the same period which was about 19 millions. The number thus calculated is of the order of 323 thousand. We have already seen that the net migration for this period during 1931—51 is of the order of 300 thousand. The analysis of the migration-cum-registration error, therefore, shows that in the case of Madhya Pradesh, for these two decades between 1931—51, it consists of the major single component representing the net migration of about 300 thousand people and a small component representing slight registration error of the order of about 23 thousand persons. In other words, we can say that the excess of registered births over registered deaths is not very materially different from the excess of actual births over actual deaths for Madhya Pradesh as a whole during the two decades between 1931—51.

(vii) These complicated calculations cannot obviously be taken down to lower levels for natural divisions and districts without breaking down but they may afford a kick-off for general comments on the extent to which registration error may be supposed to exist and thus enabling you to estimate the approximate volume of migration and to compare it with probable actual figure for the Natural Divisions.

(viii) In view of the fact that the registration error during the two decades between 1931—51 is not such as would materially affect the calculation of the natural population, it might be assumed that during the decade 1921—31 also it must have been of the same nature. In other words, the migration-cum-registration error of 2.4 for that decade would be expected to represent the net migration during this decade. It should be verified whether in fact between

1921 and 1931 there had been immigration to the tune of 300 to 400 thousand and for this purpose previous Census reports might be examined. Even if actual figures are not available, general comments, if any, found in these reports might be of value in explaining the position. If the volume of migration is found to be of the order expected the migration-cum-registration error would have been fully explained for the decade 1921—30 also. If not, further analysis would be necessary to find out reasons for the different nature of the registration error, if any, during that decade. X

8. **The third and the final stage of the broad sheet.**—This stage of the Broad Sheet might be called “discussion and conclusion relating to the possible causes”. After listing all possible explanations of the probable significant facts in the second part of your broad sheet, you come to a final stage where you proceed to track down the specific cause or causes from amongst the possible causes listed by you. You should remember that you are expected to do your best to arrive at specific conclusions, but if after examining all the material at your disposal you are unable to do so, you should say so. The idea is that you may take the story as far as you can on the available material with you leaving it to others to carry it further after such additional investigation as might be deemed necessary.

9. **The raw material for the report.**—The broad sheets prepared in the above manner will be your raw material from which you will extract the cream or the essence as it were in form of your conclusions for being included in your report which the reader will enjoy without being fatigued.

SECTION III.—ORDER OF STUDY OF THE SUBSIDIARY TABLES AND THEIR COMPARTIVE IMPORTANCE

10. For purposes of preparing the broad sheets, it is found that a convenient order of the study of the subsidiary tables is to begin with table 1.1 followed by tables 2.1 and 3.1. Tables 1.2, 2.2 and 3.2, as well as tables 1.3, 2.3 and 3.3 should be studied similarly. Tables 1.1, 2.1 and 3.1 and 1.2, 2.2 and 3.2 are more of local importance; while tables 1.3, 2.3 and 3.3 are not only of local importance but have vital significance in considering the general population growth in the country and should be very closely studied.

11. After studying the first three tables of the first three series of subsidiary tables it is convenient to study the remaining tables of these series. While dealing with movement tables the following points should be remembered:—

(1) While considering the movement question a comparison should also be instituted between columns 29-30-31 of table 1.3 with table 2.3 and 3.3. It will be found that the difference between the figures of tables 1.3 and 2.3 will give the rate of flow from villages to towns. By multiplying the mean decennial population of the towns by this rate of inflow we get the number of people moving into the towns. If you now have the additional tables 2.5 and 3.5 as prepared for Madhya Pradesh showing the break-up of migration figures into the district between the rural and urban areas, it would be possible to use them for explaining the difference in the figures of immigration into the towns. (It may be mentioned here that originally the additional movement tables for rural and urban areas were not prescribed as it was likely to cause confusion because the movement into the towns from the villages of the same district would not have been clear from the tables, but if they are prepared and carefully used as mentioned above they would be of value.)

(ii) In explaining the movement of population from rural areas to urban areas as well as from non-industrial districts to industrial districts, the figures of land area per capita contained in table 4.9 (columns 2 and 3) would be of value. Caution is, however, necessary as is apparent in the case of Madhya Pradesh where area cultivated and cultivable per capita in column 3 of table 4.9 includes only "old and new fallow lands". It does not include cultivable waste or other cultivable land as these statistics are not available. Local knowledge of the Superintendents in such cases might be helpful in explaining the causes for the particular movements. *A definite finding should be given regarding districts which are shown to be both attracting migrants and showing increase in cultivation.* These are the bright spots to which attention may have to be paid even at the time of reviewing the all-India position. Use might also be made of table 2.4 while considering the movement question. Thus for example the low percentage of the people of livelihood Class I and the high percentage of livelihood Class III for Hoshangabad district in Madhya Pradesh, is perhaps a clearer explanation of the migration factor than the progress of the cultivation data would tend to give.

12. While studying table 1.8, tables 2.4, 3.6 and 3.7 should also be studied together.

13. The subsidiary tables of the 4th series are of very great importance and need very thorough and intensive study.

14. The part of table 4.1 dealing with distribution of 1,000 agricultural holdings by size of holdings is very significant and in all States where land records are maintained, intensive efforts should be made to secure the figures. These figures should be studied by first preparing a list of the three standard sizes of holdings for the State and each Natural Division and Sub-Division. The standard sizes are—

- (a) the lower quartile size (or the 250th holding from the smallest).
- (b) the median size (or the 500th holding).
- (c) the upper quartile size (or the 750th holding).

15. The simple method by which the lower quartile, median and upper quartile size of holdings are determined is given briefly in annexure 'A'. The actual study of the figures for Madhya Pradesh on the above lines will be found in the notes on broad sheets for Madhya Pradesh given in Section VI (paragraph 70, page 21).

16. Analysis of the secondary means of livelihood in the subsidiary tables of the 4th series is of considerable importance and will be of general interest. It seems highly likely from the Madhya Pradesh figures that the family members of a person of livelihood class II (table 4.3), who assist him in his cultivation, are shown under livelihood class III. This may have probably occurred in other States also. It would be recalled that the instructions on the point were left elastic in view of the different conditions prevailing in different parts. This should be specifically remembered by all Superintendents now, so that they will take into account both column 6 and column 10 invariably in interpreting the figures. The logical and strictly correct course was to show them under Livelihood Class III, because such persons would not be owners and again would also not be responsible for cultivation. But, on a different view they may have been shown under livelihood class I or II

as the case might be. This, however, does not really matter so long as care is taken to review column 6 and column 10 together (*see* paragraph 84 also at page 24).

17. In dealing with table 4.1, you have to bear in mind the following important points:—

(a) As a result of the analysis of tables 4.1 and 4.6, you should arrive at the number of persons fed by one active worker in cultivation. For Madhya Pradesh, the analysis will be found in Section VI below (paragraphs 77, 87 and 88, pages 22—24).

(b) ~~Presence~~ ^{percentage} of non-earning dependents in different parts need being commented upon as also the totals of non-earning and earning dependents representing volume of total dependency. Causes of the extent of dependency in different parts should be enumerated.

(c) Is it possible to distinguish between owners and non-owners amongst livelihood class IV if not quantitatively at least by general discussion? It should be placed on record to what extent the non-owner rentier flourishes and to what extent the owner rentier flourishes. Distinguish between the ~~owner~~ ^{owner} who owns the estate, but not the land in the estate, and the man who owns the land but does not cultivate (*see* paragraph 86, page 24).

Livelihood class IV is less in Bihar and West Bengal as a proportion of the general population in the whole of India. This will seem contradictory to the well-known fact that they are the strongholds of the permanently settled Zamindaris. There is, in fact, no contradiction because Zamindars own estates and not the lands in the estates. Lands in the estates are owned by the innumerable people of livelihood class I. The income of the Zamindars consists of statutory rents paid by the people of livelihood class I who are really owners of the land. This shows that the real owner, who does not cultivate the land directly, is not a problem of the Zamindari area but of the Raiyatwari area. The differences in the prevailing tenure, where there is Zamindari, or Malguzari, or Raiyatwari, have a bearing on the figures in column 9 of table 4.1.

18. **The most important of all Subsidiary Tables.**—Table 4.9 is the most important table of all the subsidiary tables. It deals with the supreme problem of population and subsistence and shows the land area per capita and the trend of cultivation per capita during the last three decades. The Registrar-General remarked that intelligent comments on this table will be the real contribution of the Census Reports for the welfare of the country. He described this table as the “heart” of the entire Census literature and desired that each Superintendent should contribute the best possible data, most carefully studied on a common pattern to be put together for all India. A brief discussion of table 4.9 on the available statistics for Madhya Pradesh will be found in Section VI (*see* paragraphs 89 to 83, pages 25-26). General discussion on the subject of population growth and sustenance will also be found in Annexure B, page 34.

19. At the end of the main subsidiary table 4.9, every Superintendent should answer the following three questions in relation to his State. The questions are on uniform basis, so that the answers may be made use of on all India basis. These questions are as follows:—

Question 1.—With reference to available statistics of movement of food-grains under the basic plan during the last five years, is this State/Division—

- (i) a net exporter of foodgrains; or
- (ii) a net importer of foodgrains; or
- (iii) self-sufficient in foodgrain?

Question 2—Part I.—Has the area of cultivation per capita in this State/Division—

- (a) increased by more than 5 per cent, or
- (b) declined by more than 5 per cent, or
- (c) remained steady within 5 per cent between 1921 and 1951?

Part II.—If the answer to Part I is (a) or (b), specify *in cents* the extent of increase or decrease.

Part III.—What is the corresponding increase or decrease in grain production capacity per capita between 1921 and 1951? (For answering this question you will have to ascertain from the Director of Agriculture an yield-rate factor, and multiply the number of cents stated in answer to Part II by this factor. Instructions regarding the ascertainment of the yield-rate factor will be issued separately.)

Question 3.—If the answer to Part III of Question 2 shows that there has been a decrease of grain production capacity per capita between 1921 and 1951, this is likely to be accompanied by one or other of three possible changes during this period—

- (i) The proportion of area under cultivation devoted to foodgrains may have decreased.
- (ii) Imports into the State/Division from outside may have increased; or exports from the State/Division to outside may have decreased.
- (iii) The average annual rate of consumption per capita may have decreased (this may be caused by an increase in the relative proportion of these classes of the population whose annual rate of consumption per capita is below normal).

Discuss the extent to which, in your opinion, each of these possible changes may have occurred between 1921 and 1951, and state your findings.

20. A careful study of subsidiary table 4.9 and the local available data on food production and distribution should enable the Superintendents to give a useful report to demonstrate with fairly convincing evidence that the phenomena of the population outstripping cultivation has become a problem for us and was not a problem for our forefathers. If it can be shown by reference to concrete statistics that in the last century and in the early decades of this century the growth of population and the growth of cultivation went hand in hand and that the population began to outstrip food production during the period of last thirty years, it will make people understand that we are, in fact, faced with a real problem, whose origin can be definitely located and the course of whose development can be definitely seen and in which they can really believe. At present nobody believes in the shortage of food. Professional administrators have to be cautious in their statements in this respect. Many non-officials believe that there is no shortage and that the shortage is on account of the controls. In fact, people have what we may call "half cooked opinion". They run from one premise to another and it would be a great assistance if we could have a report stating what the cultivation was at the commencement of the thirty years' period and what it is now and how in the meantime population has grown. This analysis would show what is the growth of cultivation and population in that measurable period and how population has, in fact, been outstripping food production during this specific period. This will further enable us to convince people

that we cannot lull ourselves to sleep in the belief that if the problem is acute it was so from a very long time and that we should not worry. We will demonstrate that this is a fallacy and that the problem is not ~~so~~ old but is one which has cropped in during our lifetime and has to be faced by us.

21. **Comparison with figures of the 1931 Census.**—It is decided that the columns of the subsidiary tables of series IV and V dealing with the comparison of the figures for 1931 and 1951 should be completely omitted from these tables. This decision was taken by the Registrar-General after seeing the revised tabular statements from Madhya Pradesh, which compare the total number of self-supporting persons plus the earning dependents of the 1951 Census with the total number of workers and working dependents of the 1931 Census. It was found that even after this combination the figures in livelihood classes I, II and III in the 1951 Census turn out to be 59 per cent between 1951-52 as against general figures of population of 14 per cent. It was evident that we were trying to compare non-comparables. It must be the case that large number of those, who were classified as non-working dependents in 1931 were now classified as earning dependents in 1951. A possible explanation of this hypothesis is that in the past family workers on cultivation returned themselves as non-working dependents for reasons of prestige and that these reasons have not operated to equal extent in the present Census.

22. With a view to give comparable statistics of 1931 and 1951 Censuses as far as possible, it was decided to prepare two comparative statements. The first statement would show the livelihood classes of the 1951 Census and the corresponding occupational groups of the 1931 Census. Where a group falls in more than one livelihood class, the statement would indicate it in only one livelihood class and the fact would be explained in a note. The second statement would then be prepared for the State as a whole, showing the comparison of the 1931 and 1951 statistics. These two comparative statements will be found in Annexures C and D. All Superintendents will have to prepare statements similar to the second statement (Annexure D) for their States and Natural Divisions. It will not be necessary to show the comparison in respect of the districts unless the Superintendent feels inclined that he could give reliable comparison at the district level also. The comparative statements will then be introduced in place of subsidiary table 5.6 (see paragraph 24 below).

~~23. Tables of the 5th and 6th series.—Before dealing with the tables of fifth and sixth series, as far as possible, care should be taken to provide an additional column to show the relevant absolute figures, as suggested in paragraph II (iv) of the annexure containing conclusions of the Population Advisory Committee on the reporting plan of 1951 Census, sent with the Registrar-General's demi-official letter No. 51-1-51-RG of 28th March 1951.~~

24. **Omit Subsidiary Table 5.6.**—Subsidiary table 5.6 will be completely omitted, because from the numerous replies received by the Registrar-General it is found that the statistics of small scale industries are not reliable enough to be included in the subsidiary tables. They might, however, be incorporated in the District Census Hand-Book in the cases of those districts only, for which they are certified to be reliable by the respective district officers.

25. With regard to the figures of factory returns, which were to be included in table 5.6, they might be used in the report if the Superintendents so desire.

~~26.~~ For the subsidiary tables of the 5th series, it was decided that ~~all Superintendents should obtain the total, rural and urban break-up for the State as a whole and for the Natural Divisions.~~ It is not necessary nor desirable to give the break-up for all the districts. But you must look to the total, rural and urban break-up and see what the figures tell you. Most of it will be significant to go into the body of the report. The total rural and urban break-up is given in the main tables and there will be no difficulty in ~~collecting the figures in the form of the subsidiary tables~~ for the State and the Natural Divisions. They will be of considerable help, on the other hand, in appreciating the subsidiary tables fully (see paragraphs 37 and 101 also at pages 12 and 27, respectively).

27. Column 3 of table 5.7 is about agrarian industries and column pertains to mineral industries. This table, therefore, is extremely important and you should have before you the break-up of rural and urban as mentioned above and if you explain the details in your report, it will be a complete analysis of the non-agricultural population.

SECTION IV.—OTHER GENERAL POINTS OF INTEREST ABOUT THE SUBSIDIARY TABLES

28. **Uniformity in the use of decimals.**—There should be uniformity in the use of the decimal point in the tables and it was decided that wherever percentages are given the figures should be rounded up to the first place of decimal and in all other cases to the nearest integer.

29. **Large and small villages.**—In discussing the statistics of villages, it was decided to refer to villages with a population of 2,000 and above as large villages and the rest as small villages.

30. **Vital statistics of registration areas.**—The figures for the State as well as for the Natural Divisions furnished in columns 5 to 7 and ~~13 and 14~~ of tables 1.3, 2.3 and 3.3 should exclude the statistics of those registration areas which are regarded as too unreliable for consideration. The fact should be explained in the flyleaf. But, the available registered figures for such districts must be given against the districts in the tables. The total population of the excluded registration areas should also be furnished in the flyleaf.

31. **Towns and villages.**—Definitions of a village and a town, as adopted at the Census, should be clearly given and reasons should be furnished for regarding as towns places with a population of less than 5,000 and also for treating as villages places with a population of over 5,000. The reasons given should be further examined with reference to the livelihood classification and an attempt should be made to point out whether the rural or urban characteristics are proved or disproved by the analysis. This discussion will be of value in arriving at a conclusion about the percentage of the urban population which can be safely taken as truly urban in the all India classification. It would also be helpful for determining properly the urban and rural areas in the States in future. Thus, for example, in Vindhya Pradesh nearly 40 per cent

of the urban population is shown to be residing in places of less than 5,000 population. The question arises whether these places are really towns, or whether they were termed towns merely because in the old State regimes they happened to be headquarter places. The matter will have to be examined by the Superintendent as pointed out above, so that the true percentage of the urban population for all India classification could be ascertained.

32. **Table 1.5.**—The form of table 1.5 (Emigration), as given in Madhya Pradesh subsidiary tables, is approved by the Registrar-General. Columns 11 to 13, however, about estimated number of persons enumerated outside India should be omitted in view of the recent instructions issued in this behalf.

33. **Table 1.6 (Migration between States and other parts of India)** should include the figures for Pakistan, because the movement from Pakistan into many of the States in India has been considerable while the counter-movement has been negligible. The fact that the figures of Pakistan are included should be explained in a flyleaf.

34. **Table 1.7.**—In column 6 of table 1.7, the recorded population should be the unadjusted population of 1931 as it would not be possible to get the adjusted figures of the migrants if the adjusted population were to be used. This fact should be explained in the flyleaf.

35. **Rural population and Livelihood Class V.**—Every district, in which the rural population has got over ~~7,000 persons~~ in Livelihood Class V, should receive special attention and it should be explained what these people are producing. In giving the explanation, distinction should always be clearly drawn between the industries falling in Division "O" and industries falling under other Divisions. This point should receive particular attention while studying Subsidiary Tables 2.4. Reference might also be made to Tables 5.7 and 5.8 in this connection as they would furnish useful information on the point. It should be remembered that large number of people are likely to be engaged in villages in stock-raising and forestry and collection of forest produce in particular areas. Thus, for example, in one of the most backward and tribal areas of Madhya Pradesh—Surguja district—there are as many as 656 persons per 10,000 of rural population belonging to Livelihood Class V. It is found that lac export is very significant in this district and people engaged in collection and propagation of lac are included in this livelihood class. *It should be very carefully noted that a completely satisfactory explanation of apparently high figures in Livelihood Class V in subsidiary table 2.4 is absolutely essential.*

36. **Table 3.6.**—Subsidiary table 3.6, as prepared for Madhya Pradesh at present, will have to be recast. Detailed instructions for preparing this table will be found in Annexure E.

37. **Tables 5.1 (A) and 5.1 (B).**—In view of the unreliable nature of the Census of Small Scale Industries, additional tables 5.2 (A) and 5.2 (B) should be prepared for the rural and urban areas for the State, Natural Divisions and the Districts (see paragraph 26, page 11 and paragraph 101, page 27).

38. Industries indicated by figures to be verified.—When the figures in the subsidiary table indicate the existence of a particular industry, try to verify the fact from your ~~personal~~ knowledge or the knowledge of the persons familiar with the area, so that you ~~will not merely present the figures but you will present them after you are satisfied of their validity,~~

39. Behaviour of samples to be discussed.—The subsidiary tables of the 6th series prepared from the sample data will need careful study and comments on the behaviour of the samples. Some salient points observed in the Madhya Pradesh tables are discussed in Section VI below (see paragraphs 112 to 114, pages 28 and 29. Also see paragraph 131, page 31).

40. Additional age group.—In table 6.8, you should compile the figures for the age groups 35 to 44 and 45 to 54 for the State and the Natural Divisions before beginning the study of the table because fertility data collected show that the group 35 to 44 behaves differently from the group 45 to 54. The importance of this re-arrangement of age groups is pointed out during the discussion of the significant facts in table 6.8 for Madhya Pradesh in Section VI below (see also paragraphs 126 to 128, page 30, and paragraph 135, page 32).

SECTION V.—HINTS FOR WRITING REPORT

41. Points of general interest.—All paragraphs in the report should be numbered and as far as possible suitable headings should be given to the paragraphs. If you have given a paragraph heading you have done the necessary thinking beforehand. You would be revolving different ideas in your mind and when you are satisfied that you have a point to make, then only you devote a paragraph to it and the paragraph heading is the point which you wish to make out.

42. As has been pointed out you will have prepared your raw material for your report in the form of your broad sheets for each subsidiary table. You may next record a concise note extracting the salient points in your broad sheets, which you propose to include in your report. This concise note will enable you to prepare a lucid and well-considered report.

43. Statements in the report.—The aim at all times should be to be careful that no statement is inaccurate throughout the report. Precision is of importance in the sense that no statement should be so broad as to be capable of being identified as incorrect. No statement should be misleading. The report should run on so as to maintain continuity of interest.

44. Display of figures in the report.—The rule to be followed in respect of admitting figures into the report should be as follows:—

Unless you have made up your mind that particular figures have specific significance to demonstrate a specific point, you must not bring them in the report. In old Census Reports there is a certain amount of mere ^{display} of figures at the end of which you are wondering, "after all, why these figures are displayed, what exactly is the point which is sought to be made?". Such display of figures should be avoided. As pointed out, you should have made up your mind in respect of every set of figures you propose to give in the report so that they relate to a point which

you have already got in your mind and you are stating it before or after the display of the figures. You will have to do a great deal of play about of figures in your broad sheets or even before the broad sheets are recorded. All these will not find place in the report. Many tables will be published including the subsidiary tables and they will speak for themselves. When, therefore, you give figures be sparing in them. Again, if they are to be given, give them only for the State and the main natural divisions of the State. The district figures should be given only to illustrate certain points, which you are making out in the report. You are not going to give exhaustive figures for districts in your report. When figures are to be given, the point of significance should be stated in an orderly way for the State and the main divisions in the body of the report and then it should be illustrated by a small table constructed for the purpose. Remember that it is only by displaying the figures in the report which contain significance, and the significance of which has already been analysed by you in your mind, that you will be able to maintain the interest of the reader in your report.

45. The Registrar-General is getting certain comparative statements prepared for the large land masses of the world and these will be supplied to the superintendents to make such intelligent use of them as they might deem proper. The practice of using figures of different countries is likely to lead to erroneous conclusions or to no conclusions at all in view of the widely differing conditions in the different countries and in either case such figures should be avoided. Even in this respect remember the rule that unless you are sure of the specific point to be made out by you do not bring in the figures in your report.

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46. Running number should be given to the ~~tables~~ contained in the report. The running number may be arranged in your own way.

47. **Length of report.**—Do not feel compelled to write a long section if there is no necessity. You can write less. Remember the rule that “the quality of the report will depend on its lucidity, precision and (consistently with these requirements) conciseness”.

48. **The Introduction.**—The Introduction might well be written last of all. You should include in it briefly the task of the 1951 Census, the main problem as regards integration of the States and other special features compared with those of the previous Census. The arrangements followed in preparing the report and previous material available to the public might also be briefly reviewed. Last of all, make your acknowledgements.

49. **Preliminary remarks for Chapter I.**—Give a brief description of the land in which people live and in which the Census has been taken by you. Changes in area should be commented upon. What is the territory and what is the superficial area of the territory? What they were in the past and how they are today? And why there has been the change? You should deal with the general population of the people in time and space as they are today, as they were in the past and why and how the size has changed. Thus, the geography and relevant history of the place should be explained clearly but very briefly.

50. Explanatory comments on the statistical data reviewed in the Chapter to the extent necessary for proper understanding of their meaning, degree of reliability and comparability with corresponding data of prior Censuses should also be given in the Section of "Preliminary Remarks".

51. **General distribution and density.**—In this section you would review the normal and abnormal features and the similarities and dis-similarities about the homogeneous or non-homogeneous character of the population in the State and the different Natural Divisions illustrated with reference to the districts.

52. **The Growth.**—In this section you should make the reader realize first of all that there is some significance in the growth. You should proceed to establish the growth and should come to the conclusion whether it is to be accepted or not. Growth as recorded depends on the analysis relating to the comparability of the Censuses. You have to draw attention to the fact that there is difference in the magnitude of the growth. Thirty years' review should give full details of the salient facts of the growth. Show where the notable things are and promise that they would be explained in the particular sections to follow. While discussing the magnitude of the growth you should refer to its trend during the last three decades. The background in which the growth has taken place may be briefly reviewed.

53. **Movement.**—The importance of dealing with the registration error has been stressed sufficiently. In the report you should indicate the registration error as a factor before you distinguish the natural increase proportion. The normal or abnormal character of migration, with particular reference to the influx of displaced persons, should be commented upon.

54. **Births, Deaths and Natural Increase.**—The original Sections V and VI of the draft synopsis have to be united as "natural increase, births and deaths", because it is a consistent story. In fact growth is the thing which combines births, deaths and movement. This section on births, deaths and natural increase is the heart of Chapter I and is bound to be comparatively long. You should give a note in the appendix about the Vital Statistics in your State. If you have obtained a note from your Director of Public Health reproduce it in the appendix and in the same appendix include your own observations pointing out whether you endorse the Director's view or whether you differ from him. The tendency to make exaggerated statements in respect of condemnation of statistics should be carefully avoided. Where your analysis shows that in spite of the anomalies in recording of the Vital Statistics they do indicate the decennial trends, you should bring out the fact clearly. Causes affecting the death rate and likely to affect it should be briefly reviewed in this section along with such activities as might be of significance in the State in this connection.

55. **The Livelihood Pattern.**—In discussing the livelihood pattern of the general population you should be careful to avoid discussion which would legitimately fall under Chapters IV and V.

56. It should be remembered that when a particular topic is discussed at one place it need not be repeated at other place or places, but a reference might be given to the place where it is discussed.

57. **The Forecast.**—Having applied your mind to the conditions of the last thirty years, if you are in a position to reach a reasonable conclusion regarding the next ten years or the next thirty years, indicate it. But, do not go out of your way to imagine it. If there is a trend, which is sufficiently clear to indicate what it is likely to be, you may say so. You are not expected to go into mathematical calculations of population projection.

SECTION VI.—POINTS INDICATED AT THE STUDY GROUP TO HELP IN PREPARING THE BROAD SHEETS FOR MADHYA PRADESH

58. **Subsidiary Table 1.1—Typical significant facts.**—(a) A perusal of the State figures for percentage of the population residing in tahsils of different density at once shows that more than half the population lives in the groups of tahsils with density between 150—300 (columns 7 and 9).

(b) Only a quarter of the State's population lives in the tahsils with low density (columns 3 and 5).

(c) As between 150—300 group, roughly a quarter of the population (24.3 per cent) is in group 200—300 (column 9) and the balance (29.6 per cent) in the group 150—200 (column 7).

(d) The medium range of tahsil density in Madhya Pradesh is, therefore, comprised in the group 150—300.

59. Having observed the above typical points, we run down the column to examine the position in the Natural Divisions and Districts, and we note the following points :—

(i) Low density areas are more prominent in North-West Madhya Pradesh Division. They are practically absent in South-West Madhya Pradesh Division, while in the East Madhya Pradesh Division, the two sub-divisions show typical contrast. In the East Maratha Plain, there is complete absence of the group 100—150 and 16.4 per cent of the population is in the lowest group under 100. In the Chhattisgarh Plain, on the other hand, the lowest group possesses only 7.9 per cent of the population; while the group 100—150 contains 26.1 per cent of the population.

(ii) The high density areas are more prevalent (21.2 per cent) in the South-West Madhya Pradesh Division and again the East Maratha Plain Sub-Division of the East Madhya Pradesh Division is typical inasmuch as it contains largest percentage (42 per cent) of population in the high density group, while the Chhattisgarh Plain Sub-Division of the same Natural Division contains only 17.8 per cent of the population in the same group (300—450).

60. In explaining the typical behaviour of the East Maratha Plain Sub-Division, the facts likely to be useful are :—

(a) its intermediate location between the developed and industrialised South-West Madhya Pradesh Division and the backward Chhattisgarh Plain Sub-Division; and

- (b) location of rich manganese mines in certain parts, rich rice cultivation of the Chhattisgarh pattern in some other parts, and dense forest in yet other parts.

61. Subsidiary Table 2.1.—(i) The State figures in the first horizontal line show that the largest number of people (476 per thousand) reside in the group of villages with population 500 to 2,000 (column 6). Thus, the group 500—2,000 of column 6 is distinguishable. In bigger villages, there are only 10 per cent of the people (columns 4 and 5, which gives 94 out of 1,000); while in smaller villages, there are 43 per cent of the people (column 7, which gives the number as 430 per thousand).

(ii) Coming down the columns, we find that in the North-West and East Madhya Pradesh Divisions the totals of the columns 4 and 5 are 76 each. In the Chhattisgarh Plain Sub-Division, it is 56.

(iii) It is noticed that in respect of the Chhattisgarh Plain the position about number of people in large villages tallies with the observation made in subsidiary table 1.1 about high density areas.

(iv) Bilaspur district, with a total of 110 for columns 4 and 5, obviously requires explanation, when the corresponding figure for Chhattisgarh Plain is 56. The tahsil density in the Bilaspur district is very low being 34.4 per cent. Nevertheless, it has numerous high population villages. This tends to the conclusion that they are scattered but large. The real explanation is, however, that it is a non-homogenous district with heavy concentration of population and large villages in the rich rice producing areas in certain parts of the district and with sparsely populated jungles in other parts.

(v) In the South-West Madhya Pradesh Division, Amravati has again the largest proportion of population in large villages; but from table 1.1 it appears that it is not so densely populated. This is, again, due to the non-homogenous character of the district, in which a taluq is full of forest with very low density, while the cotton growing parts have big villages and concentration of population.

(vi) Column 4 attracts attention. This refers to large villages of population over 5,000. About 1.5 per cent of the State population lives in such large villages. Going down the column, the concentration of these villages is found to be in the South-West Madhya Pradesh Division.

Why these places were not treated as towns is the question? In Madhya Pradesh, they are reported to be overgrown villages with no urban characteristics. In the rich cotton area of the South-West Madhya Pradesh Division, their number is, therefore, naturally large.

The explanation should be examined further with reference to livelihood classification and an attempt may be made to point out whether the rural characteristics are proved or disproved by the analysis.

62. Subsidiary Table 3.1.—(1) The Madhya Pradesh picture of urbanization seen from column 3 gives the urban/rural ratio as 135/865 (13/87 per cent), as against All-India picture of 174/826 (17/83 per cent). In other words, Madhya Pradesh is more rural than average India.

(2) Towns under 5,000 (column 7) possess only about 2 per cent (19 per thousand) of the population.

It should be explained why these small places are regarded as towns. In Madhya Pradesh, they have municipalities and possess urban characteristics. The Superintendent should examine the livelihood classification as before and point out the result of his analysis.

(3) Column 4 of the table shows Hoshangabad and Nimar districts as prominent in respect of towns over 20,000.

Nimar has only two towns, Burhanpur and Khandwa, and both have population of over 20,000.

63. Subsidiary Table 1.3.—We now proceed to examine the Madhya Pradesh subsidiary table 1.3. On running through the top line, columns 11—13 catch our attention, and the following points are noticed :—

(1) There is a drop of 21 points from 119 to 98 between years 1921—30 and 1931—40. There is also a drop of 19 points from 98 to 79 between 1931—40 and 1941—50. These columns are, therefore, of ~~supreme~~ significance.

(2) If there was equal efficiency in enumeration in all the Censuses, the above figures will be further enhanced and the fall in the growth rate will not be less than the figures given. In other words, the fall is merely underlined by assuming improvements in successive Censuses.

(3) We will be quite safe on the above assumption to regard the drop of the order of 21 points and 19 points as shown above to be real and these facts will obviously require explanation.

(4) Running down columns 11 to 13, we find that there is a drop of 35 points over 30 years (1921—30 and 1941—50). This is separable into 7-point drop between the first and the second decade (1931—40 and 1941—50).

(5) The outstanding fact to be explained is obviously that why in the State as a whole the drop was almost equal in its two parts and why it is so unequal in the North-West Madhya Pradesh Division.

(6) The Nerbudda Valley has increased by 29 points and then decreased by 25 points, whereas the Plateau is terrible, inasmuch as it has diminished by 51 points first and then by 32 points.

(7) Another outstanding feature is the fantastically low growth rate in Hoshangabad in two successive decades (1.7 in 1931—40 and 1.2 in 1941—50). This would obviously need full explanation.

(8) The East Madhya Pradesh Division shares the same figures in the unequal spacing of the drops (6 points between 1921—30 and 1931—40 and 34 points between 1931—40 and 1941—50).

(9) The South-West Madhya Pradesh Division shows a uniform drop of 66 points between 1921—30 and 1931—40 and a rise by 13 points between 1931—40 and 1941—50. The movement or the growth in this Division is thus opposite to that of the movement in the other two Natural Divisions.

(10) The heaviest drop took place in the Hoshangabad, Amravati and Wardha districts (46, 80 and 101 points respectively). The uniform rise took place in Jabalpur (125 points) and Nagpur (50 points).

64. For purposes of explaining the growth, as already pointed out, births, deaths and movements have next to be considered and we proceed with the further examination of table 1.3. The main birth rates are contained in

columns 17—19. In considering the figures of these columns, caution has to be exercised in respect of the figures for Bastar, Surguja and Durg districts, particularly as the registration in the integrated States of these districts was very defective—

(1) Comparison between columns 18-19 shows a rise of 9 points for Madhya Pradesh between 1921—30 and 1931—40, whereas there is a fall of 40 points between 1931—40 and 1941—50.

(2) The admitted increase in the efficiency in registration between 1921—30 and 1931—40 accouts for part of the rise and the corresponding deterioration, similarly, partly accounts for that fall of 40 points. This is, however, not the full explanation.

(3) The North-West Madhya Pradesh Division shows a rise of 25 points between 1921—30 and 1931—40 and then a drop of 68 points between 1931—40 and 1941—50.

(4) The East Madhya Pradesh Division shows a drop of 41 points between 1931—40 and 1941—50, whereas the North-West Madhya Pradesh Division shows a drop of 68 points and as the deterioration in recording vital statistics was more in the East Madhya Pradesh Division than in the North-West Madhya Pradesh Division, it is quite clear that the whole drop cannot be accounted for merely by diminishing efficiency in registration. This point further supports the conclusion that the efficiency in registration is only a part of the explanation. How small that part is, is not yet determined.

(5) A significant point to note is the contradictory character of growth rate and birth rate in the South-West Madhya Pradesh and North-West Madhya Pradesh Natural Divisions. During the first interval, the growth rate figures as well as the birth rate figures tally on this contradictory character.

(6) Studying the figures of the districts down the columns, we find that in almost all the districts of Madhya Pradesh there is a fairly large uniformity. the figures of North-West Madhya Pradesh Division, Betul and Jabalpur districts call for explanation.

(7) Every district of the North-West Madhya Pradesh Division shows a very substantial fall but the same does not apply to the South-West Madhya Pradesh Division. Nagpur and, to some extent, Amravati show continuing fall. Wardha is becoming steady while Akola and Yeotmal are beginning to look up. There are, therefore, real movements in the birth rate, the net result of which is something fairly steady in the first interval and a real drop representing some fraction of 40 points in the second interval.

65. In considering the explanations, the following circumstances will have to be borne in mind :—

There is a long continuing drop from 1900. The rates are as follows :—

1901—10	..	..	..	..	..	45.7
1911—20	..	..	..	..	..	45.5
1921—30	..	..	..	..	..	41.4
1931—40	..	..	..	..	..	41.2
1941—50	..	..	..	..	..	37.0

66. (1) The contradictory nature of alternate intervals is due to the occurrence of heavy mortalities by famine and pestilence.

(2) Subsidiary table 6.8 may now be referred to. The married ~~males~~ up to 34 years of age have dropped from 701 to 633. There is a drop in the 14 years age-group. There is a rise in the 35 to 45 age-group. We are left

with 15—34 age-group which accounts for the greater bulk of the births. This group has dropped 38 points between 1941—51. Between 1931—41, in every district the proportion of married females fell. This must have had an effect on the birth rate. The overall percentage is 10 per cent fall. The intensity of the drop is diminished during 1941—51 but it is still continuing.

(3) The figures of tables 6.7 and 6.8 are directly relevant to the explanation of the figures of columns 17, 18 and 19 in the subsidiary table 1.3. It should be ascertained whether they explain the contradictory character of the changes in the South-West Madhya Pradesh and the other two Natural Divisions. Are these related to the effect of the abnormal Influenza mortality just before the 1921 Census?

(4) Are they related to the raising of the age of marriage under the Sarda Act? The influence of the latter should be felt uniformly, while the influence of the epidemic should be felt unequally according to the incidence of mortality in the different Natural Divisions. In the North-West Madhya Pradesh Division and in the Nerbudda Valley sub-division the mortality was highest during the Influenza epidemic. The reference in the 1921 Census Report of Madhya Pradesh to the fact that the middle aged group was the worst affected in the Influenza epidemic and that the bright feature was that boys and girls between 5 to 15 were not much affected, are circumstances of vital importance to be considered in explaining the trend of births in subsequent decades. The correlation of the different tables by divisions and districts should help to decide the relative importance of the two causes, namely the marriage legislation and the Influenza epidemic affecting the birth rates.

(5) Estimated birth and death rates should be reviewed.

(6) Tables showing death rates by specific age-groups should also be carefully studied.

NOTE—Please also read paragraphs 120 to 128 and 135 below (pages 29—32)].

67. We proceed with the study of the Madhya Pradesh death rates.

(i) There is a very definite difference in the death rate in the urban and rural population of Nimar. The Nimar district has been mentioned as an unhealthy area in 9 out of 10 public health reports of the decade and the main cause is attributed to malaria.

(ii) Next to Nimar comes Hoshangabad. Akola is nearly as bad as Hoshangabad. In Buldana and Yeotmal, the death rate has increased and so has the birth rate.

(iii) Closer scrutiny of the figures of birth and death rates shows that disturbances in the death rate are much smaller than those in the birth rates. And the slight decline in the overall death rate is associable with the fall in the infant mortality, shown in the table for Madhya Pradesh about death rates by specific age-groups.

(iv) Separate figures showing infant mortality in Madhya Pradesh are scrutinised and they also show fall in the infant mortality, which is still very high, and attention of the State Government needs being specifically drawn to this extremely unsatisfactory state of affairs.

(v) The infant mortality figures of Madhya Pradesh separately collected show a remarkable fall from 1947 and the need of accepting them with caution is obviously indicated. It would give a completely erroneous picture of the real state of affairs if on account of defective registration infant mortality is

wrongly shown to be falling. The variations in the child mortality rates for over the last half century for Madhya Pradesh also show that perhaps the efficiency in registration in different periods is more responsible for the apparent variations in the rate rather than any significant public health development. This apparent impression needs being verified and substantiated, if possible. This would show the importance of improving the vital statistics records (see also paragraphs 129 to 133, page 31 also).

68. Migration-cum-Registration Error.—A full discussion about determination of the error for Madhya Pradesh is contained in Section II [page 4, paragraph 7 (11)].

69. The remaining tables of the 1st, 2nd and 3rd series for Madhya Pradesh were passed over quickly for want of time and the few remarks pertaining to them are already contained in the previous Sections III and IV.

70. Subsidiary Table 4.1.—The following table is prepared from the details of the agricultural holdings given in table 4.1 (see Annexure A, page 33 and also paragraph 14, page 7). As pointed out the table separates the upper and lower quartile size holdings and the median size holdings in Madhya Pradesh and the different Natural Divisions.

	Size of Holding.		
	Lower Quartile	Median	Upper Quartile
Madhyaa Pradesh	1.8	5.0	12.7
Nerbudda Valley	1.3	4.3	10.0
Plateau	1.7	7.2	17.9
Chhattisgarh Plain	1.5	4.1	10.0
East Maratha Plain	1.5	4.0	8.7
West Maratha Plain	2.9	8.1	18.6

71. We will first consider the median size holding in the above table. It will be observed that in the West Maratha Plain the size is 8.1 compared to 4 in the East Maratha Plain, 4.3 in the Nerbudda Valley and 4.1 in the Chhattisgarh Plain. One possible explanation is that the average farmer of the West Maratha Plain is in better circumstances and has a higher standard of living than the average farmer of the Chhattisgarh and East Maratha Plain. Another possible explanation is that 2 acres of West Maratha Plain is as productive as 1 acre of the East Maratha Plain. The truth may well be that both these factors are responsible for the difference in the size of the median holding. So far as possible, this question should be carefully analysed and it should be shown to what extent each of the above two factors have influenced the size. In considering the productivity of the land, it is to be borne in mind that we are concerned with the quantity of food which can be got out of one acre of West Maratha Plain and equal area of the other Sub-Divisions or Divisions.

72. It is well-known that the Nerbudda Valley is more fertile than the Plateau. The figures also confirm this fact. Concrete figures may be given to illustrate and establish the fact that the Nerbudda Valley is, in fact, more fertile than the Plateau. This should be shown with reference to the grain yield rate as mentioned above.

73. The grain yield rate will not be perhaps materially affected by the fact that there is considerable amount of cotton in one tract and negligible cotton in another. This theory need be investigated and it should be shown whether it is proved or disproved. It is mainly based on a prior ground, namely, that growing of food is the first concern of a cultivator and normally he grows other things according to nature of profit he is likely to make. He will not grow cotton unless he finds it more profitable and he will quickly withdraw cotton or reduce it if he finds it less profitable. In any case, he will stop his cotton cultivation at a certain level in order to make sure of his food. *On these considerations, the view is held that it is sufficient for statistical analysis to confine our attention to the relative differences in the grain yield per acre in different parts of the country.*

74. If the above theory is verified by experience, it is of great significance because we have to adopt it throughout the country. It is easy to standardise the basis of comparing the standard of living of the agricultural classes in different parts of the country.

75. The lower quartile and the upper quartile have their own significance. In the table given above, both the quartiles reflect the same ratios as the median size holding. If this had not been so, you would have been required to investigate the causes and to see how far there has been inter-relation between the holdings in the upper quartile group by taking another $\frac{1}{4}$ th of the larger type of holdings from the particular quartile group and examining whether there is greater or less concentration in the lower levels in the area which would probably mean that a few people have extra large holdings and a very small number of people have extra small holdings.

76. **Other points for the broad sheet of table 4.1.**—Column 2 of table 4.1 shows that the number of persons of agricultural classes per thousand persons of general population in Madhya Pradesh is 760. The whole of Chhattisgarh Plain has 864. In this Sub-Division, the Bastar district stands out with 914. This shows the extent of urbanization. The figure of 366 for Chhindwara is obviously a printing error and should be 766. The need of great care in checking the subsidiary tables and their proofs is further stressed.

77. Columns 3, 4 and 5 of table 4.1 show the total number of self-supporting persons, non-earning dependants and earning dependants. It will be observed that 4,110 persons in Madhya Pradesh (column 4) are just doing nothing; while 3,004 (column 3) are actual workers, and 2,886 (column 5) are earning dependants. Turning over to table 4.6 (active and semi-active workers in cultivation), it will be noticed that in Madhya Pradesh their total number is about nine millions (column 2, page 59 proof). Columns 3, 4 and 5 of this table show the break-up of these persons, according to the principal and secondary means of livelihood of self-supporting persons and earning dependants. In order to find out how many persons' labour is providing food for the whole of Madhya Pradesh (and for certain people outside Madhya Pradesh), you have to add one-third of column 5 and one-sixth of column 4 to column 3. (For details of the formula and further discussion on the subject please see paragraph 87 below on tables 4.7 and 4.9.)

78. The above formula should be applied in the case of the Natural Divisions and Districts, and comparison made to find out whether there is uniformity.

79. Going back to column 4 of table 4.1 (page 43 proof), we find that 41 per cent of the people of agricultural classes are non-earning dependents. This calls for attention. It has also to be seen why in the Nerbudda Valley the percentage is about 49 and in Hoshangabad 51.

80. For possible explanation, we should examine the composition of the population according to age as given in subsidiary tables 6.9 to 6.14.

81. The next problem is that while the figure of non-earning dependents is high, the figure for the working population is also high. If we add the earning and non-earning dependents, we find that 70 per cent of the agricultural classes in Madhya Pradesh, as well as in the Hoshangabad district, fall in this combined category. The figures of columns 4 and 5 of table 4.1 also show that the earning dependents are fewer in agricultural classes and the non-earning dependents are more in number. One possible explanation for this state of affairs seems to be that there is much poor labouring population and that the dependents of cultivators are not as much employed as they would otherwise be. This should be corroborated by table 4.2 about livelihood class I (Page 47 proof). Here, we find that for the State as a whole the figure of earning dependents is 2,918, and the corresponding figure for Hoshangabad is only 1,692. Examining the columns for the secondary means of livelihood in table 4.2, we find in column 10 that the figure for cultivating labourers for the State as a whole is 1,836, while the corresponding figure for the Hoshangabad district is 853. Therefore, it means that in the Hoshangabad district these people are not obtaining jobs as cultivating labourers because there is a full quota of cultivating labourers. The part-time man cannot compete with the full-time man who is himself demanding employment. This fact should be brought out in the livelihood class III from scrutiny of table 4.4 (page 53 proof). In this table, we find that the figure for the State as a whole is 3,910 and for Hoshangabad district it is 3,592.

82. Whatever the explanation may be, it is clear that the explanation of this high ratio of non-earning dependents to total dependents in the Hoshangabad district is the same as in the State as a whole. In the Hoshangabad district, the scope for secondary means of livelihood elsewhere as cultivating labourer or otherwise is very little. This is a fact brought out according to the table. The explanation should be furnished by the Superintendent. One possible explanation according to him is that all the agricultural land is fully occupied.

83. Examining columns 6 and 7 of table 4.1 (page 43 proof) it is noticed that the West Maratha Plain has a very low percentage under livelihood class I and high percentage under class II compared to the State figures. This ties up with the analysis of their holding figures, which indicate that the livelihood class I is better off on the whole in this Division than elsewhere in Madhya Pradesh. It has also got larger holdings and the type of cultivation requires larger labour.

84. **Table 4.2** (number per 10,000 persons of Livelihood Class I in each Sub-Class and Secondary Means of Livelihood of 10,000 persons of Livelihood Class I) :—A perusal of the figure shows that Nerbudda Valley has more of non-earning dependents and fewer earning dependents as compared to the State figures. The availability of secondary earning must be a factor which is responsible for this difference. There are two possibilities—(a) Livelihood Class I is relatively well off and does not bother to put its dependents to work ; or (b) the work is not there. Balaghat district stands out conspicuously with large number of earning dependents. The caution about the way in which instructions were observed in recording earning dependents in agricultural classes has to be borne in mind in these cases (see paragraph 16, page 7). In making comments columns 6 and 10 have to be read together. Thus the combined total of columns 6 and 10 in Table 4.2 for Madhya Pradesh shows that about 2,500 persons are either working on their own or somebody else's land. Similarly in the Balaghat district the combined total of columns 6 and 10 shows that about 3,400 persons are similarly working either on their own land or on somebody else's land.

85. **Table 4.3.**—In this table also the rule about reading columns 6 and 10 together must be followed.

86. **Table 4.5.**—Column 10 in this table is remarkable. It shows that out of 1,814 (column 4) independent persons of the rentier class 1,414 (column 10) are shown as cultivating labourers. The question arises what kind of people are these and it should be cleared up. Clearing of this question will bring to light the composition of this rentier class and will remove the popular misconception on the subject [see paragraph 17 (c), page 8].

~~87. **Tables 4.7 to 4.9.**—These tables are to be treated together. By adding $\frac{1}{3}$ rd of the self-supporting persons with a secondary means of livelihood and $\frac{1}{6}$ th of the earning dependents with secondary means of livelihood with the number of self-supporting persons with principal means of livelihood, we get the number of effectively active persons. This number comes to 63 lakhs for Madhya Pradesh as a whole. The State population is 210 lakhs, with the result that one active worker produces food and other commodities for 3.3 persons in the population. In Madhya Pradesh he actually produced a little more being the requirement for export. Such figures for different States or for State divisions would be compared on all India level.~~

88. Obviously the agriculturists in Nagpur district are not alone supporting the total population of Nagpur district. They get quite a considerable amount of imports from other districts of Madhya Pradesh, which fact must be taken into account. Therefore, these considerations are only of general guidance. Similarly, where the figures are 3.39 for North-West Madhya Pradesh Division ; 3.02 for the East Madhya Pradesh Division and 3.81 for the South-West Madhya Pradesh Division, they have to be considered in the light of the above discussion to appreciate their meaning. When figures from the different divisions of other States are available it would be possible to compare them with the information available from the Food Department

regarding their surplus and deficit areas. This has relation between the number of mouths and the number of pairs of hands. It will not lead to conclusions by itself because food is not produced only by the hands. You want many other things, such as water, land, etc. The hand is not the only thing. Before the pair of hands become active the child must be preserved from infant death. It must be fed, etc., or it will not be able to get such training physically and mentally to make it fit for occupation. It becomes an asset only when it is made fit for work. Again it is of very great importance to see how you employ those hands. When you employ them on the production of ~~atom~~ bombs and not on production of food then you only get destruction and not nutrition. It is important that the amount of cultivation devoted to food production must keep pace with the continued increase in population. It is not taking place for the last 30 years in almost every part of the country. A perusal of the tables show that a pair of hands devoted to cultivation in the Raipur district of Madhya Pradesh produced food and other commodities for 2.6 persons; in Bastar 2.99, in Raigarh 2.52. The experience of the Superintendent might show that as a matter of fact they produce no less than elsewhere and what it really means is that whereas the cultivators of Nagpur district do not feed the entire population of that district, the cultivators of Durg and Bastar not only feed their population but also feed other people.

89. Now we proceed to the progress of cultivation and go straight to the area of cultivation per capita—columns 4 to 7 of Table 4.9 (page 78 proof). A perusal of the figures shows that in Madhya Pradesh every man, woman and child had each 175 cents of land to draw sustenance from in 1921; it was reduced to 161 in 1931, ~~and which was~~ further reduced to 145 in 1941 and has since been reduced to 135 in 1951. As has been pointed out we have allowed for the fact that the growth of irrigation is a form of intensive growth of cultivation even if it is not superficially extensive. We want an increase in cultivation. The area of cultivation per capita takes into account the area under irrigation. In spite of this we find the poor result during the last three decades. If land has been improved it has been brought under cultivation. It is true that the result of certain forms of land improvement must have its effect in the yield rate of the area of cultivation—a subject which would be separately considered. For the present we keep the area under cultivation defined in the above manner. The land may still yield more than it yielded before. If so the grain production capacity must be assessed and that should be capable of taking into account the results of land improvement other than irrigation and the results of any increase in fertilization that might be taken on account of use of improved seeds or better methods of cultivation. Alternatively it should allow for any diminution on account of non-availability of fertilizing material. This is a factor to be reckoned during the 30 years' review.

90. A perusal of Subsidiary table 4.7 shows that there has been good improvement in irrigation. There is, however, considerable difference in the volume of improvement in the East Madhya Pradesh Division and the South-West Madhya Pradesh Division. The incentive of prices was equally available to all parts of the State during the last 10 years. If one part shows encouraging results and another part depicts a sorry picture, it means that the difference is to be found in the availability of the water resources which can be made use of in one part and ~~which~~ did not exist or could not be

availed of in the other. It is to be noted that the South-West Madhya Pradesh Division is populated by comparatively more enterprising and advanced people than those of the East Madhya Pradesh Division. If irrigation had been possible, it would have been attempted. A better variety of cotton crop could have been sown and perhaps the condition of Berar would have been richer still. Therefore it is in the main a question of the facilities for economic utilization of the water. In other words water which could be economically available is not there. That is why irrigation did not grow in the South-West Madhya Pradesh Division.

91. Looking down columns 2 and 3 of table 4.7 we come across the Sagar district in which cultivation has fallen from 14.48 to 14.08 and a probable cause is the deterioration of the land by kans. Intensified efforts are being made now to eradicate kans and tractor organizations are in work in this district. It would be observed that in the Nerbudda Valley as a whole the figure has gone down from 48.2 to 46.29 between 1941 and 1951. In spite of the high prices of grain the food production has dropped. It should be seen for instance how the food production in this valley compared in the five years ending 1950 with the five years ending 1940. The bad years before and after 1940 should be taken in account while assessing the difference. In comparing statistics it is very dangerous to use figures for single years. You just reach absurd conclusions by such comparisons. In all such comparisons you must insist on 5 years' average before you consider the figures and arrive at any conclusions. A five years cycle will yield a fairly reliable average. Even then we should not exclude the possibility of one set of five years being better than another set of five years.

92. If it is found that the fall in the irrigation in the Nerbudda Valley is due to kans it is quite clear that the valley requires to be equipped with tractor organization to follow up the big ploughing which is being done now to prevent kans from re-emerging.

93. A further perusal of table 4.7 (columns 2 and 3) shows that in the Wardha district the fall of cultivation is from 9.9 to 9.1. For a district it is a pretty high fall. It might be worthwhile checking up whether area included under orange cultivation is excluded from the figures for the table.

94. Table 5.1.—This table gives very important figures. They relate to non-agricultural people for whom arrangements for food supplies have to be made by Government. In Madhya Pradesh there are 240 such people per thousand of general population. In India the figure is 300. In Vindhya Pradesh it is only 128. The integration of the States and the removal of ban on export from these States and the consequent dissatisfaction of the old State people is partly reflected by the comparative figures of Madhya Pradesh and Vindhya Pradesh.

95. The Nerbudda Valley figure is suprisingly high, being 356. As it stands the bulk of it is under Class V. Attention will have to be paid to the people falling under Division 'O'. Incidentally the number of non-agricultural earning dependents is very small as compared to the non-earning dependents. Balaghat and Bhandara districts have the least number of non-earning dependents of the non-agricultural class. Both these districts have mining industries and the bidi cottage industry.

96. For the first time we are getting figures for employers, employees and independent workers. Columns 10 to 13 of the table are for self-supporting persons only. Shall we be seriously wrong if we suppose that these figures give the same proportion for the entire class? In other words will the ratio of non-earning dependents and the earning dependents together would be different for the employers, employees and independent workers? Perhaps not. At any rate it will not be violently different. Broadly the ratio between the self-supporting persons and the earning dependents plus the non-earning dependents is in the neighbourhood of 3 : 7 and this might be made use of to estimate the number of dependents corresponding to the self-supporting persons mentioned in columns 10 to 12.

97. The figure for employees (column 11) is about 46 per cent and for the independent workers it is 48 per cent. The employers and the independent workers might be considered together. In considering the figures of employers and employees, it is to be remembered that there is a marginal zone of persons who are genuinely independent workers as well as employees. The manner in which we are putting them is accidental, but there was no bias, and we must assume that on the whole the figures duly represent the actual proportions. You are then left with 46 per cent employees and 48 per cent independent workers.

98. Coming down the columns, we find the independent worker and employee ratio to be very interesting in some cases, notably in Bhandara where the 'bidi' cottage industry is in the hands of independent workers. It is a genuine home industry phenomenon.

99. While examining column 13 of Table 5.1, it is desirable to refer to the fly-leaf of the main table in which details of unproductive self-supporting persons are given. In Madhya Pradesh, the overall figure is 47,000. Out of this, 2,800 are persons living on income from non-agricultural property. Pensioners are 5,600; the criminals and lunatics are 3,000; beggars and vagrants are 30,000; and other non-productive persons come to 2,000 (mainly prostitutes perhaps).

100. The overall figure of 47,000 seems to be small, but this is the number of self-supporting persons only. We should multiply it three times to get an idea of the total number of persons depending on this livelihood class. It would then come to about 150,000 as overall total. We have not tabulated non-earning dependents of the self-supporting persons of non-productive category.

101. As the non-agricultural workers predominate in the home industries, it would be interesting to prepare separate tables similar to table 5.1 for urban and rural areas and to discuss the results (see paragraph 26, page 11 and paragraph 37, page 12).

102. Table 5.2.—As the figures of the Census of Small Scale Industries are not reliable, this table will have to be prepared for the rural and urban areas also (see paragraph 37, page 12).

103. Referring to columns 6 and 7 of table 5.2, we find that the ratio of independent workers to employees is about 6 : 4 for Madhya Pradesh as a

121. Roughly speaking, half the people are married. Out of the remaining people, nine-tenths are ^{un-}married and one-tenth are widowers. It is to be noticed that the widows amongst females are three times the widowers amongst men. This obviously reflects our social custom. There is 1 per cent drop in male ~~marriages~~ ^{marital rate} from 1941 to 1951. The fall in the marriages of females during the corresponding period is 2 per cent. Whether this means that the raising of the age of marriage of girls is taking effect, might be considered. It cannot be said that this is accidental or really significant.

122. The question also arises here whether the influenza epidemic of 1918 has anything to do with the rise and fall in the marriages. In Madhya Pradesh the effect of influenza was greatest in the North-West Madhya Pradesh Division; it was appreciable in South-west, but not so appreciable in the East Madhya Pradesh Division. Such a phenomenon would not produce the results of the type found in the table of the marital status.

123. Another problem, which we might consider in this connection, is the significant drop in the birth rate in Madhya Pradesh. The reduction in the ~~marriage rate~~ is one of the obvious causes. In other words, the main reason is not that the married people breed less but that the proportion of married people has diminished. This again might be traceable to past history, probably due to occurrences of famines, etc. But the Sarda convulsion followed by the levelling-off tendency is, perhaps, more significant.

124. Table 6.8.—The figures in this table will lead to alarming conclusions. Columns (2) and (3) would indicate that about 4.3 per cent of married people in Madhya Pradesh are breaking the law about marrying early and again comparative figures of 1941 and 1951 tend to show that this tendency is on the increase. ^{in the case of males} Before arriving at this conclusion, the figures should be very carefully checked. It cannot be said that the phenomena ^{are} impossible; but, if it is true that the law is, in fact, disregarded to this extent, it will call for governmental action.

125. The age groups 15—34 and 35—54 need being studied with utmost care as they will explain the birth rate.

126. In the first place, the age-group 35—54 should be split up into 35—44 and 45—54 in the table 6.8. This is necessary because it is found from the examination of the fertility data that the age-group 35 to 44 behaves differently from 45 to 54. In splitting up the group 35—54 in table 6.8, you might confine yourself to the figures for the State and the Natural Divisions only.

127. The age-group 15—34 (columns 12 and 13) of table 6.8 shows that the number of females of this group have shown a fall from 603 to 565. This is very significant in explaining the fall in the birth rate. But, there is an increase from 256 to 300 in the group 35—54 and if after splitting this group, as mentioned above, you find that in the group 35—44 there is a fall, it corroborates the statement that the diminution in the age-group has led to the real fall in the birth rate. If it does not, you will have to examine the question further.

128. It must be noted that in view of the data revealed from the fertility tables, we must take into account the age period between 15 to 44 in order to explain the birth rates on the basis of differences in age structure.

129. Table 6.9.—Comparing the figures of column 5 with those in column 2 of table 6.9, it would be noticed that there are 341 infants in 1951 as against 240 in 1941. Let us not rush to conclusions. Is this a real increase or is it a casual misleading result? Except in two cases of the North-West Madhya Pradesh Division and the Hoshangabad district, all the figures of column 5 are less than the corresponding figures of column 2. Amongst the two exceptions the first relating to the North-West Madhya Pradesh Division is obviously due to a printing error. The second exception in the case of Hoshangabad district is significant because the 1941 figures for the Hoshangabad district seem to have been doubled through out in table 6.9, 6.10, etc., and it is probable that some mistake has crept in the Statistical Institute and perhaps the inflation is wrong. This will have to be verified.

130. It is also to be seen whether there was any change in the definition of "infant" at the 1941 and 1951 Census.

131. With the existing figures of columns 5 and 2 of table 6.9 we would expect corresponding distortion in the outlook of other age-groups. The Ner-budda Valley figures for the group 1—4 (table 6.10) show a fall from 1,275 to 980. Plateau shows increase from 633 to 1,058. These figures again call for comment on the behaviour of the 1951 sample. It might be worth while to check the sample statistics of one or two districts by undertaking full tabulation for them. The results might be of value in judging the utility of the 1951 Sample count.

132. Table 4.9 (columns 5 and 2) shows that in Bastar there were 235 infants in 1941 as against 347 in 1951. While table 6.10 shows that the young children have dropped from 1,399 to 1,273.

Bearing in mind that in almost all cases the 1941 figures of column 5 in table 6.9 are lower than those of column 2 for 1951, it would appear that the theory of the real fall in the infant deaths is supported.

133. Taking into consideration the death and birth rates it is possible to make calculations and see whether the rise in the infants from 240 in 1941 to 341 in 1951 is justified. The calculations show that on the basis of the birth and death rates this change is not justified. If, however, the figures for infants and young children are taken together from tables 6.9 and 6.10 we find that there were 1,384 infants and young children in 1951 as compared to 1,339 in 1941 and the difference between these figures is easily explained on the basis of the birth and death rates. It is to be remembered that if we take the individual age-group of the young children the registration error is inflated. If on the other hand we compare the difference between the 1941 and 1951 figures for all infants and young children as well as boys and girls taken together we would get a measure of the real fall and also a measure of the exaggeration of that fall against decreasing efficiency of registration.

134. Tables 6.13 and 6.14.—They refer to the middle aged and elderly persons. The number of middle aged persons is increasing while that of elderly persons is falling. We have seen that infants and young children taken together have not increased to any considerable extent. Actually the young persons have fallen. That means that there was a hump which is passing through. We are now about 30 years after the great Influenza epidemic when the 5—15

group was least affected and the middle aged, the infants and the elderly persons were most affected. That means that there is a hump between 5—15 and 38—50 and it will pass out and the State would attain the normal age structure, when the birth rate will steady itself at whatever level its normal position is.

135. The reasonable inference from the above facts is that there had been a very abnormal mortality over 30 years ago, the consequence of which was that the relative proportion to the total population of the young persons between 5—14 became higher. Those persons are now in the later middle aged group (38—50) and it is passing through this hump, which is showing the rise in the age group 35 to 54. You must break this group into two different parts to show where the fall ends and where the rise begins. It would seem that the drop connected with the Influenza mortality has passed. South-East Madhya Pradesh is normal. The lower figures indicate the registration fallacy.

136. The above discussion is of significance in all States where substantial Influenza mortality had taken place. They must study their age structure differences particularly between 1941 and 1951 carefully and should find out whether the hump is noticed in the latter-middle-age or the beginning of the elderly age group. Description of the Influenza epidemic from previous Census Reports might be reproduced to illustrate the points discussed.

ANNEXURE A

Method of determining the Upper Quartile, the Lower Quartile and the Median size holdings for Madhya Pradesh and the Natural Sub-Divisions.

In column (1) the figures are copied from Table 4.1 (page 43 proof) for the State as well as the Natural Sub-Divisions. The figures begin from the lowest size of the holding. The second column is constructed from column (1) by the process of simple addition. Thus $165 + 108 = 273$; $273 + 88 = 361$ and so on. As there are 1,000 holdings under review the Lower Quartile holding would be the 250th holding from the bottom. The Median size holding would be the 500th and the Upper Quartile would be the 750th. From column (2) below for Madhya Pradesh we find that the Lower Quartile holding, that is the 250th, would be of the size of 1 to 2 acres, because the 273rd holding is the last holding of two acres. We, therefore, take 1.8 as the size of the Lower Quartile holding for Madhya Pradesh. Similarly, the 500th holding comes at the 5 acres group and the Upper Quartile of 750th holding at about 12.7 acres.

2. The size of the holdings in the Natural Divisions and Sub-Divisions are also similarly arrived at.

(1) Madhya Pradesh	(3) Nerbudda Valley	(6) East Maratha Plain
165	206	182
108 273 1.8	111 317 1.3	124 306 1.5
88 361	89 406	107 413
72 433	72 478	85 498
65 498 5.0	64 542 4.3	73 571 4.0
54 552	55 597	69 640
45 597	47 644	48 688
40 637	39 683	39 727
37 674	35 718	33 760 8.7
34 708	33 751 10.0	31
152 860 12.7	129	132
63	57	
	27	
(2) North West Madhya Pradesh	(4) Plateau	(7) West Maratha Plain
206	206	37
95 301 1.5	64 270 1.7	74 111
76 377	51 321	74 185
63 440	47 368	74 259 2.9
58 498 5.0	48 416	70 329
51 549	43 459	60 389
45 604	41 490	53 442
38 642	37 527 7.2	53 495
35 677	37 564	49 544 8.1
34 711	36 600	44 588
151 862 12.7	192 792 17.9	204 792 18.0
60	90	88
34	(5) Chhattisgarh Plain.	45
17	186	23
	132 318 1.5	25
	99 417	11
	76 493	16
	66 559 4.1	
	49 608	
	42 650	
	36 686	
	33 719	
	31 750 10.0	
	133	

ANNEXURE B

General Discussion on Population Growth and Sustenance.

1. The machine age commenced in the half century 1750—1800. Europe was then growing at the rate of about 5.7 per cent per decade. The growth rate of Europe during the last three half centuries has been as follows:—

1800—50	...	...	...	...	7 per cent.
1850—1900	...	...	...	...	8.1 per cent.
1900—50	...	...	...	...	6 per cent.

2. This is the net growth in Europe. The actual increase of the natural population was faster than this and it was simultaneously moving out into America and Oceania. It would be interesting to note that in 1750 there were fewer people in America and Oceania than the number in Madhya Pradesh today. In fact, in the whole of America and Oceania, the population at that time was about 14 millions. At the same time (1750), Europe had about 140 millions population. In other words, about one-tenth of European population was in what may be called "the outer Europe". This combined population of Europe and the "outer Europe" was growing from 1800. The growth was running at the rate of about 6.5 per cent. In the three half centuries after 1800, this growth was of the following order:—

1800—50	...	...	...	...	6.4
1850—1900	...	...	...	...	10.2
1900—50	...	...	...	...	9.1

3. The most significant point to be remembered is that this growth rate was sustained not by factories and industrialisation of Europe as is the common belief, but by the expanding cultivation in America and Oceania. This fundamental fact must be clearly understood though, unfortunately, very few appreciate it at present. Iron and steel, or cement have their uses; but they cannot replace food, and except for fishing, food-stuff must come directly or indirectly from the soil. The Westerners established and improved their standard of life because cultivation was progressing at such a terrific speed that they could get food cheaply and people could be spared for industries and services in much larger numbers; whereas, because our fight for food is growing more and more, we are increasingly pre-occupied in extracting food for ourselves.

4. European families achieved a standard of living and, with their leveled off growth, they are defending it. In our own towns and cities, our urban intelligentsia is even today becoming conscious of this fact. While we are talking, our middle classes and lower middle classes are attempting to limit their families. The rise of prices is compelling them to do so to maintain, if not to improve, their standard of life. In other words, the same process, which overtook first the middle classes and then the working classes of the European countries, has commenced in our country also and it will gather strength in course of time. The only point is: Will the movement be fast enough to make a difference to the situation? Perhaps not, unless on a Governmental scale we do something about it and push it up by a tremendous effort. That is why the chances in favour of a non-catastrophic solution are of the order of 30 per cent, to be optimistic, while those in favour of a catastrophic solution appear to be 70 per cent.

5. If people are to be convinced of the gravity of this situation, our conclusions must be shown to be merging from sufficiently large number of concrete facts. Nobody is going to listen to mere opinions, nor is anyone

likely to be alarmed or encouraged by abstract conclusions. Their feeding depends upon the ration, irrespective of our opinion; and if you can dispel the illusion that industries will take care of their rations and show that industries cannot feed the people, you will have, perhaps, helped them in appreciating the danger ahead.

6. There are two different issues:—

- (a) whether the world's resources are indefinite; and
- (b) whether there is an optimum level for production.

Most of our politicians say that there is no reason why we should be afraid of the growth of population as we have such vast resources. According to them, you can increase in number indefinitely but yet have higher standard of life, and the latest slogan is that, if we only have a trained enterprise, everybody will be happy in this world. Experience of the Europeans during the period of 200 years—certainly during a period of 150 years—lends powerful support to this illusion that if only you develop industries you can increase population indefinitely and give it an increased higher standard of life. For, undoubtedly, Europe did increase about four times during the last two centuries and it is quite undisputed that the standard of living of all Europeans have grown during these 200 years tremendously. They have been given better services and have been made comfortable in every way. There is no doubt about it. But the illusion is there. Is it the greater number of industries which did this miracle? In fact, the growth was made possible mainly because America and Oceania were virgin soils which were being brought under the plough and exploited. Even in our country, the Westerners came, put up the railways and collected our raw products for their factories and flooded us with their manufactured goods. Cultivation was also, undoubtedly, developed in our country by the Britishers. This helped them in getting their cheap food and raising their standard of living with their factories working at full speed with our raw materials. It is, indeed, a fallacy to say that the cultivation did not improve in our country during the British regime.

7. The fundamental truth is that it is food that contains life and not cloth or steel. In other words, soil is life; and cultivation is a process thereof.

8. There is, in fact, an optimum level for production. Humanity must limit its numbers before it can live peacefully. We are having hot and cold wars in succession because this progress of growth of population running ahead of cultivation, obviously, runs into a situation into which somebody has to come in the way of the standard of living of somebody else. Nobody is voluntarily prepared to sacrifice his standard of living. Nations struggle with one another and unless the warning is heeded the struggle might well end in the atom bomb destruction.

9. Europe, on the whole has got 307 cents per capita of land. The per capita average of agricultural land comes to about 153 cents. The Indian Union has 94 cents of arable land per capita compared to 448 cents per capita in U. S. S. R.

10. India's one cent of agricultural land is more valuable than one cent of similar average cultivated land of Madhya Pradesh. Similarly, one cent of the agricultural land in West Bengal is more valuable than one cent of India's average cultivated land. The productive capacity depends upon the physical and chemical qualities of the soil and not on the superficial

area. Therefore, we must not be unduly alarmed or misled by the figures given above about agricultural land being more or less in particular parts of the world. We must find out to what factors the yield refers to. If other people are putting under cultivation land of which the soil value is really larger than ours, then the yield there must necessarily be higher. It is no reflection on our farmers and no credit to their farmers. In referring to the productive capacity above, we have not taken into consideration questions of irrigation, fertilization, land improvements, etc. We have been referring to the intrinsic qualities of the soil.

11. If during our analysis, we succeed in showing how the cultivated land per capita has varied with the population growth and if we can also show how the productivity of the soil has changed during the corresponding periods as a result of irrigation, land improvement and other activities, we shall have in our possession concrete evidence to show where the population growth is leading us as far as the problem of sustenance is concerned and we will be able to convince our countrymen that, while in the last century and also in the beginning of the current one population growth went hand in hand with growth of cultivation, the situation is reversed during our own life time and we are now faced with a new problem which never existed before, and, unless we are alert and make a supreme effort to solve it, we must be prepared for an unprecedented catastrophe.

ANNEXURE C

COMPARISON OF LIVELIHOOD CLASSES OF THE 1951 CENSUS WITH THE OCCUPATIONAL GROUPS OF 1931 CENSUS

Livelihood Class of 1951 Census	Corresponding Group of 1931 Census
(1)	(2)
I	5
II	6
III	7
IV	1
V	21, 22, 23, 24, 25, 26; 10, 11, 12, 13, 14, 15, 17, 18, 19, 20; 28; 27; 41; 35; 30; 29, 32, 34; 37; 40; 73, 81; 71, 72; 68; 74; 76, 77, 67; 78; 42, 43, 49, 52, 83, 84, 89; 44, 45, 46, 47, 48, 50; 51, 82; 58, 62; 57; 91, 92, 93; 59, 60, 61; 66, 70; 53, 96, 97, 98, 99; 69; 64, 65, 63; 54, 55, 56; 88 and 95. <i>84, 81, 37, 36, 38, 39, 75, 79, 80</i>
VI	119, 120, 121, 122, 123, 124, 125, 138, 139, 140, 141, 142, 143, 144, 146, 147, 148, 149, 150, 151, 152; 126, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137; 145; 117, 118; 116 and 115.
VII	<i>61,</i> 107, 108, 109, 110, 111; 102, 103 and 112.
VIII	<i>2, 3, 4,</i> 90; 105, 106, 113; 104; 94; 100; 114; 169, 170, 171; 172, 173; 174, 175, 180; 153, 154, 156; 157; 158; 162; 161; 159; 160; 186, 187; 86, 87, 85; 127; 182, 183, 184; 167, 168, 176; 177; 178, 179; 163, 164; 165 and 166, <i>155, 181</i>

ANNEXURE D

COMPARISON OF THE CLASSIFICATION OF THE POPULATION OF MADHYA PRADESH BY LIVELIHOOD CLASSES AT THE 1951 AND 1931 CENSUSES

Livelihood Classes	Classification of Population						
	1951 Census				1931 Census		
	Number per ten thousand of general population				Number per ten thousand of general population		
	Total classified population	S. S. P.	N. E. D.	E. D.	Total classified population	Earners	Working dependants
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I	4,951	1,304	2,200	1,444	1,917	1,321	596
II	447	121	182	144	82	70	12
III	2,040	798	667	576	2,075	1,751	324
IV	162	57	75	29	32	30	2
V	1,060	333	524	203	532	434	98
VI	439	125	274	41	198	178	20
VII	147	43	93	10	33	32	1
VIII	754	246	415	92	252	236	16
Total ..	10,000	3,027	4,430	2,539	5,121	4,052	1,069

Livelihood Classes	Active and Semi-active Workers					
	1951 Census			1931 Census		
	S. S. P.	Secondary of S. S. P.	Secondary of E. D.	Principal earners	Subsidiary of principal earners	Working dependants
	(9)	(10)	(11)	(12)	(13)	(14)
I	2,776,498	177,812	809,019	2,375,708	109,944	1,072,879
II	256,616	125,467	49,150	126,173	17,655	21,539
III	1,695,610	360,846	3,648,407	3,150,903	135,812	582,490
IV	122,169	97,094	15,524	54,055	22,235	4,011
V	708,081	300,574	407,350	780,891	122,506	175,624
VI	265,200	137,639	107,089	320,153	86,943	36,462
VII	91,137	41,120	15,523	57,190	13,522	1,357
VIII	523,587	153,900	345,078	423,730	60,081	29,372
Total ..	6,438,898	1,394,452	5,397,140	7,288,803	568,698	1,923,734

ANNEXURE E

Instructions for the preparation of Subsidiary Table 3.6

*Number per 1,000 of the General Population and of each
Livelihood Class who live in towns*

$$\begin{aligned} \text{Column 2} &= \frac{\text{Total Urban Population}}{\text{Total General Population}} \times 1,000. \\ \text{Column 3} &= \frac{\text{Livelihood Class I (Urban Population)}}{\text{Livelihood Class I (General Population)}} \times 1,000. \\ \text{Column 4} &= \frac{\text{Livelihood Class II (Urban Population)}}{\text{Livelihood Class II (General Population)}} \times 1,000. \\ \text{Column 5} &= \frac{\text{Livelihood Class III (Urban Population)}}{\text{Livelihood Class III (General Population)}} \times 1,000. \\ \text{Column 6} &= \frac{\text{Livelihood Class IV (Urban Population)}}{\text{Livelihood Class IV (General Population)}} \times 1,000. \\ \text{Column 7} &= \frac{\text{Livelihood Class V (Urban Population)}}{\text{Livelihood Class V (General Population)}} \times 1,000. \\ \text{Column 8} &= \frac{\text{Livelihood Class VI (Urban Population)}}{\text{Livelihood Class VI (General Population)}} \times 1,000. \\ \text{Column 9} &= \frac{\text{Livelihood Class VII (Urban Population)}}{\text{Livelihood Class VII (General Population)}} \times 1,000. \\ \text{Column 10} &= \frac{\text{Livelihood Class VIII (Urban Population)}}{\text{Livelihood Class VIII (General Population)}} \times 1,000. \end{aligned}$$