



सत्यमेव जयते ।

Census of India, 1951

VOLUME VII MADHYA PRADESH

PART I—A Report

By

THE LATE SHRI J. D. KERAWALLA, M.Sc.

*Formerly of the Indian Administrative Service,
and Superintendent of Census Operations, Madhya Pradesh.*

AND

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With the best compliments of

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NOTE

1. Census of India, 1951, Volume VII, for Madhya Pradesh, is divided into the following Parts :—

- PART I Report, Subsidiary Tables and Notes thereon.
 - Part I—A .. Report.
 - Part I—B .. Subsidiary Tables and Notes thereon.

- PART II Tables in four Volumes as follows :—
 - Part II—A .. General Population Tables of the “A” Series and Summary Figures for Districts constituting the “E” Series.
 - Part II—B .. The Economic Tables of the “B” Series.
 - Part II—C .. Household and Age (Sample) Tables of the “C” Series and Social and Cultural Tables of the “D” Series.
 - Part II—D .. The Maternity Tables.

2. The Administration Report is in two Parts—

- PART I Enumeration (The Enumeration Procedure—Training of Staff—The Census Questionnaire and details of putting it across to the People—The National Register of Citizens—Verification of the 1951 Census Count and the Sample Census Enquiry, etc.).

 - PART II Tabulation.
-

INTRODUCTION

From the 21st January 1950 till his sad demise on the 7th October 1952, the late Shri J. D. Kerawalla superintended the census operations in the State. By his unfailing energy and unremitting hard work, continued in spite of the strain of ill-health, he succeeded in making Madhya Pradesh one of the best censused States in India, and in beating all other States in the extreme despatch with which he carried through the census of the State.

2. Changes affecting the Census Organization.—During the decade 1941—50 extensive territorial changes took place in the State. The integration of the fourteen States of the Eastern States Agency and of the tiny State of Makrai of the Bhopal Agency with Madhya Pradesh, resulting in the formation of three new districts of Bastar, Raigarh and Surguja and an increase of 2,750 and 150 square miles respectively in the areas of the existing Durg and Hoshangabad districts, was the most important of the changes affecting the organization of census operations in the State. The other minor changes were the transfer of thirty-nine villages of Nimar district to Madhya Bharat, of eleven villages of Jabalpur district to Vindhya Pradesh and of five villages from Vindhya Pradesh to Jabalpur district. So far as the organization of the census operations was concerned, the net effect of these territorial changes was the addition of about 32,000 square miles of territory with a population of nearly 3·2 million. The additional territory for which census arrangements had to be made by comparison with 1941 consisted, therefore, of the five former States of Surguja, Jashpur, Korea, Udaipur and Changbhakar, associated with the province of Bihar at the last census.

3. Census Organization and Census Officers.—The ninth decennial census of this State was taken in February-March 1951. A full account of the procedure adopted for the enumeration of the people and the compilation of the results has been given in the Administration Report printed in two parts, part I dealing with Enumeration and part II with Tabulation and preparation of Report. As at the last census, the practice of the one-night count in vogue until 1931, which easily lent itself to grave errors, was discarded and a system of enumeration based on the concept of normal residence was adopted. With a view to avoiding slip copying, the system of "billets individuels" was adopted as at the last census. The census organization was closely modelled on that of 1941. As in, previous censuses there were three principal grades of census officers, the Enumerator, the Supervisor and the Charge Superintendent. The actual filling up of the enumeration slips for one or more blocks was carried out by the enumerator who was generally the schoolmaster or other literate resident of the locality. Normally each village was treated as a block. The supervisor and the charge superintendent were responsible for the census organization in their circle and charge respectively. As in the past the Land Revenue staff was the backbone of the census organization. In all districts except those of Berar, it was usually possible to constitute the Revenue Inspector's circle a census charge and the

Patwari's circle a census circle under the direction of these officers. In Berar where the jurisdiction of the Patwari is different, the villages were grouped into arbitrarily constituted census circles, subject to considerations of population and area. Every town, as a rule, formed a charge, the Secretary or some other senior official of the local body constituted for the town acting as the charge superintendent. Division of the town into circles and blocks was made on the basis of population and area. In the municipal towns, each ward was, generally, formed into a census circle. The members and employees of the local bodies were associated with the census organization in urban areas as far as possible. There were 619 charges, 7,815 circles and 69,451 blocks in charge of 647 charge superintendents including additional charge superintendents, 8,081 supervisors and 46,797 enumerators in the State, or in all a staff of about fifty-six thousand persons. Above these census officers was the Tahsil staff, each Tahsildar having four or five Revenue Inspectors' circles within his area of jurisdiction, and over the whole district organization presided the Deputy Commissioner with his staff of Assistants, of whom some, as Chief Executive Officers, held definite areas of administration, while one was placed in special charge of the district arrangements as District Census Officer.

4. The organization of census divisions and the census staff occupied the hot weather of 1950. Thanks to the late Shri Yeatts's demi-official letter No. Y/4 of the 27th November 1947 to the State Government and the subsequent letters written early in 1948, house-numbering and allotment of location code numbers to the districts and tahsils had already been completed when the late Shri Kerawalla joined as Superintendent of Census Operations in January 1950. All that had to be done in 1950 was to get the obliterated house-numbers repainted and permanent number-plates of metal affixed in the more important municipal areas. The old definition of a house, namely, 'every dwelling with a separate main entrance' was retained. A General Village Register was prepared by each Tahsildar in February 1950 showing the names of all the villages and hamlets in the Tahsil and the names of residents suitable for appointment as enumerators. Location code numbers were allotted to the villages, towns and wards by the Tahsildar. If the settlement numbers of all the villages of the Tahsil were found to be in one serial order, the settlement number itself was treated as the location code number of the village. In all other cases, the villages were numbered in alphabetical order. A Circle List and Register was then prepared for each census circle and it served as a record of the final census arrangement in the area.

5. Training of the census staff commenced in June in all districts. It was soon discovered that a certain minimum intellectual equipment was absolutely essential for an enumerator. Numerous changes were found necessary in the staff, particularly in the tracts inhabited by the aborigines where the raising of the "enumeration army" had presented formidable difficulties. The remaining part of 1950-51 was devoted to the checking of house-numbers, the perfection of the census organization, particularly in the remoter and more backward tracts and the systematic training of the census staff by district officers by means of conferences and by continued personal instruction and inspection during their tours. Considering the difficulties of obtaining accurate and complete replies to some of the questions asked at the census, the training of the staff was one of the most important parts of the operations. No other single endeavour connected with the enumeration called for so much exertion as the training of enumerators. The late Shri Kerawalla and I were

able to visit, generally more than once, every district and tahsil headquarters and other important training centres in Madhya Pradesh and to hold conferences there. The National Register of Citizens was compiled by the census staff in the months of November and December 1950. Incidentally it helped greatly to tone up their training. The National Register of Citizens will be useful for the local extraction of census information during the intercensal period, the selection of random samples for conducting socio-economic surveys, and the maintenance of electoral rolls. Compilation of this register marks a major step in the direction of solving the problem of improvement of population data in the State.

6. The Actual Census.—The census enumeration lasted for a period of 20 days from the 9th February to the 28th February 1951. The enumerator, with the relevant part of the National Register of Citizens in hand, visited each house in turn and filled-up a slip for every individual, subject to the condition that enumeration of an absentee or a visitor was done at his usual place of residence in all cases except when his absence from home extended beyond the prescribed enumeration period. The central or reference date of the census was sunrise on the 1st of March 1951. The usual halting places were searched for travellers, tramps, sadhus, wandering tribes, etc., at that hour, and slips were filled in for such of them as had not already been enumerated elsewhere. Inmates of institutions like hostels, hospitals, jails and the like were also enumerated at that time, provided they had been away from their homes throughout the enumeration period and had not been previously enumerated anywhere else. The next three days were devoted to intensive checking and the slips and the National Register of Citizens were brought up-to-date with respect to the reference date of the census. The State Government declared the 1st and 2nd of March as gazetted holidays for the census. The opportunity was utilized for improving the accuracy of the census returns by deputing Government servants of the various departments to attend to the work of checking.

7. Provisional Totals.—As soon as the census was over the enumerators met their supervisors at an appointed place and prepared Enumerator's Abstracts, showing the total population of each block as well as the number of displaced persons, literates, and occupied houses. The supervisor prepared a Circle Summary and sent it to the Charge Superintendent, who prepared for his charge totals which he sent to the district headquarters. There the charge totals were added and the district total was reported by express telegram simultaneously to the Registrar General, India, and to the Superintendent of Census Operations, Madhya Pradesh. All possible means were adopted to secure speedy arrival of the abstracts at the district headquarters, and so excellent were the arrangements made by the district officers that it was possible for the late Shri Kerawalla to telegraph the figures for Madhya Pradesh to the Registrar General on the 10th March, *i.e.*, only seven days after the conclusion of the final check-up of the census returns—although the last date prescribed for the purpose was the 22nd March 1951. The first total to arrive was that of Surguja district at 2-45 p. m. on the 3rd March, the figures having been actually intimated on the phone to the late Shri Kerawalla six hours earlier. It was followed by the figures of the Bilaspur district which were telegraphed (from Bilaspur) on the 4th March at 2-15 p.m. but received here the following morning. The figures for the Chanda, Raipur, Sagar and Chhindwara districts were also compiled and telegraphed with great

promptitude. By the 9th of March the totals of almost all districts, including those comprising large areas of dense forest, had been received. The accuracy with which this rapid compilation of totals was made by the district staff can be gauged by the fact that the difference between the provisional totals for the State as telegraphed to the Registrar General, India, and the total obtained after analysis in the tabulation office was only 0·378 per cent.

8. Attitude of the Public.—In the months preceding the census, an intensive publicity campaign was organized in the State inviting people to co-operate fully with the authorities in making the First Census of Free India a success. Spontaneous co-operation from the people was forthcoming at this census in a greater measure than ever before.

9. Tabulation.—For the analysis of the statistics collected at the census, two tabulation offices were constituted, one at Nagpur and the other at Raipur. For purposes of tabulation every district was divided into rural and urban tracts, and the latter were grouped together so as to form a unit, called a sub-district, having a population of about three lakhs. Division of districts into sub-districts and tracts marks an important innovation in the tabulation procedure introduced at this census. A team consisting of one supervisor, two compiler-checkers and ten or fifteen sorters was responsible for performing the entire sorting and compilation operations for a sub-district. Thirty-five such teams operated in each tabulation office for varying periods. The staff in each office numbered well over 500 at one time. The compilation of the District Tables was taken in hand in July by a very much reduced staff and occupied about three months. The preparation of the last of the State Tables was, however, not completed till the end of March 1952, the compilation of the elaborate Economic, Language and Fertility Tables proving very tedious.

10. The Census Report.—The census report of Madhya Pradesh consists of two parts of which Part I is divided into two volumes Part I-A and Part I-B and Part II into four volumes, Part II-A to Part II-D. This volume, which has been called Part I-A, confines itself almost entirely to an analysis of certain statistics furnished by the census, an exposition of the significant changes during the past decades and interpretation of the statistics wherever possible. The statements made and conclusions drawn in this report are wholly the responsibility of the author alone in his personal capacity and do not necessarily represent the views of the Government. Part I-B contains the Subsidiary Tables, the Climatological Tables and the District Index of Non-Agricultural Occupations. Part II-A contains the General Population Tables and Summary Figures for Districts, Part II-B the Economic Tables, Part II-C the Household and Age (Sample) Tables and the Social and Cultural Tables and Part II-D the Maternity Tables. Besides these volumes, a District Census Handbook has been published for each of the twenty-two districts of the State. The Handbook, which replaces the 'Village Statistics' published at the previous censuses, contains all the District Tables, furnishing district data with break-up for census tracts within the district, the Primary Census Abstracts, the District Index of Non-Agricultural Occupations, the Census Abstracts of Small-scale Industries, a table showing classification of agricultural holdings in the district according to their size and a calendar of important events of the district. The Administration Report in two parts, which is for departmental use only, contains a review of the progress of the operations from the administrative point of view.

11. The most important changes made in the census tabulation of 1951 have been the substitution of an economic classification for that based on religion, the presentation of census data by rural and urban areas, a complete change in the mode of tabulation of economic data, and preparation of the Age Tables on a 10 per cent sample basis, the age returns being printed as returned, without the application of a smoothing formula. The form and content of the Occupation or Means of Livelihood Tables of past censuses have been recast completely and three Economic Tables, namely B-I (livelihood Classes and Sub-Classes), B-II (Secondary Means of Livelihood) and B-III (Employers, Employees and Independent workers by Industries and Services, Divisions and Sub-Divisions) have been compiled in place of them. The Tables C-I (Household, Size and Composition), C-II (Livelihood Classes by Age Groups), C-V (Single Year age returns), D-V (Displaced Persons), D-VI (Non-Indian Nationals) and D-VII (Livelihood Classes by Educational Standards) have been prepared for the first time at this census. The elaborate race-caste-tribe data found in the reports of 1931 and prior censuses have not been published this time, although separate figures for Scheduled Castes, Scheduled Tribes and Anglo-Indians have been compiled and published. The data furnished by the other Tables compiled at this census are generally available in the reports of the previous censuses.

12. The late Shri Kerawalla had almost completed the census work of the State. The work left to me consisted of writing the two Chapters on 'Literacy' and 'Language' and a note on fertility data included as Appendix 'V' in this volume, and introductory Chapters to Volume II-C, containing the Household and Age (Sample) Tables and the Social and Cultural Tables, and Volume II-D, containing the Maternity Tables, and the second part of the Administration Report, as well as giving finishing touches to the other publications of the State.

13. **Cost.**—A few words may be added regarding the cost of the census operations. At the time of writing the accounts have not been finally closed, but the outstanding items (of which the most important is the cost of printing the report) are few and can be estimated with reasonable accuracy. The gross expenditure incurred by Government will, when the last bill has been paid, amount to approximately Rs. 7,54,370. Certain recoveries from local bodies and receipts from the sale of furniture, waste paper and the like would reduce the net cost to about Rs. 7,04,270, that is nearly 6 pies per head of the population. The corresponding figure was 3 pies in 1931 when the cost of living was immensely lower than that at present. Only by the exercise of the most rigid economy from the very beginning has the expenditure been kept at such a low level, notwithstanding the steep increase in prices and the more elaborate nature of the tabulation undertaken at this census.

14. **Acknowledgements.**—It remains to convey my acknowledgements to those—and they are many—without whose assistance and co-operation this report could not have been written. So long as the census is run on its present lines, the first and greatest debt of thanks will always be due to the great multitude of enumerators and other grades of census officers, of whose names there is no printed record and who at best can generally look only for a printed certificate as the reward of their labours. A large share of the credit for the success of the census, undoubtedly, goes to the district officials who, at a time of particular stress, when scarcity conditions in several districts required their constant care and attention, cheerfully undertook the heavy burden of work thrown on their shoulders by the organization of the census.

It is difficult for me to express sufficiently my deep personal gratitude to Shri J. B. Bowman, I.C.S., Superintendent of Census Operations for Bombay, Saurashtra and Kutch, who very kindly read through this volume and helped to enrich it with his exceedingly valuable suggestions at a time when his own preoccupations were most pressing. To the officers of the State Government who kindly recorded notes which have added greatly to the store of general information on various topics in the Appendices to this volume, I am grateful.

I am deeply sensible of my very special obligation to Shri V. K. Aiyar, Superintendent, Shri G. N. Parthasarathi, Deputy Superintendent, Shri J. K. Abhyankar, Assistant Superintendent and Shri B. K. Rao, Junior Assistant Superintendent of the Madhya Pradesh Government Press. With the exception of a few District Census Handbooks, the numerous census forms, pamphlets and booklets—some of them in three languages—and the Administration Report and the Census Report of the State were all printed by the Government Press, Nagpur, most expeditiously. The quality of the production speaks for itself. Even at the best of times the Press is hard put to it to execute this type of work in such a way as to enable the programme to be carried through without hitch. But for the unbounded energy and resourcefulness of Shri Aiyar and his able assistants, Shri Parthasarathi, Shri Abhyankar and Shri B. K. Rao, the census operations in the State could not have progressed so smoothly.

Shri Ramhridaya Tiwari and I held charge of the Tabulation Offices at Nagpur and Raipur, respectively. Shri Tiwari, a Superintendent of the Madhya Pradesh Secretariat, joined the Census Department as Office Superintendent in February 1950 and was promoted to gazetted rank as Deputy Census Superintendent in 1951. He managed with great success the difficult task of exacting the maximum of work with the minimum of friction and discontent from a large staff of temporary workers, not readily amenable to discipline. In November 1949 when I was an Extra-Assistant Commissioner in Hoshangabad district, I was deputed by the State Government to attend a course on censuses and statistics in the International Training Centre on Censuses and Statistics for South East Asia and Oceania organized by the United Nations. The course was held at New Delhi and Calcutta. I joined as Assistant to the late Shri Kerawalla in April 1950. The energy and industry of the Technical Assistants of the two Tabulation Offices, Shri S. D. Verma and Shri S. P. Singh, the former a Naib-Tahsildar and the latter an Assistant Superintendent of the District Office, cannot be praised too highly. The administrative office under the Office Superintendent, Shri A. K. Dutta, who has proved himself a most capable Superintendent in more than one District Office, also worked very well. He and the other members of the ministerial staff were consistently diligent in the performance of their duties and contributed materially to the success of the census operations.

Lastly, before closing this introduction I must express my deep sense of gratitude to Shri R. A. Gopaldaswami, I.C.S., Registrar General, India, and to Shri K. B. L. Seth, I.C.S., Chief Secretary to the Government, Madhya Pradesh, for their very kind help and guidance in all my difficulties.

CONTENTS

PARA- GRAPH	PAGES
Population Map of Madhya Pradesh	<i>Frontispiece</i>
Introduction	i—vi

CHAPTER I.—GENERAL POPULATION

Section I—Preliminary Remarks

1 Brief Description of the State and its Boundaries	1
2 Change in Area	1-2
4 Explanation about difference in areas	2
6 Political divisions and administrative set-up	2
7 The Janapada sabhas	2
8 The Gram panchayats	2
9 Judicial reforms	3
11 The Natural Divisions	3
15 Climate, Soil and Geology	4
16 Reference to Statistics	4

Section II.—General Distribution and Density

2 Distribution of population by tahsil density in Madhya Pradesh	6
3 Distribution of population by tahsil density in the Natural Divisions	6
5 Reasons for the variation of tahsil densities in the Natural Divisions	6
8 Relative density of the Natural Divisions and Sub-Divisions	6
9 The East Madhya Pradesh Division	7
10 The sparsely populated Bastar and Surguja districts	7
11 The Raigarh district	7
12 The Durg district	7
13 The Bilaspur district	7
14 The Raipur district	7
15 Conclusions about the population distribution in the East Madhya Pradesh Division	7-8
17 The North-West Madhya Pradesh Division	8
18 The Jabalpur district	8

PARA- GRAPH	PAGES
19 The Nimar district	8
20 The Plateau	8
21 Conclusions about the population distribution in the North-West Madhya Pradesh Division	8
22 The South-West Madhya Pradesh division	8
23 The Nagpur District.. .. .	8
24 The Berar	3
25 Conclusions about distribution of population in the South-West Madhya Pradesh Division ..	9
26 The most thickly populated areas of the State	9
29 Density of Madhya Pradesh compared with other places	9
30 High densities in the Asian countries and the uneven distribution of population	9-10

Section III.—Growth

2 History of Growth	11
3 The mean decennial growth rate	11-13
8 The last decade	13-14
15 Comparative study of growth rates	14
17 The fallacy of comparing European growth with ours	14-15
20 The mean decennial growth rate of the adjoining States and territories	15
22 Study of growth rates in the Natural Divisions of Madhya Pradesh	16
30 Growth rates in the districts of the North-West Madhya Pradesh Division	16
31 Exceptionally low growth rate of the Hoshangabad district	16-17
32 Principal causes of low growth rate in Hoshangabad	17
33 Effect of the influenza epidemic on the growth rate in the Hoshangabad district	17-18
34 Pressure on agriculture in Hoshangabad confirmed by low percentage of earning dependants amongst agricultural classes.	18
35 Nature of industries in the Hoshangabad district	18
36 Balance of population in the Hoshangabad district	18
38 The unhealthy Nerbudda Valley and the low growth rate of Hoshangabad	19
40 The Sagar district	19
42 The Jabalpur district	19
43 The Nimar district	19-20
45 The Plateau Sub-Division	20
46 Districts of the East Madhya Pradesh Division	20
47 The backward districts of the East Madhya Pradesh Division	20
49 Districts of the South-West Madhya Pradesh Division	21
52 Conclusion	21

Section IV.—Movement

1 The unchanging migration pattern.. .. .	22
3 Emigration of the Anglo-Indians	22
4 The Home Keeping Habit	22
5 Persons of foreign birth	23
7 Different types of migration	23-24

PARA- GRAPH	PAGES
9 Inter-district and inter-State migration	24-25
18 Comparative study of immigrants into the different parts of the State	25-26
21 Migration problem of the Hoshangabad district	26
23 Migration problem of the South-West Madhya Pradesh Division further considered	27
25 Reasons for emigration from the South-West Madhya Pradesh Division	27-28
27 Emigration into Hyderabad	28
30 The exceptional immigration into the Nagpur District	28-29
31 Migration into the backward parts of the State	29
32 The Bastar district	29
34 The Surguja district	29
37 The Chanda district	30
40 The Mandla district	30
43 Border immigration	30
44 The Northern boundary	30-31
45 The South-West boundary	31
46 The South-East boundary	31
47 The Shift towards the West	31
48 Daily migration	31
50 Net migration	31-32
51 Conclusion	32

Section V.—Natural Increase, Births and Deaths

2 Registration of births and deaths	33
3 The birth rate	33
5 Contradictory nature of birth and growth rates	33-34
8 Trend of birth rates in the districts	34
9 The net result of changes in the birth rates	34
10 Causes of variation in the birth rate	34
11 Effect of famines and pestilence on the age-structure and the birth rate	35
12 The Famines of 1897 and 1900	35
15 The Great Influenza Epidemic	35-36
16 Effects of the Influenza epidemic	36
17 The period of recovery	36
18 The age-structure during the last five decades	36-37
20 Fall in birth rate of State explained with reference to the history of famines and pestilence.	37
23 Fall in birth rate of Natural Divisions explained with reference to the history of famines and pestilence.	37-38
27 Fall in the birth rates explained with reference to the number of married persons in the population.	38
28 Effect of death rates specific on the birth rates	38
29 Probable trend of birth rate during the decade 1951—60	38-39
37 The mean age	39-40

PARA- GRAPH	PAGES
38 The death rates	40
40 Reasons for fall in the death rate	40-41
45 History of crude death rates in the State	41
47 Trend of death rates in the Natural Divisions	41-42
49 Causes of high death rates in the State	42
50 Malaria	42-44
60 Control of epidemics.. .. .	44-45
70 Small-pox	45
72 Plague	45-46
75 Epidemic and Travelling Dispensaries	46
76 Tuberculosis	46-47
81 New diseases	47
82 The Vital Resources of the people	47
83 The future death	47-48
84 The natural increase and the migration-cum-registration error	48
86 Significance of the natural increase.. .. .	48
87 The registration error	48-49
89 Growth rate in the State compared with the growth rate in the area under registration	49
91 The growth of population in the area under registration.. .. .	49-50
99 The migration-cum-registration error for the natural divisions	50
100 Significance of negative migration-cum-registration error as given in Subsidiary Table 1-3	50

Section VI.—Livelihood Pattern

2 Importance of Definitions of Terms used	51
3 Accuracy of economic data	51-52
5 The Livelihood classes	52
6 Distribution of population according to livelihood classes	52
7 Position of malguzars and zamindars	53
8 The non-agricultural classes	53
9 Low percentage of people under transport	53
10 The livelihood pattern of the general population in the three Natural Divisions	53
11 High percentage of agricultural labourers in the South-West Madhya Pradesh Division	53-54
13 Reasons for the large number of agricultural labourers in the South-West Madhya Pradesh Division.	54
15 Distribution by livelihood classes in Natural Divisions further considered	54
16 Miscellaneous sources	54
17 Commerce	54-55
18 Transport	55
19 Cultivators of unowned land	55
21 Comparison of economic data collected at different Censuses	55-56
26 Fluctuations in the agricultural livelihood classes	56-57
27 Livelihood pattern of Madhya Pradesh compared with other States of India	57

PARA-
GRAPH

PAGES

Section VII.—Concluding Remarks

1	General distribution and density	58
2	The growth rate	58
3	Trend of future birth rate	58
4	Factors likely to affect the trend of future birth rates—Family planning	58—60
16	Effect of industrialization on the future birth rate	61
18	The future death rate	61-62
23	Economically desirable population	62-63
26	Implications of growing population	63
28	Emigration and the population problem	64
32	Conclusions	64-65

CHAPTER II.—RURAL POPULATION**Section I.—Preliminary Remarks**

1	Utility of rural and urban statistics	67
3	Definition of "Rural" and "Urban" areas	67
4	Rural historical back-ground	67-68
6	Definition of town	68
7	Reference to statistics	68-69

Section II.—General Distribution and Distribution amongst Villages classified by Size of Rural Population

2	Number of villages and average population	70
3	Distribution of population by size of villages	70
5	Comparison of rural/urban characteristics in other States	71
6	The pace of urbanization	71-72
10	Distribution of rural population in the Natural Divisions	72
11	Typical distribution of population in the Bilaspur district	72
12	Distribution of population in the Amravati district	72
13	The density of rural population	72
14	High density rural areas in the East Madhya Pradesh Division	72-73
17	Uniform rural density areas	73

Section III.—Growth of Rural Population

3	The growth rates of the rural population in the Natural Divisions	74
4	The North-West Madhya Pradesh Division	75
6	The East Madhya Pradesh Division	75
8	The South-West Madhya Pradesh Division	75

Section IV.—Movement

1	Immigration	76-77
3	Immigration into the Natural Divisions	76
8	Emigration from the rural areas	77-78
12	Emigration from the rural areas of the Natural Divisions	78-79
15	Emigration into other States	79

PARA- GRAPH	PAGES
Section V.—Natural Increase, Births and Deaths	
1 The birth rates	80
3 Birth rates in the Natural Divisions	80-81
8 Conclusions about birth rates	81
9 The death rates	81-82
17 Conclusions about death rates	82
18 The Natural increase of population in the rural areas of Madhya Pradesh	82
19 Significance of the natural increase.. .. .	82
Section VI.—Livelihood Pattern	
6 The Natural Divisions	83-84
9 The Non-Agricultural classes	84
10 High percentage of people belonging to Livelihood Class V (Production other than cultivation) in rural areas explained.	84
12 Examination of individual districts with high percentage of people in Livelihood Class V (Production other than cultivation).	84
13 The Jabalpur district	84-85
16 The Hoshangabad district	85
20 The Chanda district	85-86
21 The Bhandara district	86
22 The Nagpur district	86-87
27 The Chhindwara district	87
28 Commercial activities in the rural areas of the Natural Divisions	87-88
29 Transport activities	88
32 Other services and miscellaneous sources	88-89
Section VII.—Concluding Remarks	
1 Distribution of rural population	90
2 Growth of rural population	90
4 Future growth of the rural population	90
5 The economic outlook	90-91
10 Conclusion	91
CHAPTER III.—URBAN POPULATION	
Section I.—Preliminary Remarks	
93-94	
Section II.—General Distribution and Distribution among Towns classified by Size of Urban Population	
3 Urban density	95
4 Measures for preventing congestion	95-96
7 Distribution of urban population among towns classified by size of urban population	96
8 Towns with population below 5,000	96
11 Distribution of urban population in the Natural Divisions and Districts	96

PARA- GRAPH	PAGES
12 North-West Madhya Pradesh Division	96-97
15 The East Madhya Pradesh Division	97
17 The South-West Madhya Pradesh Division	97-98
Section III.—Growth	
2 The mean decennial growth rates	99
4 Growth of towns of different classes	99
6 The growth of individual towns and cities	99-100
7 The North-West Madhya Pradesh Division	100
12 The East Madhya Pradesh Division	100-101
13 The South-West Madhya Pradesh Division	101-102
19 The Nagpur Air Port	102
20 The working population of Nagpur	102
21 Growth of Amravati town	102-103
23 Growth of Akola town	103
Section IV.—Movement	
2 Analysis of the immigrants into the urban parts of the State and the Natural Divisions	104
5 Large number of migrants in the South-West Madhya Pradesh Division	104
6 Migration from rural to urban areas and the nature of urban immigration	105
10 Emigration from the urban areas	105-106
13 Industrialisation failing to keep pace with growth of urban population in certain areas	106
Section V.—Natural Increase, Births and Deaths	
1 The birth rates	107
3 Lower birth rates in urban areas	107
4 Causes of lower birth rate in the urban areas	107-108
8 Family planning	108-109
10 Variation in birth rates	109
11 Birth rates in the districts	109
14 The death rates	109
17 Causes of fall in the urban death rates	110
21 The natural increase of population in the urban areas of Madhya Pradesh	110
22 Significance of the natural increase	110-111
Section VI.—Livelihood Pattern	
2 The Agricultural classes	112
3 The agricultural labourers in urban areas	112
4 The owner cultivators in urban areas	112
6 The non-cultivating owners of land	112
7 The non-agricultural classes	113
8 People engaged in production other than cultivation	113
9 The commercial classes	113
10 Transport	113
11 Other services and miscellaneous sources	114
13 Urbanization and development of industries and services	114-115

PARA- GRAPH	PAGES
Section VII.—Concluding Remarks	
1 Distribution of population	116
3 The urgent need of controlled development	116
5 The birth rate	116
6 Effect of birth control propaganda in urban areas	116-117
7 The death rates	117
8 Migration from villages	117
9 Communications between urban and rural areas	117
10 The economic outlook	117-118
CHAPTER IV.—AGRICULTURAL CLASSES	
Section I.—Preliminary Remarks	
3 The classification of agricultural classes	119
4 Comparison with 1931 classification	119-120
8 Reference to statistics	120
10 The Subsidiary Tables	120-121
17 Reliability of the statistics reviewed	121
18 Maintenance of the Land Records and their reliability	121
Section II.—Agricultural Population supporting Persons and Dependants ; Secondary Means of Livelihood of Agricultural Classes	
1 Proportion of agricultural classes	122
4 Dependency amongst agricultural classes	122
5 Dependency in the Natural Divisions and in the Hoshangabad district	122-124
9 Secondary means of livelihood of agricultural classes	124-125
15 Secondary means of livelihood of the working agricultural population	125-126
Section III.—Relative Proportion of Different Agricultural Classes Correlated to Distribution of Land in Agricultural Holdings of Different Sizes	
1 Relative proportion of different agricultural classes	127
4 The cultivators of unowned land	127
6 Distribution of Agricultural Holdings by size	127-128
8 The median size holdings	128-130
17 The greatest of our agricultural problems	130
20 The remedy	130-131
Section IV.—Cultivators of Land Wholly or Mainly owned and their Dependants	
2 The workers and dependants	132
3 Definition of earning dependants	132
6 Secondary means of livelihood	132-133
8 Almost complete dependence on agriculture	133
9 Sources of secondary income	133

PARA- GRAPH	PAGES
Section V.—Cultivators of Land Wholly or Mainly unowned and their Dependants	
2 Workers and Dependants	134
4 Secondary source of income	134
Section VI.—Cultivating Labourers and their Dependants	
2 Workers and dependants	135
6 Shortage of agricultural labour	135-136
7 Working conditions of agricultural labourers	136
8 Secondary means of livelihood	136
Section VII.—Non-cultivating Owners of cultivable Land; Agricultural Rent Receivers; and their Dependants	
2 Workers and dependants	137
5 Secondary means of livelihood	137-138
6 The status of the non-cultivating owners of land	138-139
Section VIII.—Active and Semi-Active Workers in Cultivation	
4 Total number of effective active workers in agriculture	140-141
7 Efforts of effective workers in agriculture in different parts compared with export and import of foodgrains from these parts.	141
Section IX.—Progress of Cultivation Correlated to Growth of General Population	
3 Water scarcity in Berar	142-144
12 Grain yield rate and presence of cotton	144-145
13 Scope of irrigation in Chhattisgarh Plain	145
15 Irrigation in the North-West Madhya Pradesh Division	145-146
16 The double cropped area	146
18 Average net area sown	146-147
22 Variation in area and production of the principal crops in the State	147-150
23 Rate of increase of cultivation outstripped by the rate of growth of population	150-152
31 Pressure of population since 1921	152
32 The yield rate	152-154
39 The grain production capacity of cultivation <i>per capita</i>	154-155
44 Effect of the fall in the grain production capacity <i>per capita</i>	155-157
54 Requirements of cereals for Madhya Pradesh on the basis of the 1951 population	157-161
72 Conclusions	161
Section X.—Concluding Remarks	
1 Abnormal dependence on agriculture	162
5 The surplus agricultural population	162-164
10 Occupational distribution in 1866	164-165
12 Distribution amongst livelihood classes and the uneconomic holdings	165

PARA- GRAPH	PAGES
13 Dependency	165
14 Progress of cultivation	165-166
20 The grain production capacity <i>per capita</i>	166
21 The gravity of the situation '	166-167
23 The future outlook	167-168
24 Intensive cultivation	168
27 Protective foods	168-169
28 The need of controlling population growth	169
CHAPTER V.—NON-AGRICULTURAL CLASSES	
Section I.—Preliminary Remarks	
2 Reference to statistics	171
8 Reliability of the data	171
9 Comparability of the statistics with those of the previous censuses	171
Section II.—Non-agricultural Population Ratios, Self-supporting Persons and Dependants ; Secondary Means of Livelihood of Non-agricultural Classes	
3 Ratios in the Natural Divisions	172
4 Dependency	172
5 Dependency in the Natural Divisions	173
6 Dependency in urban and rural areas	173
8 Distribution in livelihood classes	173
10 Distribution by livelihood classes in Natural Divisions	174
13 Distribution of non-agricultural classes into Livelihood Classes V to VIII in rural and urban areas.	174
14 Distribution in rural areas in Livelihood Class V.. .. .	174-175
17 Distribution in Livelihood Class VIII in rural areas	175
18 Distribution in Livelihood Class VI (Commerce) and VII (Transport) in rural areas	175
20 Distribution of people of Livelihood Class V (Production other than cultivation) in urban areas	175-176
22 Distribution in the urban areas under Livelihood Class VI	176
27 Distribution in Livelihood Classes VII and VIII in urban areas	176
28 Livelihood Class V (Production other than cultivation)—Economic Analysis—Dependency..	176-177
29 Dependency in the North-West Madhya Pradesh Division in Livelihood Class V	177
30 Dependency in the South-West Madhya Pradesh Division in Livelihood Class V compared with other Divisions.	177
32 Secondary means of livelihood of people belonging to Non-agricultural Class V	178-179
37 Livelihood Class VI—Economic Analysis—Dependency	179-180
41 Secondary means of livelihood of people of Class VI	180-181
45 Livelihood Class VII—Economic analysis	181
46 Dependency	181-182
48 Secondary means of livelihood of people of Class VII—(Transport)	182
50 Livelihood Class VIII—(Other services and miscellaneous sources)—Economic analysis—Dependency.	182-183
54 Secondary means of livelihood of people of livelihood Class VIII (other services and miscellaneous sources).	183-184

PARA-
GRAPH

PAGES

Section III.—Employers, Employees and Independent Workers ; and Employment in Factories and Small Scale Industries

3	Proportion of employers, employees and independent workers amongst the non-agricultural classes in general.	185
4	Approximate distribution of 10,000 persons of all non-agricultural classes amongst employers, employees and independent workers and others in Madhya Pradesh.	185
6	Examination of the ratio of independent workers and employees	185
7	The unproductive self-supporting persons	185-186
9	Employers, employees and independent workers in rural and urban areas	186-187
12	Employers, employees and independent workers in Livelihood Class V (Production other than cultivation).	187-188
16	Employers, employees and independent workers in Livelihood Class VI (Commerce).. ..	188-189
19	Employers, employees and independent workers in Livelihood Class VII (Transport).. ..	189
23	Employers, employees, independent workers and others in Livelihood Class VIII (other services and miscellaneous sources).	189-190

Section IV.—Primary Industries other than Cultivation, Mining and Quarrying

3	The dairy industry and the abnormally low production of milk.. .. .	191
4	Causes of poor milk yield	191-192
8	Forestry	192-193
9	Fishing	193
12	Chank Gathering	193
13	The lac industry	193-194
18	Sericulture	194-195
19	Poultry farming	195
20	Hunting and trapping	195
21	Plantation industries	195
22	The Nagpur oranges	195

Section V.—Mining and Quarrying

2	Coal	196
4	Manganese	196-197
9	Bauxite	197
10	Gold	197
11	Stone quarrying and clay pits	198
12	Iron	198

Section VI.—Processing and Manufacture—Foodstuffs, Textiles, Leather and Products thereof

2	Cotton textiles	199
3	Handloom-weaving	199
7	Tobacco	200
8	Wearing apparel	200
9	Leather	200

III—A

PARA- GRAPH		PAGES
12	Foodstuffs	200
13	Vegetable oil, etc.	200-201
16	Sugar and beverages	201-202
Section VII.—Processing and Manufacture—Metals, Chemicals, and Products thereof		
2	Metal products—Unclassified	203
3	Manufacture of iron and steel	203
5	Manufacture of non-ferrous metals	203
6	Transport equipment	203
7	Electrical machinery	203
8	Engineering workshops, etc.	203-204
9	Manufacture of fire-works, etc.	204
12	Medical preparations	204
13	Manufacture of other chemical products	204-205
Section VIII.—Processing and Manufacture—Not specified elsewhere		
2	Unclassified manufacturing industries	206
3	Products of petroleum and coal	206
4	Clay products	206
5	Cement products	206
6	Non-metallic mineral products	206
7	Rubber products	206
8	Wood and wood-products	206
9	Furniture, etc.	207
10	Paper and paper products	227
12	Printing	207
Section IX.—Construction and Utilities		
2	Construction of roads, etc.	208
3	Sanitary works	208
4	Electric power, etc.	208
5	Water supply, etc.	208
7	Field embankments, etc.	208
8	Telegraph and Telephones	208
Section X.—Commerce		
2	Retail trade in food-stuffs	209
3	Hawkers, vendors, etc.	209
4	Retail trade in textiles and leather goods	209
5	Money-lending, banking, etc.	209
6	Retail trade in fuel	209
7	Wholesale trade in foodstuffs	209-210

PARA- GRAPH	PAGES
8 Other wholesale trade	210
9 Insurance	210
10 Real estate	210
Section XI.—Transport, Storage and Communications	
2 Railway transport	211
4 Transport by road	211-212
13 Postal services	213
14 Telegraph, Telephone and Wireless services	213
15 Unclassified transport services	213
Section XII.—Health, Education and Public Administration	
2 Education services, etc.	214
4 Village servants, etc.	214
5 Employees of Union Government	214
6 Municipal employees, etc.	214
Section XIII.—Services not elsewhere specified and Miscellaneous	
Means of Livelihood	
2 Domestic services	215
3 Barbers and beauty shops	215
4 Laundry services	215
5 Hotels, etc.	215
6 Other services	215
Section XIV.—Concluding Remarks	
1 The proportion of non-agricultural population	216
2 Dependency amongst non-agricultural classes	216
3 Employers, employees and independent workers	216
4 Proportion in different industries	216
5 Processing and manufacture of foodstuffs, textiles, leather and products thereof	216
6 Primary industries not elsewhere specified	216-217
7 Mining and quarrying	217
8 Processing and manufacture of metals, chemicals and products thereof	217
9 Processing and manufacture not elsewhere specified	217
10 Distribution of self-supporting persons in other divisions of non-agricultural classes—	217
Commerce	217
Transport	217
Storage and communications	217
Other services and miscellaneous sources	218
14 Division 5 (Construction and utilities)	218
15 Division 8 (Health, Education and Public services)	218
16 Division 9 (Services not elsewhere specified)	218
17 Undeveloped nature of the State	218

PARA- GRAPH	PAGES
18 Causes of industrial under-development	218
19 The unbalanced economy and need of industrial development	218-219
21 Conclusion	219
 CHAPTER VI.—FAMILIES, SEXES AND PRINCIPAL AGE-GROUPS 	
Section I.—Preliminary Remarks	
2 The House and the Family	221
5 Definitions	221-222
6 Reference to Statistics	222
9 Comparability of the Statistics with those of the previous Censuses	222-223
 Section II.—Territorial Distribution of Houses and Households 	
1 Reduction in overall congestion in the State and Natural Divisions	224
2 Increase in the number of houses	224
3 Congestion in urban areas	224
5 Congestion in the cities	224
7 Housing accommodation in other towns	224
8 Households	224-225
9 Validity of the sample data	225
 Section III.—Size and Composition of Family Households 	
1 Predominance of small and medium size family in urban areas	226
2 Size of families in the rural areas	226
5 Size of family in urban areas of Natural Divisions	226
6 Conclusions	226
7 Composition of families	227
8 Family composition in the Natural Divisions	227
 Section IV.—Sex Ratios 	
1 The diminishing female ratio in the State as a whole	228
3 The sex ratio in the urban areas	228
4 Sex Ratio in the rural areas	228
5 Reasons for the unusual behaviour of the sex ratio in the Nerbudda Valley	229
7 Sex Ratio in the Nagpur District	229
8 Sex Ratio correlated to economic activities	229-230
11 Sex Ratio in the agricultural livelihood classes	230-231
14 Sex Ratio in the non-agricultural livelihood classes	231-232
18 Conclusions	232
21 Sex Ratio in livelihood classes connected with existence of particular industries	232
23 The falling female proportion in the State and the different theories to explain it	223-234

PARA-
GRAPH

PAGES

Section V.—Marital Status Ratio

3	Effect of the Marriage Legislation and the influenza epidemic	236
5	Distribution in the Natural Divisions	236-237
7	Age distribution of married persons	237-239
12	The fertile age-groups	239

Section VI.—Infants (aged 'O')

4	Proportion of Infants in the Rural and Urban and Agricultural and Non-Agricultural Classes..	240
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Section VII.—Young Children (aged 1—4)

1	Distribution of Young Children'	241
3	Young children in the Rural and Urban areas and amongst the Agricultural and Non-Agricultural Population.	241
4	Excess of male children over female ones.. .. .	241

Section VIII.—Boys and Girls (aged 5—14)

1	Distribution of boys and girls	242
4	Larger proportion of boys over girls	242

Section IX.—Young Men and Women (aged 15—34)

1	Distribution of young men and women	243
2	The male female ratio amongst young men and women	243

Section X.—Middle-aged Persons (aged 35—54)

1	Distribution of middle-aged persons	244
3	Excess of males over females in the middle-aged group	244

Section XI.—Elderly Persons (aged 55 and over)

1	Distribution of elderly persons	245
4	The male female ratio amongst the elderly people	245

Section XII.—Concluding Remarks

1	Housing accommodation	246
2	The size of family	246
3	The age structure	246
4	The probable future population trends	246-247
6	Conclusion	247

PARA- GRAPH	PAGES
CHAPTER VII.—LITERACY	
Section I.—Preliminary Remarks	
1 Reference to Statistics	249
Section II.—Progress of Literacy	
1 Early Definitions of Literacy	250
2 Comparison of Statistics of Literacy at the previous Censuses	250
4 Progress of Literacy during 1941—51	250—253
13 Progress of Literacy judged from Scholars in Primary Schools	253-254
Section III.—Literacy by Livelihood Classes and Educational Standards	
3 Distribution of Literacy in different parts of the State	255
4 Distribution in the Natural Divisions	255-256
11 Distribution in Rural and Urban areas	256-257
16 Literacy in the Rural/Urban areas of the Natural Divisions	257-258
18 Literacy by Livelihood Classes	258-259
20 Livelihood Class I—Cultivators of Land wholly or mainly owned and their dependants	259
21 Livelihood Class II—Cultivators of Land wholly or mainly unowned and their dependants	259
22 Livelihood Class III—Cultivating Labourers and their dependants	259-260
23 Livelihood Class IV.—Non-cultivating owners of Land ; Agricultural rent receivers and their dependants.	260
24 Livelihood Class V—Production other than cultivation	260
25 Livelihood Class VI—Commerce	260-261
26 Livelihood Class VII—Transport	261
27 Livelihood Class VIII—Other Services and Miscellaneous Sources	261
Section IV.—Educational Services and Research	
2 Comparability with the Data of the past Censuses	262
5 Distribution of Persons engaged in Educational Services in different parts of the State	262-263
8 Rural/Urban Distribution	263-264
10 Distribution of School Masters, etc.	264
11 Distribution of Professors, Lecturers, etc.	264-265
12 Distribution of Managers, Clerks, Servants, etc., of Educational Institutions	265
13 Comparison with Past Censuses	265-266
16 Comparison in regard to Professors, Lecturers, School Masters, etc.	266-267
18 Comparison in regard to Managers, Clerks, servants, etc., of Educational Institutions	267-268
20 Conclusion	268
21 Comparative Statistics of the Education Department	268-269
Section V.—Concluding Remarks	
2 The Geographic Distribution of Literacy	270
3 Rural-Urban Literacy	270-271
4 Sex Inequality in Education	271
5 Conclusion	271

PARA-
GRAPH

PAGES

CHAPTER VIII.—LANGUAGE

Section I.—Preliminary Remarks

1	Reference to Statistics	273
2	Accuracy of the Language Tables	273
3	Statistics of the Past Censuses	273

Section II.—Mother-tongue

1	Distribution of Population among speakers of different languages	274
2	Variation in the proportion of Speakers of the different languages from Census to Census ..	274—277
20	Linguistic Homogeneity	277

Section III.—Bilingualism 278—280

Section IV.—Concluding Remarks 281

APPENDICES

Appendices A to V	283—430
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APPENDICES

APPENDIX	PAGES
A Speech of the Late Honourable Sardar Vallabh Bhai Patel, Deputy Prime Minister of India	285-287
B The Janapada Sabhas—A Note on—By Shri R. D. Beohar, I.A.S., Secretary to Government, Madhya Pradesh, Local Self-Government (Janapada) Department.	288-290
C Part I.—Climatological, Geological and Soil Classification Summary of the Natural Divisions of Madhya Pradesh.	291-298
Part II.—A Brief Report on the Progress of Geological Survey of India, in Madhya Pradesh (1942—51).	298-300
D Census Tabulation.—Forms and Procedure—Registrar General's Memorandum No. 693-50-R.G. of 2nd July 1950.	301-304
E Net Migration.	305-306
✓ Anti-Malaria Work—A Note on—By Dr. T. D. Shahani, F.R.C.S., Director of Health Services, Madhya Pradesh.	307
G Labour Conditions in Madhya Pradesh.—A Note on—By Shri P. K. Sen, B.Sc., Labour Commissioner, Madhya Pradesh.	308-312
H. Part I.—Progress of Agriculture in Madhya Pradesh, Monograph prepared by Shri S. P. Mushran, I.A.S., Secretary to the Government, Madhya Pradesh, in the Agriculture Department, Nagpur.	313-332
Part II.—Consolidation of Holdings—A Note prepared by Shri S. M. Seth, I.A.S., Director of Land Records, Madhya Pradesh, Nagpur.	332-335
Part III.—Net Consumption of Grains in Madhya Pradesh excluding Integrated States—A Note prepared by Shri P. B. Dixit, Officer on Special Duty, Survey Reports, Department of Agriculture, Nagpur.	335-338
✓ Distress caused in Madhya Pradesh by Wars, Famines, Scarcities, and Pestilance in the Past.	339-348
J Grain Production Capacity <i>per capita</i> (Method of Calculation).	349-350
K Dairy Units in Big Towns—A Note on—By Shri M. Y. Mangrulkar, M.Sc., M.R.C.V.S., D.T.V.M., Director of Veterinary Services, Madhya Pradesh.	351-352
L Poultry Development—A Note on—By Shri M. Y. Mangrulkar, M.Sc., M.R.C.V.S., D.T.V.M., Director of Veterinary Services, Madhya Pradesh.	353-354

APPENDIX	PAGES
M Part I.—Industrial Development of Madhya Pradesh—Article one—contributed by the Secretary to Government of Madhya Pradesh in the Commerce and Industry Department (1940—50)	355-359
Part II.—Development of Electricity in Madhya Pradesh—A Note on—By Lt.-Col. E. G. Mackie, M.A., I.E.E., M.I.M.E., A.I.E.E., Chief Engineer and General Manager, Electricity Department, Nagpur.	359-362
N The Activities of the Public Health Engineering Department—A Note on—By Shri Purtej Singh, Public Health Engineer, Madhya Pradesh.	363-364
O Vital Statistics in Madhya Pradesh—A Note on	365-370
P Articles on the Census Economic Enquiry by Shri V. S. Krishnan, Deputy Secretary to Government of Madhya Pradesh in the Publicity Department.—	
I.—Scope of the Enquiry	371-372
II.—Economic Status	372-373
III.—Means of Livelihood	374-376
IV.—What the Census Data will reveal ?	376-377
Q Instructions regarding Sorting by Livelihood Classes.	378-383
R Verification of 1951 Census Count	384-388
Tables showing result of the Sample Verification Census	389-397
Annexure—Instructions about the Verification of the Census Count (Registrar General's Memorandum No. 2-26-51-R.G., dated the 31st March 1951).	398-401
S The Enumeration Procedure	402-403
T The National Register of Citizens	404-408
Annexure—Registrar General's Letter No. 290-50-R.G., dated the 11th April 1950, about preparing the National Register of Citizens and the purposes intended to be served.	409-410
U The Census Questionnaire—	
Section I.—List of Questions and Instructions	411-412
Section II.—Instructions to Enumerators—	
Part A.—General Instructions regarding Enumeration.	412-413
Part B.—Special Instructions to Enumerators regarding filling up the slip.	413-415
Section III.—Practical difficulties encountered and their solution—	
Part A.—Questions other than the Economic Questions.	415-417
Part B.—The Economic Questions.	417-421
Annexure I.—Population—Census 1951—Note distributed at the Press Conference held by the Honourable Pandit Dwarka Prasad Mishra, Home Minister to the Government of Madhya Pradesh, on the 12th December 1950.	422-424
Annexure II.—Press Report on the Talk on the Census Economic Enquiry—By Shri J. D. Kerawalla, I.A.S., Superintendent of Census Operations, Madhya Pradesh, at Raipur on 26th November 1950.	425-426
Annexure III.—Census Economic Data—Elucidation of—Census Questions Numbers 9 (1), 9 (2) and 10 (Registrar General's Letter No. 621-50-R.G. of 28th June 1950).	427-428
V Fertility Statistics in Madhya Pradesh—A Note on	429-430

APPENDICES

APPENDIX A

The Hon'ble Sardar Vallabh Bhai Patel's Address delivered during the Inauguration of the Provincial States Advisory Board on the 4th November 1948

I myself was looking for an opportunity to say a few words on the interesting and important subject of the States and as you will realise, such opportunities do not often recur. Few people in India can realise how this great change in the structure of the States has been brought about, why it was so sudden and how far it is opportune to appraise its benefits and disadvantages.

Let me first thank you for the address which you have presented and the kind terms in which you have spoken of, what you call, my achievements. I should like to explain to you how it was that the whole idea of integrating the States and bringing about their unification occurred to me. When I accepted the Home Membership of the Central Government, I had no idea that the work of the States Ministry would ever come to me or of the picture that it would assume.

Some time after my assumption of office, I received a report regarding the State of Bastar which has now merged in the Central Provinces. I was told that this State was full of resources vouchsafed to it by nature and it was merely a question of time that these resources could be turned to the service of the country. I was warned that these resources were going to be exploited to the prejudice of India and that all this wealth was to be mortgaged to Hyderabad State by means of a long lease. I was also informed that the Raja was a minor and a weakling and the Prime Minister, a foreigner. I immediately made enquiries of the Political Department who first tried to evade it, but eventually the papers came to me. Then I realised how far they had already gone and with what hurry they were trying to complete the whole deal. I told them that they could not barter away the interests of the people of the State in this way. The Political Department told me that they were the guardians of the minor and that they could enter into this contract in the interests of the minor. I told them that they were now going away and should not bother about their wards. Their guardianship would now devolve on us and they should do nothing without our agreement or which was contrary to the interests of the people. Before going they invested the Ruler with full authority. I then called him to Delhi along with his relative, the Maharaja of Mayurbhanj, who is an intelligent and clever person. But I found that his relative had little influence over him.

When I saw how young and inexperienced the Ruler was, I felt that it was a sin to make him sign such an agreement. It was then that I was made fully conscious of the extent to which our interests were being prejudiced in every way by the machinations of the Political Department and came to the conclusion that the sooner we were rid of these people, the better. Their main aim was to further their own interests and to cause as much damage to India as possible. I came to the conclusion that the best course was to drive out the foreigners even at the cost of the partition of the country. It was also then that I felt that there was only one way to make the country safe and strong and that was the unification of the rest of India. Even then, however, I was not quite sure how far my efforts would meet with a satisfactory response from the Princely Order.

As soon as my hands were free, I went to Orissa and called the Princes of the Eastern States together. I explained to them at length what my ideas were and how the solution that I had propounded, namely merger in the Province of Orissa, was both in the interests of themselves and the people. I told them also that there would be no compulsion and they must sign only after they were convinced of the rightness of their course. They should place their signature only when they understood the nature of the document. Some of them, the smaller States, agreed after a few hours of deliberation, but the bigger Rulers hesitated almost up to the end. I left Cuttack and was actually on the train preparing to leave for the aerodrome when I received a message from them that I should delay my departure for some time.

I could not do so indefinitely, but agreed to stay on for another hour. At the end of that hour, they had signed the agreement. Some people say that I compelled them to do it. This is all nonsense. The only compulsion that was exercised over them was that of events. I told them that speed was most important and that the greater the delay, the more difficult would be the task of saving them should any trouble arise in their States in future.

From Orissa, I came to Nagpur. Here without any compulsion or inducement, I got the Rulers of Chhattisgarh States to sign the merger agreement in 24 hours. Here again, I explained the full implications of what my proposals were and how they affected them and their people. You can ask them for yourselves whether at all they signed under any compulsion.

These were the beginnings of the series of mergers and integrations which have subsequently taken place. But even these small beginnings were hailed by people in India and outside as a miracle. Whatever has since followed is due to the patriotism and wisdom of the Princes. I merely explained the significance of the schemes, which were unfolded to them from time to time. The Union of Saurashtra followed. Saurashtra contains more than half of the total number of Indian States. To unify such a large area of heterogeneous elements was undoubtedly a great achievement, but I got full support from the Princes, among them some from whom people had not expected any co-operation.

The Deccan States followed suit. They had already entered into arrangements for a separate existence on the basis of Responsible Government to their people. But they were also influenced by the decisions which we took in Cuttack and Nagpur. Some young Rulers amongst them came to me and told me that they wanted to merge. I was pleased to see their desire to seek closer association with the Province of Bombay, but they were doubtful whether other Rulers would agree in view of the settlement which had been reached with the local Prajamandal. I told them this would not be a difficulty. After all, Responsible Government for such small units was an impossibility. The Central Government would have to intervene in an emergency. If they came into conflict with the people or if the people themselves were faced with difficulties, the Central Government could not come to their rescue until they entered into an understanding with the Central Government right then. A deputation of all the Rulers met me in Bombay and I explained this aspect of the matter. The people also agreed. Thereby we achieved the merger of these Deccan States into Bombay. The Gujarat Rulers followed suit.

As an illustration of how we managed to achieve all this without any show of force or compulsion I would give you one instance. When I went to Orissa, the Ruler of Mayurbhanj told me that he had granted full Responsible Government to his people and that he could not sign any document without their consent. I told him I fully understood that position and I could not compel either him or his people to come into the scheme of merger. But I warned him that some day or other, he would have to regret staying away from the merger scheme. The position in his State, however, developed in such a manner that he has not been able to visit it ever since he granted Responsible Government. He was thoroughly disgusted with the way matters shaped their course. He, as I had foretold, regretted that he had not come into the scheme. Now, not only he, but also his Prime Minister and the people realise that they should merge.

I should now like to congratulate the Rulers of these States and the Government of the Central Provinces and Berar for the excellent and amicable manner in which they have managed their affairs. Not one complaint has been received by me about any difficulties created by the Rulers or about any dissatisfaction with the manner in which the Rulers were being treated. You have seen how we have settled the question of other States and lastly Hyderabad itself, but I should like to say this, that this is not a real change.

It is a mere change in the map. The time for a correct appraisal of what has been achieved has not yet come. I have promised the Rulers that their prestige and position shall be maintained. We have also to see that a real change of heart is brought about among the people. Ultimately, the benefits of the change must be felt by the people before we can say that we have actually taken an advantageous step. They must taste the sweetness of the fruit, before we can congratulate ourselves. The people, the Rulers and the Province must all be thrilled by the gleam of a new life. Their blood, fresh and strong, must flow into the veins of the whole country. Then alone will the time come for receiving addresses and for congratulations.

The excellent way in which you have managed your affairs has come to my assistance in another manner. I used to quote your example of amicable settlement to others as an illustration of how a change could not only be brought about smoothly and with goodwill, but also how the new relationship could be worked with ease and mutual adjustments. It is only when the Rulers saw how finely matters were progressing here that they expressed their desire to merge with other Provinces. The secret of your success is the adroitness with which you adjusted Yourselves to the new relationship. The Advisory Board which I am inaugurating today is another step forward. I said to your Premier in the very beginning, and I have repeated that advice to other Premiers also, that we must take the people with us.

A democratic Government cannot be run on slogans alone. Democracy has to be cultivated and acquired. Autocracy is in a way easy and beneficent but then, if you do not take the people with you, you miss the very essential element of Government. It is our duty to ensure that the people derive the fullest benefits from Government activities. In your Province, there are many backward people. They have had no experience of modern amenities. Many foreigners are carrying on some work in their midst. It is hardly selfish, partly selfless; but we have been doing neither. I hope, therefore, that you will so conduct matters as to confer on the poorest of the land the full benefits of a modern administration and create in them a sense of confidence and security. You should also maintain the prestige and position of the Rulers. Those among them who possess talents and experience are being taken by us in service.

We ourselves do not have all the man-power we need. People are absorbed at present in small things. The secretaryships and other positions in the Congress organisation are the subject of agitated scrambles. We concentrate on these petty things forgetting the wider opportunities of service that are before us.

We have not sufficient men for our administration. You have only to prove your fitness and you can take part in full measure in the administration of the country. Where then is the need for a scramble for power? We should have strength of character, wisdom and prudence enough to utilise these opportunities and not waste our efforts in profitless and harmful enterprises for securing so-called seats of power. Later on we shall have ample opportunities to render service in the whole field of Asia. We should not let go all these opportunities of service by concentrating on non-essentials. I pray that your efforts in the interests of the welfare of the people whom you represent and who have been committed to your charge may bear fruit.

APPENDIX B

A Note on the Janapada Sabha Scheme by Shri R. D. Beohar, I.A.S., Secretary to Government, Madhya Pradesh, Local Self-Government (Janapada) Department

It is generally accepted that the aim of modern Government making is to reconcile local autonomy with Central control on the one hand, and officialism with popular control on the other. The full benefits of democratic Government cannot be realised unless problems which are not central in their incidence are decided at the place, and by the person, where and by whom the incidence is most deeply felt. As far back as 1907, the late Shri Gokhale had advocated decentralization in district administration. And the grounds on which he pressed his scheme then, have even greater force today. The State Governments cannot meet the requirements of far off districts and remoter villages. The need of associating the popular element with the district administration and of securing to it greater deconcentration of power is paramount. With a popular Government at the top it is impossible to rest content with a purely official Government in the districts. A popular Central Government cannot be successfully built up unless Local Government is also built up on democratic foundations. A Central Government remaining and operating from outside and not drawing its life and purpose from the local institutions of the people cannot hope to enlist their patriotism in its favour and its appeal to the people may not meet with adequate response in times of trial and difficulty. This is the reason why political thinkers have blessed schemes of decentralization which make the nation fitted for political duties and rights of citizenship in the town and village, in the district and State. The Janapada Scheme, which seeks to transfer power from officials to the people in the field of local administration marks a significant change in the system of local administration.

THE OLD SYSTEM

2. The administrative system prevailing in the districts of the Madhya Pradesh until the "Janapada" Act came into force might well be called a system of 'administrative dualism'. On the one side, there were district officials administering certain subjects on behalf of the State Government. On the other side, there were the local bodies administering certain specified subjects in the same local area. Similar independent departments were run in the district both by the Government and the local bodies, *e.g.*, the Public Works Department, Medical Department, Education Department, etc. Two different agencies thus functioned in the same area in relation to the same subject-matter, and there was neither oneness nor unity of purpose in the administration. This 'dualism' was wasteful and resulted in administrative inefficiency. There was no logical basis for this artificial division. It was true that the local bodies were entrusted with what were called "nation building" subjects, but they never had enough money to provide adequate services or facilities to the people. On the other hand, Government offices were primarily in charge of Law and Order and they could always command enough funds for carrying out their functions. The result of this policy was that although Law and Order was maintained, services intimately connected with the life of the people remained inadequate and undeveloped. The defects in the old system may be summed up as follows :—

- (1) Legislative and executive functions were concentrated in the same body.
- (2) Efficient and expert administrative staff was not available to the local bodies without an expenditure which was beyond their means.
- (3) The artificial orthodox division between subjects of general district administration and subjects of Local Self-Government—the one administered by the Government district staff and the other by the local bodies—did not evoke the interest or enthusiasm of the people.
- (4) The local bodies suffered from lack of adequate resources.
- (5) The franchise was limited.
- (6) The units of administration were too large to admit of intensive supervision and control.

THE NEW SCHEME

3. "Janapada" sound new, but the word has been adopted from similar institutions in ancient India. A rural area comprised of a collection of villages and administered as one unit was known as "Janapada" in contradistinction to "Pura" which signified a township or urban area. A local authority in the village has been given the name of the "Gram Panchayat" and a local administrative authority over a group of villages or "Janapada" has been given the name of "Janapada Sabha". People are familiar with Local Board or Taluq Board. Janapada Sabhas are akin to Local Boards but these Sabhas have special features and it is these which constitute their newness and utility. District Councils and Local Boards have been abolished.

4. A brief description of the constitution and functions of Janapada Sabhas may now be given. The jurisdiction of Sabhas is confined to a Tahsil or Taluq, roughly an area of 1,500 to 2,000 square miles and a population of 2 to 3 lakhs. These small units will permit of intensive administration. The Sabha consists of 20 to 40 Councillors according to the population of the local areas based on the principle of one Councillor for about ten thousand people. The Councillors are elected both from rural and urban areas on the basis of adult franchise. As there was not sufficient time for holding elections, the first body is a nominated body. The Sabha functions through six Standing Committees, *viz.*, Finance Committee, Public Works Committee, Education Committee, Agriculture Committee, Development Committee and Public Health Committee. Each of these Committees has an independent Chairman elected by the Standing Committee itself. The object of forming these Committees is that a limited number of Councillors is better able to deal with the administrative matters and guide the Chief Executive Officer. The former District Councils had certain compulsory and optional functions. These functions have been enlarged in the new scheme. In addition, the State Government would gradually entrust certain functions to the Sabhas. There are 72 subjects mentioned in the Local Government Act which can be entrusted. Any subject other than that relating to Revenue, Police, Law and Order can thus be delegated to the Janapada Sabha. The scheme envisages the delegation of even these excepted subjects when the Sabhas have worked for some years and sound traditions have been built up. In respect of entrusted subjects, the Sabhas will act as the agent of the State Government and will be bound to carry out their policy and instructions.

5. The Chief Executive Officer of the Janapada Sabha is a responsible officer of Government. In addition to his duties as Chief Executive Officer, he is also the Chief Revenue Officer, and Chief Magistrate of the Janapada area. Every Chief Executive Officer is *ex-officio* Additional Deputy Commissioner and Additional District Magistrate of the Janapada area. He is the administrative head of all officers and officials of all Government departments serving within the Janapada area. The Tahsildar of the tahsil functions as the Deputy Chief Executive Officer of the Sabha. The services of other departmental Government officers serving in the Janapada area, in connection with the functions entrusted to the Sabha would, as far as possible, be placed at the disposal of the Sabha. The salaries of all such Government officers would be paid by the State Government. To sum up there is an independent deliberative body (Janapada Sabha), small elected executive committees (Standing Committees) and an experienced Chief Executive Officer (Additional Deputy Commissioner-*cum*-Additional District Magistrate). The Chief Executive Officer with the other Government officers deputed to the Janapada authority is expected to bring to bear his intrinsic weight and authority on the local administration in the Janapada area.

6. A word may be added about the finances of the Janapada Sabha. Adequate sources of revenue have been provided to the Janapada Sabha. The State Government will reimburse to the Sabha all extra expenditure incurred by it in connection with entrusted functions. Municipalities are also liable to make contributions to the funds of the Sabha. Powers have been taken to declare all private markets as public markets, which will bring large income to the Sabha. Compulsory cesses are payable at the rate of eighteen pies per rupee of land revenue or rent by every proprietor, *malik-makbuza*, holder of a survey number or tenant. Optional cesses can be imposed at the rate of twelve pies per rupee and special school rate on non-agricultural income can also be imposed. With the sanction of Government the Sabha can impose any other tax or rate. To ensure that Sabhas do not starve themselves, the State Government have taken powers to impose all necessary taxes in case the Sabha fails to do so. There is no doubt that if the Sabhas use their powers of taxation wisely they will have no financial embarrassment.

7. The Janapada Sabhas have close association with other local authorities in the Janapada area. In respect of their ordinary functions, Gram Panchayats, municipalities, regulated market committees, etc., work independently but the Janapada Sabhas have got a supervisory control. The Municipal Corporations at Nagpur and Jabalpur will, however, be entirely independent of the Janapada Sabhas.

8. If a municipality does not perform its duties properly in certain specified matters like water-supply, prevention of epidemics, medical relief, maintenance of roads, and the like, the Sabha can complain to Government and Government can, after enquiry, order the local authority concerned to take the measures required. In cases of emergency, Government can transfer the subject-matters of the complaint to the Sabha for a specified period and the Sabha can recover the costs incurred in performing the transferred duties.

9. Gram Panchayats are an integral part of the Janapada Scheme. Sabha has general powers of inspection, supervision and control over the performance of administrative duties of the Gram Panchayats in its area. It is an important function of the Janapada Sabhas to ensure proper working of Panchayats.

10. Janapada Sabhas were established in the integrated States also. Unlike the districts of Madhya Pradesh the integrated States had no incorporated local authorities. The result was that when Sabhas were established in these States, they had no institutions of their own to administer or maintain, and no assets to form the beginning of the Janapada authority and Janapada fund. Government, therefore, gave large grants to these Janapada Sabhas to enable them to start their work. Government institutions and functions, in the compulsory and optional spheres, were transferred to these Janapada Sabhas.

11. It will thus be seen that the purpose of the scheme has been to evolve a single system of local organisation which, without impairing the principle of autonomy, will deal both with decentralised general administration and with increased responsibilities laid on it in respect of subjects included under the head Local Self-Government.

12. This historic reform in the structure of State administration was inaugurated on the 1st July 1948 in the merged States and on the 15th August 1948 in the rest of the State. There are at present 96 Janapada Sabhas in Madhya Pradesh—14 in the 14 merged Eastern Chhattisgarh States and 82 in the 82 tahsils of the former Madhya Pradesh. The far reaching significance of this reform was admitted by Shri C. Rajagopalachari when he inaugurated the Janapada Sabha at Nagpur. He called it a great experiment in the fundamentals of democracy and said that if it succeeds it will be wonderfully useful all over India.

13. The Honourable the Chief Minister made an important announcement in the State Assembly on the 10th March 1950 and in pursuance of that announcement Government have introduced a new set up of District, Janapada and Tahsil administration from 1st July 1950 in order that the Janapada-cum-tahsil would become the unit of administration instead of the district. From the 1st July 1950 the Chief Executive Officer of the Janapada Sabha has been invested with the powers of the Additional Deputy Commissioner and the Additional District Magistrate. He exercises administrative control over all the officers and officials of all departments of Government posted to the Janapada area except those officers who function as district heads and he is also the principal co-ordinating authority in respect of all the activities of the various departments of Government in his area. As Additional District Magistrate he exercises his power subject to the control of the District Magistrate for the maintenance of Law and Order and tries cases under preventive sections of the Criminal Procedure Code arising from his jurisdiction. As Additional Deputy Commissioner he exercises such powers and discharges such duties as the Deputy Commissioner of the district may direct. He is, where necessary, assisted by a separate Sub-Divisional Officer/Sub-Divisional Magistrate.

14. Correspondence between the Chief Executive Officer on behalf of the Janapada Sabha and the State Government is direct but the Deputy Commissioner is kept informed.

15. For administrative purposes and for effecting economy in expenditure Janapada Sabhas have been classified into two categories—major and minor. The former have Chief Executive Officers stationed at their headquarters and the latter are linked with one of the major Janapadas under the same Chief Executive Officer. Every Janapada, however, continues to have the Tahsildar as Deputy Chief Executive Officer and in the case of a minor Janapada, the Chief Executive Officer delegates such of his powers as will enable the Deputy in his absence to carry on the day-to-day administration properly and expeditiously. To meet public convenience and to maintain personal contact with members of the Janapada Sabha and close touch with the affairs of the Janapada, the Chief Executive Officer spends at least a week to ten days in a month at the headquarters and in the interior of the minor Janapada. During his stay there he disposes of all important matters and also case work pertaining to that area.

16. At the district level the Deputy Commissioner continues to be the administrative head and is the Chief authority for controlling and supervising the activities of all Government Departments as the Commissioner used to function in the revenue division. He is also the District Magistrate in charge of criminal administration in accordance with the scheme for the separation of Judiciary from the Executive. He acts largely as a supervising and co-ordinating agency in his district. The authority to effect transfers and to exercise disciplinary powers continues to vest in the Heads of Departments but they have to consult the Deputy Commissioner, who also continues to have power to initiate the question of transfer of any particular officer within the district if he considers such transfer essential in the public interest. Similarly, he has authority to report employees of other departments for disciplinary action, and to start preliminary enquiries in urgent cases.

17. The various Heads of Departments continue to exercise control in departmental and technical matters but they have to consult the Deputy Commissioner and keep him in touch with all important proposals concerning the district.

18. The principle underlying this new scheme of reforms is to bring about the gradual decentralization of the powers and functions of the State Government. In course of time it is hoped that the Janapada Sabhas may become the replicas of the State Government and the tahsil parliaments of their own areas. This will be the last step in the implementation of the Janapada Scheme.

APPENDIX C

PART I

Climatological, Geological and Soil Classification Summary of the Natural Divisions of Madhya Pradesh

[NOTE.—The Climatological and Geological summaries have been very kindly made available by the Meteorological and the Geological Departments of the Government of India respectively. The Soil Classification Summary has been similarly supplied by the Director of Land Records, Madhya Pradesh.]

THE NORTH-WEST MADHYA PRADESH DIVISION

Climatological Summary.—This division comprises of the districts of Sagar, Jabalpur, Hoshangabad, Nimar, Betul and Chhindwara. Of these, Sagar and the northern part of Jabalpur lie on the Vindhyan plateau while the southern part of Jabalpur is situated at the head of the narrow valley through which the Nerbudda flows between the Vindhyan and Satpura ranges. Hoshangabad and Nimar extend from east to west along the southern bank of the Nerbudda river, while Betul and Chhindwara lie on the hills to the south of the valley. The division, thus generally consists of hilly country, lying at a considerable elevation and enjoys comparatively a more temperate climate than many other parts of Madhya Pradesh. The westerly winds which blow across north India during most of the dry season affect this division, but not generally the areas south of the Satpura range.

The average annual rainfall varies from 31" at Khandwa, 42" at Chhindwara to 50" at Hoshangabad and 70" at Tamia. At Pachmarhi a hill station 3,500 ft. a.s.l. in the Hoshangabad district, it is 80". Most of the annual rainfall is recorded during the months June to September.

In December, the coldest month of the year, the mean maximum temperature is 84° F at Khandwa, 80° F at Hoshangabad, 78° F at Seoni and 77° F at Sagar and Jabalpur and 71° F at Pachmarhi. The mean minimum temperature is 51° F at Khandwa, 54° F at Hoshangabad, 51° F at Seoni, 53° F at Sagar and 47° F at Jabalpur and 46° F at Pachmarhi. It would thus be seen that excluding the hill station Pachmarhi, Jabalpur and neighbourhood is perhaps the coldest area in the division at this time of the year. The lowest minimum temperature recorded is 37° F at Seoni, 34° F at Sagar, 33° F at Khandwa, 32° F at Jabalpur and Chhindwara and 30° F at Pachmarhi. These are generally recorded in January or February. Except for a little rainfall in association with the passage of winter disturbances, weather during the period is clear and fine.

The hot season commences in March and lasts up to about the second week of June when the monsoon generally sets in. May is the hottest month of the year when the mean maximum temperature varies from 107° F at Khandwa and Hoshangabad to 105° F at Jabalpur and Sagar, 104° F at Seoni, 102° F at Chhindwara and 96° F at Pachmarhi. On individual days the maximum temperature shoots up to much higher values, Khandwa having registered a maximum temperature of 117° F, Jabalpur 115° F, Hoshangabad and Sagar 114° F, Seoni 112° F and Pachmarhi 105° F. This is generally a period of hot dry weather with occasional thunderstorms. The low humidity of the atmosphere makes the hot weather bearable.

The onset of the monsoon, as stated already, generally takes place in the second week of June and is preceded and accompanied by thunderstorms. July is on an average, the rainiest month of the year, with August coming as a close second. The rainfall is, however, variable from year to year. Thus Khandwa with an average rainfall of 31" recorded only 9" in 1899 and had 45" in 1892. Hoshangabad with an average rainfall of 50" recorded 81" of rain in one year whereas in another year it had only 23" of rain. In association with cyclonic storms or depressions from the Bay of Bengal travelling across this division, very heavy rains sometimes occur, Pachmarhi having recorded 18" of rain in a day, Jabalpur 13", Hoshangabad 12" and Sagar 11". The monsoon withdraws by the beginning of October and thereafter there is a marked change in the weather with rapidly clearing skies, and falling temperatures. The cold weather commences by the beginning of December.

Climatological data for Jabalpur, Sagar and Pachmarhi and rainfall data of selected stations are given in Part I-B of this Report.

Geology and Mineral Resources of the North-West Madhya Pradesh Division.—The Mahadeva hills and the plateau region of Bhopal, Khandwa, Jabalpur, Hoshangabad, Chhindwara and Betul districts are covered by a thick formation of horizontal flows of basaltic lavas of Deccan trap age (Cretaceous). Coal-bearing Gondwana sandstones and shales occur in the Mahadeva hills of Nerbudda valley, Jabalpur and the Son valley in Rewa State. A narrow fringe of limestones with subordinate sandstones and clays occur along the edge of the Deccan trap plateau in Jabalpur and other places. The low country along the Nerbudda valley carries a thick deposit of older alluvium.

The region is economically important for its large reserves of Vindhyan limestones which are being extensively quarried and utilised for lime and cement manufacture and for building purposes in the Son valley in Uttar Pradesh, Rewa State, Katni and Satna areas in Jabalpur district and other places. The total annual production of limestone is of the order of about 600,000 to 800,000 tons and that of lime about 10,000 tons. The Vindhyan sandstones are extensively quarried for building and architectural purposes, as they withstand weathering well and are eminently suited for dressing and carving. Some of the limestones are beautifully coloured and form good ornamental and decorative stones. In addition there are good deposits of bauxite in the Jabalpur district where the annual production has increased from about 7,000 tons in 1946 to nearly 15,500 tons in 1949. The Gondwana coal-fields in Rewa State produce about 500,000 to 600,000 tons of coal annually. There are also some reserves of fireclays and ochres in Vindhya Pradesh and Jabalpur. The steatite and soapstone deposits of Jabalpur produce over 2,000 tons of the mineral per annum. The Gondwana clays and Lamets sands at Jabalpur are utilised for fire-bricks, stone-ware pipes and glass manufacture. Other less important minerals are copper in Jabalpur and Sagar districts, corundum, felspar and gypsum in Rewa State., etc. The Panna State in Vindhya Pradesh is noted for many centuries for diamonds recovered from some conglomerate horizons and igneous breccias in the Vindhyan rocks. The average annual production of diamonds from Panna, Charkhari and Ajaigarh States during the last 4 or 5 years is about 1,600 carats of gem quality.

Soil Classification in the North-West Madhya Pradesh Division

1. This division comprises of the districts of Nimar, Hoshangabad, Sagar, Jabalpur, Mandla, Chhindwara and Betul. The districts of Jabalpur and Hoshangabad form the part of Nerbbuda Valley. The district of Sagar is adjacent to Vindhya Plateau. Nimar district is partly divided in Nerbbuda Valley, Satpura hills and plain. The districts of Mandla, Chhindwara and Betul occupy hilly country known as Satpura hills. The soil classes that obtain in this division are shown below :—

- (1) Kabar I, (2) Kabar II, (3) Mund I, (4) Mund II, (5) Morand I, (6) Morand II, (7) Sihar, (8) Mutbarra or Khardi, (9) Rankar, (10) Kheri I, (11) Kheri II, (12) Barra, (13) Domatta, (14) Ritna, (15) Bhatna, (16) Patarua I, (17) Patarua II and (18) Kachhar.

2. The value of the soil depends on the quantity of plant food contained in it and the ease with which such food can be converted into an assimilable condition. Wheat is the staple crop of the division and the black soil which is rich in humus and is retentive of moisture is the best soil for its growth and it stands first in regard to fertility.

3. Kabar I is a very black and tenacious kind of soil. It is retentive of moisture and is free from grit. It brings rabi crops to harvest without winter rains.

Kabar II is coarser in texture than Kabar I.

Mund I is an ordinary loam soil and contains an admixture of lime stone nodules. It is fertile and grows a good wheat crop.

Mund II is inferior to Mund I and is insecure for remunerative wheat crop. Juar, Cotton, Gram and Maghet, Til, etc., can be grown well in it.

Morand I is brown in colour, digs deep and contains only a small admixture of any lime stones. It is friable and the clods crumble easily. It is used both for rabi and kharif crops and may occasionally grow a double crop.

Morand II is lighter in colour than Morand I and contains a large admixture of sand, pebbles or lime-stones. It is generally sown with gram, cotton, juar or tilli.

Sihear is the soft sandy soil and is fine wash off from sand stone hills. Rice is grown in it.

Mutbarra or Khardi is a mixture of morand and barra and is not less than 6" in depth and it is usually put under kharif crops.

Rankar is a light soil having rock at a depth of about 1 to 1½ feet and contains a large proportion of lime-stones, pebbles, sand and its surface is generally uneven. It is generally sown with cotton, tilli kodonkutki and sawan.

Kheri I-the depth of the soil is about 8" and is often red or yellow and it generally grows cotton and juar.

Kheri II is four to five inches in depth, a very light soil in colour and generally grows til or inferior kharif millets.

Barra is a stony ground and grows inferior kharif millets.

Domatta is a soil which distinguishes the sandy clay or inferior kabar and is much more suited for kharif and leguminous crops.

Ratna and Bhatna only distinguish different grades of sandy soils.

Patarua I and II are inferior coarse loam soils mixed with sand and chunkankar and usually they are sown with gram, juar and rahar, etc.

Kachhar is the alluvial soil, is found in narrow strips along nallas and rivers and covers a wide variety of riverian soil.

THE EAST MADHYA PRADESH DIVISION

Climatological Summary.—This division consists of the districts of Mandla, Balaghat, Bhandara, Chanda, Raipur, Bilaspur, Durg, Bastar, Raigarh and Surguja and includes about half the area of the Madhya Pradesh State. The orographical features vary from place to place, the height above mean sea level being about 630 ft. at Chanda, 800 ft. at Champa, 970 ft. at Raipur, 1,320 ft. at Kanker, 1,820 ft. at Jagdalpur and 2,040 ft. at Pendra. The north eastern corner district of Surguja and the south eastern corner district of Bastar consist of hilly country and in between lie the open country of Raipur and Bilaspur districts forming the upper basin of the Mahanadi river. The Wainganga, a tributary of the Godavari, and its numerous feeders traverse the districts of Chanda, Bhandara and Balaghat while another tributary of the Godavari, *viz.*, the Indravati and its branch streams traverse the Bastar district. In a division of such varying orographical features, the climatological conditions also vary from place to place. This is particularly noticeable in the case of temperature. Rainfall data from fairly good network of rainguage stations and meteorological data from the observatory stations—Pendra, Raipur, Kanker, Chanda and Jagdalpur—illustrate the climatological features of the division.

December is the coldest month of the year when the mean maximum temperature varies from 83° F at Raipur and Kanker, 79° F at Jagdalpur and 74° F at Pendra. The mean minimum temperature during the month varies from 55° F at Raipur to 53° F at Chanda, 51° F at Kanker and 50° F at Jagdalpur and Pendra. The lowest minimum temperature recorded so far is 40° F at Jagdalpur, 39° F at Kanker and Raipur, 37° F at Chanda and 35° F at Pendra. These have been recorded in one or other of the three months December to February. Generally very little rain occurs in the months December and January but in February about an inch of rain occurs over the area. This is usually associated with the winter disturbances travelling across north India at this time of the year. In certain years, the falls are heavy and Chanda has recorded 3·71" of rain and Jagdalpur 4·74" in 24 hours in February.

The hot weather commences in March and continues up to the onset of the monsoon by about the 10th of June. May is the hottest month of the year. The mean maximum temperature during this month is 107° F at Chanda and Raipur, 104° F at Kanker, 101° F at Jagdalpur and 100° F at Pendra. The highest maximum temperature so far recorded is 119° F at Chanda, 117° F at Raipur, 115° F at Kanker and Jagdalpur and 111° F at Pendra. Thunderstorms occur occasionally during these months and some of them result in rain. The frequency of these thunderstorms is maximum just before the onset of the monsoon in June.

The monsoon sets in by about the 10th of June and its activity lasts up to about the beginning of October with intermittent breaks. The period, June to September, is the rainiest part of the year and accounts for most of the annual rainfall which varies between 43" at Gandai (in the Durg district) to 54" at Pendra (in the Bilaspur district), 63" at Jagdalpur (in Bastar) and 69" at Dhuti (in the Balaghat district). The rainfall is generally controlled by the formation and movement of the monsoon depressions and as such there is sometimes large fluctuation in the rainfall in a month, from year to year, but taking the season as a whole, the variability is not as large as in the areas to the north-west of this division. In association with the Bay depressions, very heavy falls of rain sometimes occur, Raipur having recorded 14·58" in 24 hours, Kanker 10·13", Jagdalpur 8·00", Chanda 7·53" and Pendra 7·45". In the process of withdrawal of the monsoon current, thunderstorm activity gets more pronounced. The rains generally come to an end by about the second week of October. The days get slightly warmer for a brief period, but these gradually cool down, the skies become more and more lightly clouded and cool weather starts by about the middle of November.

Climatological data for Raipur and Jagdalpur and rainfall data of selected stations are given in Part I-B of this Report.

Geology and Mineral Resources of the East Madhya Pradesh Division.—This division is a part of the north-east plateau sub-region, which consists of the Chhota Nagpur division, East Madhya Pradesh Division and Orissa Inland division, and is the most highly mineralised region in the whole of the

Indian sub-continent and carries large reserves of iron-ore, manganese-ore, copper, bauxite, coal, limestone and mica, in addition to the other less important minerals like kyanite, chromite, wolfram, tantalite, pitchblende, vanadiferous magnetite, asbestos, graphite, clays, etc. The greater portion of the region is occupied by crystalline schists, gneisses and granites of Archaean age in which occur patches and large basins of sedimentary rocks of Purana group as well as coal-bearing Gondwanas.

The plateau region of western Chhota Nagpur, Ranchi, Palamau, Jashpur, Surguja, Raigarh and Bilaspur is composed of granite, gneisses and other metamorphic rocks known as Bengal gneiss and is well-known for the large reserves of bauxite estimated to be of the order of 15 million tons. The deposits have not yet been fully exploited but the present production from Ranchi plateau amounts to over 6,000 tons annually.

A linear basin along the valleys of the Ib, Hasdo, Mand, etc., in south Rewa, Surguja, Korea, Raigarh, north-east Bilaspur and Gangpur is occupied by coal-bearing sandstones and shales of Lower Gondwana age. There are here numerous small coal-fields like Rampur and Hingir along the Ib river, Singrauli, Kerar, Umaria, and others in south Rewa, and Tatapani-Ramkola, Kurasia, Bistrampur, Chirmiri, Hasdo-Arand (or Rampur), Korba, Mand river and others in the Chhattisgarh region. The total annual output of coal from all these fields has varied between 1.7 and 2 million tons in recent years.

The basin of Upper Mahanadi extending over a large portion of Durg, Raipur and Bilaspur districts of Madhya Pradesh including the adjoining States of Nandgaon, Khairagarh, Raigarh, etc., is formed of a thick series of quartzites, grey, pink and purple shales, compact limestones belonging to the Cuddapah formation. Except for the large untapped reserves of limestones and one deposit of fluorite in Khairagarh State now worked by the Tatas, the area possesses few mineral resources.

The plateau region of Mandla, south Rewa, Baihar, north Bilaspur and Durg districts in Madhya Pradesh is covered mainly by the Deccan trap lava flows and laterites. Fairly large deposits of bauxite occur in the Baihar plateau and other areas and the estimated reserves are of the order of 3 million tons with further potentialities.

The large undeveloped hilly tract of Chanda, Durg and Bastar in southern Madhya Pradesh are occupied by gneissic and granitic rocks traversed here and there by quartzites, schists, phyllites, banded hematite quartzites, etc. Large reserves of iron-ore are known to occur in Bailadila range of Bastar, Rowghat and Dhondi-Lohara hills in Chanda and Durg and in other places. Owing to poor communications this area remains still undeveloped but will undoubtedly produce much iron-ore in future.

The plains of central Madhya Pradesh comprising the Balaghat and Bhandara districts are formed of slates, phyllites, schists, quartzites, hematite quartzites, gneisses and granites belonging to the Sakoli and Chilpighat series of Archaean age. A large tract of this country is occupied by a thick cover of black to brown loamy soil washed from the Deccan trap plateau to the west and north. The Balaghat and north Bhandara areas, along with the adjoining districts of Nagpur and Chhindwara carry some of the largest manganese-ore deposits in India. These deposits extend as a curved belt over a distance of 150 miles in an east-west direction and include some of the largest mines like Kachhidhana, Sitapur, Ramdongri, Kandri, Mansar, Dongri, Buzrug Sitasongi, Chikla, Tirodi, Balaghat and Ukua. The reserves of workable manganese-ores of this belt are not known but may be of the order of 30 to 40 million tons. The annual output of manganese ore from Madhya Pradesh has increased from 160,000 tons in 1946 to nearly 400,000 tons in 1949 and generally amounts to about two-thirds of the total Indian production.

Along the Wardha Valley in Chanda, Yeotmal and Wardha districts, there is a narrow belt of coal-bearing Gondwana sandstones and shales with some producing coal-fields like Warora, Rajpur, Chanda and Ballarpur. The annual production of coal from these fields aggregate to 250,000 to 300,000 tons.

Soil Classification in the East Madhya Pradesh Division

1. This division comprises of the districts of Raipur, Bilaspur, Durg, Bastar, Raigarh, Surguja, Chanda, Bhandara and Balaghat. The division is drained by many river systems, *i.e.*, Mahanadi, Sheonath, Nerdudda, Wainganga, etc. For several miles on either side of these rivers, the soil is rich black formed by alluvium brought down by these rivers. The black soils of this division are not of same origin as trap-pean black cotton soils of the south-west Madhya Pradesh division or the wheat soils of the north-west Madhya Pradesh division. The soil classes that obtain in this division are—

- (1) Kanhar I, (2) Kanhar II, (3) Dorsa I, (4) Dorsa II, (5) Matasi I, (6) Matasi II, (7) Bhata,
- (8) Patparkachhar and (9) Palkachhar.

2. Rice is the staple crop of the division and sandy loam in which water can move freely is the best soil for its growth, for although black soils are rich in humus, rice does not flourish in them on account of the defective root aeration to which they give rise. The black soils, however, produce excellent crops of pulses after rice and the value of the two crops exceeds greatly the value of rice reaped off sandy loam.

The Kanhar and the Matasi are the two extremes between which the soils vary. Kanhar is a rich deep black or brown black clay. It is extremely fine in texture, breaks into layers or absorbs large clods with flat and shining faces, retains moisture for a long time and is by far the best wheat soil in the division. As a rice soil it is apt to suffer from water-logging, but as it grows excellent second crops or utera, it is considered to be the most valuable soil in the division. All Kanhar of superior quality has been classed as Kanhar I, but it has been classed down to Kanhar II if it was of brown black colour and was found to contain limestones. Kanhar II soil is locally termed Ghurri-Kanhar. It must, however, be remembered that according to local terminology, ghurri means any soil, which contains lime-stones on a large scale.

3. Matasi is a sandy loam of yellow or brownish yellow colour. All Matasi of a superior quality has been classed as Matasi I. Matasi I is a deep soil with fine particles of sand and free from stones. It is pre-eminently a rice soil and gives an excellent yield of that crop in good years, or with artificial irrigation. It does not, however, yield a double crop other than perhaps a meagre outturn of linseed. Matasi II is either a very shallow soil admixed with stones, which dries up rapidly, on account of the rocky bed underneath, or, it is as deep as Matasi I, but is so largely admixed with sand that it is impossible to obtain a clod, when dug, as the stuff crumble away under the spade. Such a soil is locally known as khudra. It gives a much better yield of rice and is, therefore, slightly higher valued than the other Matasi II. On account of their sandy nature, the Matasi are not retentive of moisture for a long time, but with a heavy rainfall, the Matasi I gives a far better outturn of rice than any other soil in the division.

4. The Dorsa is a mixture of Kanhar and Matasi. It is of two kinds—Dorsa I and Dorsa II. It is Dorsa I if Kanhar predominates over Matasi in its composition; but if the proportion of Matasi is greater, or, if it contains a large number of limestones it is Dorsa II.

5. The two Kanhars and Dorsa I are capable of growing any crop from rice and wheat to minor millets, and when under rice are generally double cropped with linseed or rabi pulses notably urad. Dorsa II will grow rice, gram, linseed, rabi pulses, castor, sesamum, arhar, minor millets and also occasionally wheat under favourable seasonal conditions. If under rice, it will yield a second crop of linseed or inferior rabi pulses in low-lying position and elsewhere, provided the late monsoon has given sufficient rain.

6. Bhata is the most inferior soil of the division. It is a very poor detritus of laterite and consists of a slight sprinkling of sandy earth over gravel. It, therefore, retains hardly any moisture. It will grow nothing but sesamum and minor millets. It is incapable of yielding a crop every year and has to be given rest for two or three years, after each cropping.

7. Patpar-kachhar is the sandy stuff beside, or in the bed of rivers and nalas. It has never much consistency. It is devoted chiefly to the cultivation of sweet potatoes and other root crops, water-mellons brinjals or to the plantation of mango groves or guava gardens. Pal-kacchar is a rich dark brown silt, found on the banks of rivers and large streams and in the back water of the Mahanadi. It is particularly good for vegetable crops and sugarcane. It is also cropped occasionally with rice and wheat.

Similar soils exist in other districts of the east Madhya Pradesh division, *i.e.*, in Bhandara, Balaghat and Chanda districts as shown below:—

Name of district	Names of soils
Bhandara	Kanhar, Morand I, Morand II, Khardi, Sehar, Bardi, Ratadi, Marhani.
Balaghat	Kanhar, Kanhar-Morand, Morand I, Morand II, Morand-Sihar, Sihar I, Sihar II, Retadi, Bardi.
Chanda excluding Sironcha tahsil ..	Kanhar, Barsi Kanhar, Morand, Khardi, Wardi, Bardi, Retari. In Warora group of this district there exists one more soil known as Kali. It is very heavy soil, gritless and of great depth and fertility. It gets water-logged in years of heavy and even normal rainfall. It is almost useless for kharif crops and requires stronger bullocks to plough it than the average tenant possesses.

Sironcha tahsil of the Chanda district Nomenclature in Telgu is adopted so as to make it intelligible to the Sironcha cultivators as shown below :—

For Kanhar and Barsi Kanhar	..	..	Regadi.
For Morand	..	..	Rewa.
For Wardi	..	..	Dubha.
For Khardi and Retari	..	..	Burre.
For Kachhar	..	..	Wandoo.

The following table will show the local names of the soils in these districts in resemblance to those of the Chhattisgarh districts :—

Chhattisgarh districts	Bhandara district	Balaghat district	Chanda district
(1)	(2)	(3)	(4)
Kanhar I	} Kanhar ..	{ Kanhar	} Kanhar.
Kanhar II .. .. .				{ Kanhar-Morand ..
Dorsa I	Morand I	Morand I	Barsi Kanhar.
Dorsa II	Morand II	Morand II	Morand.
Matasi I	Sihar	Sihar I	Khardi.
Matasi II	Khardi	Sihar II	Wardi.
Bhata	Bardi	Bardi	Bardi.
Palkachhar	Marhani	Kap. .. .. .	..
Patpar-Kachhar	Retadi	Retadi	Retadi.

THE SOUTH-WEST MADHYA PRADESH DIVISION

Climatological Summary.—This division includes the districts of Amravati, Buldana, Akola, Yeotmal, Wardha and Nagpur and varies in elevation from 900 ft. a. s. l. at Akola, 1,200 ft. at Amravati, 1,000 ft. at Nagpur, 1,600 ft. at Yeotmal and 2,150 ft. at Buldana. The area is drained by the Purna, a tributary of the Tapti, and the branch streams of the Penganga, the Wardha and the Wainganga which are tributaries of the Godavari. The climatological features of the division are illustrated by the rainfall data of a network of raingauge stations and meteorological data for the observatory stations, Buldana, Akola, Amravati and Nagpur.

The mean annual rainfall is maximum in the Nagpur district (about 45"), Wardha and Yeotmal (with about 40") coming next, and decreasing further in Akola, Amravati and Buldana. During April and May, and until the rains set in by about the middle of June, the sun is very powerful and there is severe heat during day, but without the scorching winds of northern India. The nights are comparatively cool throughout and during the rains the air is moist and fairly cool.

December is the coldest month of the year when the mean maximum temperature is 85°F at Akola, 83°F at Amravati, 82°F at Nagpur and 80°F at Buldana while the mean minimum temperature is 57°—58°F at all these stations except at Akola, where it is only 53°F. The lowest minimum temperature recorded so far has also been appreciably lower in Akola being 36°F as against 39°F in Nagpur and 41°F at Amravati. These have been recorded in January or February. There is generally very little rain during the cold weather season.

The hot weather commences in March and continues up to about the middle of June when the monsoon sets in. During summer, this is one of the hottest areas in India. In May, the hottest month of the year, the mean daily maximum temperature is as high as 109°F at Nagpur, 108°F at Akola and Amravati. On account of its higher elevation, Buldana is cooler with a mean maximum temperature of 101°F. The nights are, however, comparatively cool. In May, Nagpur has recorded a maximum temperature as high as 118°F, Akola 117°F, Amravati 116°F and Buldana 110°F in association with the heat waves passing across the country. The hot weather period is also generally dry except for an occasional heat thunderstorm which may culminate in a shower.

The monsoon season June to September is the rainiest part of the year. There is a tendency for rainfall to decrease from east to west. The monsoon rain is generally not continuous but occurs in spells, which are often controlled by the formation and movement of depressions or storms from the Bay of Bengal. In association with the movement of such storms very heavy rain is sometimes recorded, Nagpur having recorded a fall of 12·4" of rain in 24 hours. But the intensity of rainfall decreases as one proceeds further to the west. There is considerable variation in the amount of rainfall from year to year. At Nagpur with an average fall of 49·24" of rain only 14·36" were recorded in 1899 while 76·04" fell in 1933. In Akola, which has an average rainfall of 32·15" the rainfall in the driest year on record has been only 12·08" while in the wettest year has been 66·26". Large variations occur in the individual months also. The monsoon generally withdraws by the end of September or early in October. Dry clear weather prevails in October and November and the cold weather commences in December.

Climatological data of Amravati and Nagpur and rainfall data of selected stations are given in Part I-B of this Report.

Geology and mineral resources of the South-West Madhya Pradesh Division.—This division is a part of the north Deccan sub-region, the major portion of which consists of the South-West Madhya Pradesh Division, North Hyderabad Division and Bombay-Deccan North Division, and consists of flat-topped plateau and hills made up of basaltic rocks (Deccan trap) age, capped with ferruginous and aluminous laterite. The trap rocks on weathering have given rise to a thick black soil, 'regur' which is particularly suitable for raising cotton and leguminous crops. The laterites in several places of Khaira, Kolaba, Kolhapur and Belgaum districts of Bombay are rich enough in alumina to be high grade bauxite. Belgaum district is the chief producer of bauxite in this region, but the annual output of the mineral has varied from 500 to 3,000 tons in recent years.

A small tract of metamorphic rocks known of Archaean age occur in the Nagpur district at the north-east corner. The rocks comprise mica-schists, sillimanite-mica-schists, quartzites, crystalline limestones, dolomites, calc-granulites, impure dolomitic rocks and manganese-silicate rocks. The manganese deposits of the north-east plateau sub-division have already been referred to.

Soil Classification in the South-West Madhya Pradesh Division

1. This division comprises of the districts of Akola, Amravati, Buldana, Yeotmal, Wardha and Nagpur. The division is undulated by many rivers, *viz.*, the Tapti, the Purna, the Penganga, the Wardha, the Katepurna, the Adan, the Arunawati, the Kanhan and the PENCH, forming level tracts along their banks.

2. In the plain tracts of this division, the regar or the black cotton soils of the first quality or heavy type are found. They occupy central plains of Berar, the Purna valley, the Wardha valley and stretching to just a little east of Nagpur. These soils are largely a deep black loam which cakes into a solid mass in the beginning of the dry weather and cracks freely in all directions later. These fissures run to a depth of several feet and give the soils a reticulated appearance. The depth of the soil varies from place to place up to a stratum of unknown depth. They reach their greatest depth in the valleys into which they have been washed as a fine silt from the higher lands. This soil is locally known as "Awal kali". It is of very fine texture and very retentive of moisture. It becomes sticky when wet and cracks freely in dry weather. This soil is comparatively heavy to work. It is capable of growing cotton, juar, kharif pulses and wheat and rabi oil-seeds in the cold season, if rainfall is sufficient.

3. In different places of the plain tracts and valleys, the soil is known under different names such as "Chikni" which means a sticky soil, "Gawhali" a wheat soil and the like. This soil is very fertile and well suited to the cultivation of all the different crops. As it is mainly found in low-lying and level areas, its retentivity sometimes results in water-logging in years of excessive rainfall. In such years cotton grown in this soil suffers badly while in years of short but well-distributed rainfall, the same soil gives a bumper crop. The soils of the plains rest on a layer of marl of a light yellow colour. The water-bearing stratum is generally very deep. Black soil containing small percentage of lime in this tract in a finely powdered state is known as "Kali". If there is a still higher percentage of lime present in the form of nodules about as large as peas, this soil is known as "Morandi". These soils containing lime are lighter to work than pure black soil and are less retentive of moisture. They are comparatively less fertile too. They are found particularly in plains by the sides of the Wardha river and in some parts of Akola and Amravati districts, along the banks of the rivers Purna, Katepurna, etc. They differ from "Kali" in being composed of large particles which do not stick together so closely. Their clods are less hard and when saturated, they do not turn into fine mud while in dry weather they crack less. These soils can carry double crops in embanked fields.

4. Bordering on this central plain to the north and south lie the second quality of medium regar soils of trap origin. Not so black in colour often brown, less deep in character carrying more stones and lime and occupying rather higher areas, these constitute soils of less mature type intermediate between the immature thin red and brown soils on the trap high lands and the full regar of the plain. It occupies considerable areas in Yeotmal and Buldana districts and is commonly found in hilly tracts of the remaining districts. This soil is primarily fit for kharif crops, cotton, juar and pulses only. Uncommon to this, Wun taluq contains a quality of soil of inferior class, of a uniform but coarser texture and of a very reddish colour. Whole of this tract being prominently hilly, the soils here excepting those in valleys of the rivers *e.g.*, Penganga, Adan, Arunwati, etc., suffer, throughout from common defects of having slopy surface, a mixture of nodular pieces of limestones and an excessive admixture of sand. These soils are locally known by various names as under: (i) Those shallow stony soils found on high-lying places and producing only inferior grass and brush-wood are called "bardi", (ii) thin layer of red soil over-lying trap rock of muram on the plateaux is known as "Lal-matti or Murmati", (iii) a shallow hilly soil interspersed with stones and boulders is known as "gotar", (iv) the patches of greyish coloured marly soils which occur in certain fields and which are very wet owing to the sub-soil being impervious to water are known as "Chopan" and (v) land lying high or on slopes and liable to dry up quickly is known as "Pathar". All of these soils are very common in this tract. They form a very thin layer of some inches depths and rest on yellow coloured stony soil known as murum. They are shallow and require frequent showers to prevent crops from drying up and in the days of excessive or continuous rainfall, the crops sown in these soils fail due to the excess of moisture accumulated in them owing to the impervious nature of the sub-soil, to water. There are also vast patches of black soil on the plateaux in this tract ; but they are not many. They are naturally drained and friable and easy to work but are not sufficiently retentive of moisture.

5. In every village, near the Basti are soils known as "Khari" or "Pandhari". Those manured by drainage from the village sites are known as "Khari" and light coloured of these soils are "Pandhari". The colour is supposed to be due to the chemical changes which take place in black soil when impregnated with much fermentable organic matter. Pandhari is the soil par excellence for garden cultivation.

PART II

A Brief Report on the Progress of Geological Survey of India in Madhya Pradesh [1942—1951]

(This report is very kindly supplied by the Geological Survey, Government of India.)

The activities of the Geological Survey of India in Madhya Pradesh during the ten years, 1942—1951, were mainly concentrated on mineral investigations and problems regarding water-supply and dam sites. The former included detailed examination of some of the deposits of bauxite, clays, coal, dolomite, iron-ore, limestones, etc. A brief statement giving the results of the more important investigations is given below :—

District	Region or locality	Reserves, if estimated	Remarks
(1)	(2)	(3)	(4)
Bauxite			
Tons			
1. Balaghat	.. Baihar Plateau ..	.. 1,475,000	
2. Do.	.. Topla Highland..	.. 265,000	Good quality.
3. Bilaspur	.. Korba Zamindari	.. 460,000	Good quality, massive and pisolitic.
4. Do.	.. Uprora Zamindari	.. 365,000	Good quality, pisolitic ore.
5. Jabalpur	.. Katni-Sleemanabad	.. 535,000	Very good pisolitic ore.
6. Surguja	.. Satpatharikhar Pahar	.. Included under 3 above.	

District	Region or locality	Reserves, if estimated	Remarks
(1)	(2)	(3)	(4)
Clays—(i) China Clay			
1. Amravati and Betul.	Southern edge of Chikalda range.	666,000	Suitable for ordinary purposes.
2. Chhindwara	Kundali .. .. .	..	Good quality.
3. Durg	Dhaba	2,161,000	Good.
4. Do.	Nine other localities ..	..	Do.
5. Jabalpur	Hardua (23°55' : 80°18')	..	Suitable for manufacture of pottery, tiles and pipes.
6. Do.	Bhaganwara (23°41' : 80°14').	..	Do. do.
(ii) Fire Clay			
1. Amravati	Belkhed (21°27' : 77°31') Pandhri (21°22' : 77°33')	..	Inferior quality.
2. Bilaspur	Korba Coal-field (about 10 localities).	..	Small pockets.
3. Chanda	Kothari (19°47' : 77°59')	..	Fairly good.
4. Chhindwara and Hoshangabad.	Northern slope of Satpura Range.	1,750,000	Poor.
5. Nagpur	Khapri (21°15' : 78°49') Chorkhari (21°27' : 78°40'). Shemda (21°27' : 78°42') Khairi (21°9' : 78°49')	..	Suitable for pottery.
Coal			
1. Bilaspur	South-Central part of Korba Coal-field.	..	Non-caking coal.
2. Do.	Mand river Coal-field ..	..	Non-caking and coaly shale.
3. Nagpur	Kamptee Coal-field.	..	..
4. Surguja	Chirimiri Coal-field ..	200 maunds	Select and first grade coal.
	Jhilmili Coal-field ..	200 maunds	Non-caking coal.
Dolomite			
1. Bilaspur	Akaltara (22°1' : 82°25') 22 other places.	123,971,760	Mostly suitable for steel industry.
2. Durg	Kodwa (20°37' : 81°22')	27,878,400	Do. do.
3. Raipur	Patpar (21°43' : 81°57') and several other localities.	1,396,200	Do. do.
Iron-ore			
1. Bastar	Narayanpur Tahsil, Antagarh area.	17,000,000	High grade Hematite-ore.
2. Do.	Rowghat area	800,000,000	Do. do.
3. Do.	Bhanupratappur Tahsil, Hahaladdi area.	12,251,250	Good quality Hematite-ore.
4. Chanda	Lohara area	21,900,000	High grade Hematite ore.
5. Durg	Dondi-Lohara Zamin-dari.	31,363,200	Do. do.
Limestone			
1. Amravati	Chikalda Range .. .. .	..	Inferior, suitable for lime-burning.
2. Bilaspur	18 deposits	44,379,600	Mostly suitable for cement industry.
3. Durg	32 deposits	20,998,350	Do. do.
4. Raipur	25 deposits	17,256,900	Do. do.
5. Nagpur	Chicholi (21°30' : 78°42')	..	Inferior quality.
6. Yeotmal	Wun Tahsil .. .. .	..	Fairly good quality.

The above investigations were mainly carried out by the ordinary methods of surface work aided with shallow pitting, where necessary. In addition the Geo-physical Section of the Geological Survey of India undertook, in 1947, the survey of an area about twelve miles north-east of Nagpur by electrical resistivity method and mapped the boundary between the coal-bearing strata of the Kamptee coal-field and the crystalline rocks, which is completely hidden under a mantle of alluvium. The survey was undertaken with a view to help in selecting sites for drilling; in 1948 and 1949 the Geo-physical Section undertook a detailed magnetic survey of Tirodi and Pavnia areas in Balaghat district. The data obtained was interpreted for the location of probable manganese-ore deposits along with their depths of existence, and sites were suggested for trial pitting. The survey proved very successful and already several thousand tons of ore has been obtained from these places. In 1951, magnetic survey was carried on in Chikmara and Jamrapani areas in Balaghat district and at Nagardhan, south of Ramtek in Nagpur district. Here also a large number of sites have been indicated where ore-bodies are expected underground.

Investigations were carried out for road metals for parts of the following roads—(1) Great Eastern Road, (2) Nagpur-Chanda Road, (3) Chanda-Mul Road, (4) Great Northern Road, (5) Sihora-Silondi Road, (6) Jabalpur-Mirzapur Road, (7) Sagar-Damoh Road, (8) Singa-Kawardha Road and (9) Raipur-Dhamtari Road. Detailed investigations were also carried out for road materials along different roads totalling 320 miles in the sub-divisions of Seoni, Narsimhapur, Hoshangabad, Pachmarhi, Betul, Harda, Akola, Khamgaon and Chanda.

The Engineering Geology and Ground Water Division, which was organised as a separate unit in the earlier part of the decade under review, examined many dam sites, which included four on the Nerbudda river (Bargi and Jhapni sites in Jabalpur district and Hoshangabad and Malikheri sites in Hoshangabad district), one on the Mahanadi, one on Tawa, two on Indravati, two on Pairi, one on Wardha river, one on Pench river, one on Bornala, etc., and advised on their suitability for the proposed dams.

This division also investigated the problem of water-supply of a very large number of towns and villages in the State. These included Akola, Akot, Amravati, Bhandara, Balaghat, Betul, Bilaspur, Chanda, Chhindwara, Damoh, Durg, Achalpur, Jabalpur, Katni, Khamgaon, Malkapur, Mandla, Sonegaon aerodrome, Nagpur, etc. In many cases sites for new wells were located; in others, sites for possible reservoirs were examined and schemes were suggested for improving the existing supplies. A detailed examination of the entire tract in the Purna valley, Berar was also undertaken, which included the survey of a zone about 100 miles long and 30 miles wide by a party of the Geo-physical Section, adopting resistivity method to determine the variations in the salinity of the soil. Suggestions have been made to alleviate the scarcity of fresh water in the region. Systematic surveys were carried out in parts of Bastar, Balaghat, Bhandara, Chanda, Durg, Raigarh and Yeotmal districts, covering a total area of about 1,500 square miles.

It may also be mentioned here that with a view to closer contact with the local Government and allied State Departments the Geological Survey of India opened a Circle Office in Nagpur in the summer of 1947. Owing to shortage of accommodation, however, this office has not yet been able to develop substantially.

APPENDIX D

Census Tabulation—Forms and Procedure

[Memorandum No. 693-50-RG, dated New Delhi-2, the 2nd July 1950, issued by the Office of the Registrar General, India, Ministry of Home Affairs.]

1. The tabulation for the 1951 Census will be done by hand-sorting of slips in Central Tabulation Offices which will be set up by the State Census Superintendents for their respective areas. The offices will be organised on the same pattern as in 1931 Census, when there was full tabulation on census material. Instructions regarding the setting up of these offices and other matters connected with their administration will be issued in due course to the Superintendents.

In 1931 and earlier censuses, enumeration was done on schedules and the information in the schedules was copied on slips which were later hand-sorted to produce various tables. In 1941, enumeration was done direct on slips which dispensed with the intermediate operation of slip copying. For the 1951 Census also, enumeration will be done direct on slips which will be later sorted.

But at this Census, in addition to the sorting of the slips to produce the tables, it is proposed to incorporate essential census information relating to every person enumerated in every village and every town/ward in a National Register of Citizens which will be preserved as an unpublished administrative register for purposes of reference during the inter-Census decade. The Government of India have already invited State Governments to take steps for the preparation of the register. The register will be compiled in the districts along with or immediately after enumeration and before tabulation operations start.

There will be four main differences between the procedure for tabulation adopted at the 1931 and earlier censuses and the procedure to be adopted at the next census. These are explained in paragraphs 2 to 5 below.

2. **Substitution of Economic Classification for Classification based on Religion.**—In the past, Census slips were, at the very outset, sorted on the basis of religion, and the figures of population by religion thus obtained were the basis of village statistics. The separation of slips by religion and sex was maintained throughout the sorting operations; and thus certain characteristics were cross tabulated by religion. During tabulation of the 1951 Census, the slips will be sorted, in the first instance, into the following eight livelihood classes of the population :—

Agricultural Classes

- I. Cultivators of land wholly or mainly owned; and their dependants.
- II. Cultivators of land wholly or mainly unowned; and their dependants.
- III. Cultivating labourers; and their dependants.
- IV. Non-cultivating owners of land; agricultural rent receivers; and their dependants.

Non-agricultural Classes

Persons (including dependants) who derive their principal Means of Livelihood from—

- V. Production other than cultivation.
- VI. Commerce.
- VII. Transport.
- VIII. Other services and miscellaneous sources.

The resulting figures will be given in the Primary Census Abstract and this Abstract will be the basis for village statistics. The slips as thus initially separated, will be kept separate throughout the sorting operations.

3. **The concurrent 10 per cent sample.**—When the slips are initially sorted, a 10 per cent sample will be taken out. The figures required for the Economic Tables (which are the first ones to be prepared) will be compiled separately for the 90 per cent slips and the 10 per cent sample. The two results will be

combined to produce figures for the total population. The operations on the 90 per cent slips and the 10 per cent sample will proceed simultaneously. There will thus be a record for every Census tract in each district, of the comparison between 10 per cent sample figures and the total figures; for the Economic Tables as well as many other tables. The "Age Tables", however, will be constructed, only from the 10 per cent sample.

4. **Household size and composition.**—In the past Censuses, the characteristics of individuals only were tabulated. At the present Census, certain characteristics of households will be sorted and tabulated. It is not possible to hand-sort for households, slips which relate to individuals. The National Register of Citizens which gives the details of the individuals arranged by households will be utilised for this purpose. The study of the households will be made on the basis of a 4 per cent sample of households. An abstract from the National Register of Citizens called the "Census Abstract of Sample Households"will be first prepared for the sample households. The construction of "Household" (size and composition), table will be based on this abstract.

5. **Preservation of Census records and registers.**—In the past, the abstract (first prepared in the process of sorting and compilation) was used for compiling village statistics, which were retained as unpublished administrative records by some States; and printed and published by others.

At the forthcoming Census, the following records (prepared during the process of sorting and compilation) will be brought together and bound in a single manuscript volume, called the District Census Handbook :—

- (i) District Census Tables (furnishing district data with break-up for Census tracts, within the district).
- (ii) Census Abstracts—
 - (a) Primary Census Abstracts,
 - * (b) Occupational Abstracts, and
 - (c) Census Abstracts of Small-scale Industries.

The Sample Household Abstracts will be found together in a single manuscript volume separately.The Occupational Abstracts will be compiled from Sorters' Tickets prepared during the sorting of slips for the Economic Tables. The Census Abstract of Small-scale Industries will be compiled from returns of the Census now in progress.

It will be suggested to State Government that the District Census Handbook (with or without the addition of other useful information relating to the district) should be printed and published in the same manner as "Village Statistics" in the past. The 'Sample Household Abstract' will be unpublished. Together with the National Register of Citizens, it will be used for purposes of reference, and also as a Sampling Base for Population Surveys in the inter-Census decade. One of the columns of this Abstract is designed to facilitate the taking of sub-samples of the different livelihood classes separately.

6. The following tables will be prepared and published for the 1951 Census :—

A.—General Population Tables

- I. Area, houses and population.
- II. Variation in population during fifty years.
- III. Towns and villages classified by population.
- IV. Towns classified by population with variation since 1901.
- V. Towns arranged territorially with population by livelihood classes.

B.—Economic Tables

- I. Livelihood classes and sub-classes.
- II. Secondary means of livelihood.
- III. Employers, employees and independent workers by industries and services divisions and sub-divisions.

*In accordance with the instructions contained in paragraph 12 of the "Tabulation Instructions", subsequently sent by the Registrar General, the Occupational Abstracts were replaced by the manuscript volumes, duly bound for each district and containing the District Index of Non-Agricultural Occupations and the Sorter's Tickets 2 for the district.

C.—Household and Age (Sample) Tables

- I. Household (size and composition).
- II. Livelihood classes by age groups.
- III. Age and civil condition.
- IV. Age and literacy.
- V. Single year age returns.

D.—Social and Cultural Tables

- I. Language.
- II. Religion.
- III. Scheduled castes and tribes.
- IV. Migrants.
- V. Displaced Persons.
- VI. Non-Indian Nationals.
- VII. Livelihood Classes, by Educational Standards.

E.—Summary Figures for Districts

.....

 Comparison between the foregoing tables and those prepared for the 1931 Census is explained in the following paragraphs.

7. A—General Population Tables.—Tables I, II and IV follow the 1931 model without change.

Table III follows an old table and provides some more information. Sex details will be given for each group of towns and villages. The groups in the table will be arranged under three major groups, for each of which the number of towns and villages and population by sexes will also be given. This change has been made with reference to a recommendation of the Population Commission of the United Nations.

The basis of Table V differs from the 1931 Census. In the 1931 Census the population of individual towns was shown classified by religion. Now it is proposed to give the same information under livelihood classes, instead of religion.

8. B—Economic Tables.—These correspond to the "Occupation or Means of Livelihood Table" prepared at the 1931 Census. The forms, as well as the contents of these tables, have been recast completely. This is the most important among the changes made in Census tabulation.....

9. C—Household and Age (Sample) Tables.—Table I—Household (size and composition) Table is new, as already explained in paragraph 5 above.

Tables II, III, IV and V will be prepared on the 10 per cent sample slips.

Table II (Livelihood classes by age groups) is new. Tables III and IV correspond to similar tables of the 1931 Census.

In the past, it was customary to apply a smoothing formula to the actual age returns. The published tables contained only the smoothed figures. This was done in order to offset the observed preference for particular digits (especially 0) in actual age returns. At this Census, tabulation will proceed on the basis that the Census should publish the information as actually furnished by the people.

Accordingly, it is proposed—

- (a) to discard the smoothing formula,
- (b) to adopt certain decennial groups recommended by the United Nations Population Commission which includes all the digits with the most favoured digit (0) at the Centre; and are, therefore, likely to be most free from the effect of preference for particular digits, and
- (c) to prepare and publish a table of individual year age returns (which may be made use of by actuaries and research workers for constructing any desired age groups and smoothing the figures by any desired formula).

10. D—Social and Cultural Tables.—Tables I (Language), II (Religion) and IV (Migrants) correspond to similar tables prepared at the 1931 Census. The form of Table I has been simplified in so far as it relates to mother-tongue. Table IV (Migrants) will be in the same form as the Birth-place Table of the 1931 Census.

Table III furnishes the numbers of the Scheduled Castes and Scheduled Tribes. The numbers of Anglo-Indians will be indicated on a fly-leaf. Other race-caste-tribe data published in 1931 and prior Censuses will not be published. (But such data as may be required for the Backward Classes Commission will be collected and preserved.)

Table V is new and relates to displacement of population consequent on partition.

Table VI relates to Non-Indian Nationals. It is new and based on a suggestion made by the United Nations Population Commission.

Table VII is also new. It is designed to show the distribution of educated man-power among the different livelihood classes.

11. E.—Summary Figures for Districts.—This table will furnish selected data, by districts in the All-India Table and correspondingly by Tahsils/Thanas in the State Tables. The selected data will be in the same form as in previous Censuses; but livelihood classes will be substituted for religion.

APPENDIX E

Net Migration

An important point to be considered in calculating net migration is about the change in the mode of enumeration since 1941. Seasonal migrants were fully recorded in the State up to the 1931 Census, but were not so recorded in 1941 on account of the change in the enumeration procedure. Up to 1931, the *de facto* system of enumeration was in force, according to which a person was enumerated wherever he was found on the Census night. From 1941, however, modified *de facto* method of enumeration was introduced, according to which a person was normally enumerated in his own house, provided that he was present there at any time during the specified enumeration period. In 1941, the period was one month; while during the 1951 Census it was reduced to twenty days. Thus, according to this rule, the seasonal migrants, who came for harvesting after leaving their homes during the period of enumeration, were not enumerated as, according to the rule, they were to be enumerated in their own houses from where they came for harvesting to this State.

2. The drop from 1.3 in column 31 (Migration-cum-Registration error for the decade 1921—30) of table 1.3 to 0.0 in column 30 (Migration-cum-Registration error for the decade 1931—40) must be due to the above changes in the mode of enumeration to a certain extent. 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 1931 and 1941 Censuses as a result of which the seasonal migrants were omitted at the 1941 Census. The migration-cum-registration error will, therefore, have to be adjusted taking into account the effect of the change.

3. The Census Report of 1921 shows that the Chaitharas or the wheat labourers actually enumerated during that Census and who were born outside the Province, numbered 38,857. It is also pointed out that these figures would be "below and not above the mark, for while an enumerator would not enter in the Census schedules any one as a Chaithara who was not, he might omit to make the necessary entry". In the 1931 Census Report, the exact number of Chaitharas counted is not forthcoming, but there is a general remark that as the Census of 1931 was held three weeks earlier than the Census of 1921 the stream of Chaitharas had not fully come in. The 1921 Census was held on the midnight of 18th March 1921, while that of 1931 was held similarly at night on the 26th February 1931. The 1941 Census was held with reference to the 1st of March 1941 and as pointed out, it was based on the modified *de facto* system of enumeration. The 1951 Census was also held with reference to the same date, *viz.*, the 1st of March.

4. For purposes of determining the approximate number of visitors and Chaitharas, who were omitted at the 1941 Census, we have the approximate figure of 38,857 (Chaitharas), who were counted in 1921. Again, in 1931, the total number of immigrants who were enumerated in Madhya Pradesh and who had migrated from the adjacent States, was found to be 553,975; while in 1951 the corresponding figure was 510,165, and the difference is of the order of 43,810. As the Census of 1941 was held on the 1st of March, *i.e.*, a few days after the date of the 1931 Census (26th February 1931), we may assume that the number of visitors and Chaitharas, who would have been enumerated during the 1941 Census according to the old rule, would have been about 30,000.

5. We will now proceed to determine the approximate number of migrants during the period 1931—1951, who have added to the growth of the population :—

	Population
Immigrants of 1951 Census	727,377
<i>Deduct</i> pre-1951 immigrants	655,563
	71,814
Estimated deaths of pre-1931 immigrants at the decennial death rate of 31.9 per cent during 1931—40 = 209,125.	
Estimated deaths of remaining pre-1931 immigrants (655,563—209,125) at the decennial death rate of 30.3 per cent 1941—50 = 135,271.	..
<i>Add</i> total estimated deaths of pre-1931 immigrants (209,125 + 135,271) ..	344,396
Estimate of immigrants (1931—51}	416,210

	Population
Emigrants at 1951 Census	456,226
<i>Deduct</i> pre-1931 emigrants	421,390
Estimated deaths of pre-1931 emigrants at the decennial death rate of 31.9 per cent during 1931—40 =134,423.	..
Estimated deaths of remaining pre-1931 immigrants (421,390—134,423) at the decennial death rate of 30.3 per cent during 1941—50 =86,951.	..
<i>Add</i> total estimated deaths of pre-1931 emigrants (134,423+86,951)	221,374
Estimate of emigrants (1931—51)	256,210
Estimate of net gain (+) or loss (—) by migration	160,000
Adjustment for difference in enumeration procedure between 1931 and 1941	+30,000
Estimate of net gain (+) or loss (—) by migration	190,000
6. We will similarly determine the approximate number of migration during the decade 1921—30 :—	
Immigrants of 1931 Census	655,563
<i>Deduct</i> pre-1921 immigrants	609,563
	46,000
<i>Add</i> estimated deaths of pre-1921 immigrants at the decennial death rate of 31.8 per cent during the decade 1921—30.	193,841
Estimate of immigrants (1921—30)	239,841
Emigrants of 1931 Census	421,390
<i>Deduct</i> pre-1921 emigrants	406,599
<i>Add</i> estimated deaths of pre-1921 emigrants (at assumed decennial death rate of 32.2 per cent).	129,298
Estimate of emigrants (1921—30)	144,089
Estimate of net gain (+) or loss (—) by migration	+95,752

APPENDIX F

**A Note on the Review of the Anti-Malaria Work done in Madhya Pradesh, recorded by
Shri T. D. Shahani, F.R.C.S., Director of Health Services, M. P., Health Section**

Prior to 1946, there was no malaria organisation in Madhya Pradesh. In Nagpur City, in Dharni village of Melghat taluq and in Bar Nawapara, North Raipur Forest Division, anti-larval work in a restricted scale to reduce mosquito breeding was carried out. In Nagpur and Bar Nawapara, the anti-larval work was carried out under the Assistant Health Officer specially trained in Malariology at the Malaria Institute of India, Delhi, while in Dharni, the Assistant Medical Officer, in charge of the dispensary was given the additional duties. In Dharni the population protected was only 1,000 and in Bar Nawapara about 300. In the Nagpur City the anti-larval work was restricted to the Civil Lines area. Besides quinine was freely distributed in malarious tracts through revenue staff.

In March 1946, a separate anti-malaria organisation was created in Madhya Pradesh. This organisation consisted a provincial headquarters organisation of an Assistant Director of Public Health (Malaria) and Entomologist with adequate clerical staff. In the field five malaria control units, each consisting of a Medical Officer of Health trained in Malariology, five Anti-Malaria Supervisors, two Insect Collectors, a peon, a clerk, 25 labourers with transport, laboratory and field equipments were created. These units were established in highly malarious rural areas. Malaria control was effected by indoor spraying of all the huts with D. D. T. insecticide at two monthly intervals during the malaria season. Each unit approximately protected 50,000 to 55,000 population, depending on the density of the population. Due to paucity of technical personnel, the two field units could only be established in 1946, two in 1947 and one in 1948. In 1949, four field units were established in the merged districts. In 1951, two more units were established. In all there are now 11 units working in the field. As a measure of economy the State Government abolished the headquarters staff of Assistant Director of Public Health (Malaria) and Entomologist in March 1950. Their duties are being performed by the Deputy Director of Health Services in addition to his own.

When these units have been working for a few years the dispensary attendance has dropped down by 60 to 75 per cent, thereby considerably reducing the sickness of the people. The mortality rate has been significantly reduced. Besides controlling malaria the D. D. T. spraying is rendering collateral benefit by reducing the fly-nuisance, bed-bugs, etc., the anti-malaria work is getting so popular that this office is receiving innumerable petitions from villages outside the control area for inclusion of these villages as well in the spraying programme. Unfortunately finance is the limiting factor.

Besides actual control of malaria in the field, the malaria organisation has conducted field researches to determine the malaria transmission season, the economical doses of application of D. D. T., the optimum interval between sprays and the effective insecticide to be used. Besides the bionomics of the vector mosquito species has been under constant study. Some of the investigations have been published. A few are yet to be completed.

In areas where malaria control could not be extended distributing anti-malaria drugs freely to revenue or medical staff. Paludrine is made available at concessional rates in multi-purpose co-operative stores and post offices.

APPENDIX G

A Note on Developments in Labour Conditions in Madhya Pradesh during the last 10 years, by Shri P. K. Sen, B.Sc., Labour Commissioner, Madhya Pradesh

During the last decade, the Factories Act, 1948, was passed completely revising the Factories Act of 1934 and consolidating all the amendments made in the Act from time to time. The Act which came into force from 1st April 1949, is much wider in scope and extends to a large number of unregulated factories which were formerly covered by the Central Provinces and Berar Unregulated Factories Act, 1937. The factory inspection staff has also been increased to one Chief Inspector of Factories and four inspectors. The Act makes provision for certain labour welfare measures such as creches, canteens, washing facilities, dining sheds and appointment of labour welfare officers. The other legislative measures of the Government of India during decade for bettering the conditions of labour were the Minimum Wages Act, 1948, the Employees State Insurance Act, 1948, the Industrial Disputes Act, 1947 and others.

The existing welfare measures in the Textile Mills of this State were surveyed by the Labour Welfare Enquiry Committee in a State-wide survey conducted in the year 1948 and suggestions were made for improvement and immediate adoption of certain welfare measures. Action has been taken to implement those recommendations which are statutory by law. The other recommendations of the Committee which were to be taken up voluntarily are also being implemented.

The Chief Inspector of Factories was specially deputed for this purpose and through his efforts and those of his assistants the safety provisions in most of the Textile Mills have improved and in spite of the difficulties in obtaining building materials, creches, canteens, rest-rooms and dining sheds have been constructed. A safety officer was appointed by the Empress Mills, Nagpur.

2. Administration of Factory Legislation—Factories Act.—During the decade the number of factories (both perennial and seasonal) registered under the Factories Act increased from 1,150 to 1,513 and the number of workers employed from 76,446 to 96,273. This shows that the labour employed in factories registered an increase of about 25 per cent. These figures do not include Bidi and Lac Factories which were covered by the Central Provinces Unregulated Factories Act, 1937, but are now covered by the new Factories Act.

Payment of Wages Act, 1936.—There was a progressive increase in the total wages paid to workers during the decade. The amount of deductions on account of fines increased from Rs. 5,679 in 1941 to Rs. 17,039 in 1950 thus indicating negligence or indiscipline of workers during working hours. Expenditure from the fine fund was always subjected to scrutiny by the Inspectors.

Employment of Children's Act, 1938.—The largest number of children certified by the Certifying Surgeons was 405 in the year 1947. Lately, no complaints were received by the department of any malpractices which could be controlled by this Act.

Workmen's Compensation Act, 1923.—During the decade total compensation amounting to Rs. 5,60,561 was paid under the Act by the factories in the State. Of this amount, Rs. 1,76,000 was paid as compensation for 217 deaths as a result of the accidents.

Central Provinces Maternity Benefit Act, 1930.—The total amount of benefits granted under this Act during the years 1941—49 was about Rs. 1,30,000 (Figures for 1943-44 are not available as reports were not published.)

3. The following improvements in labour conditions took place during the decade :—

Housing.—Industrial Housing is unquestionably the most urgent problem in the Country today. In order to increase the productive efficiency of the worker it is necessary to provide him with a good house. The Industrial Truce Resolution adopted at the Industries Conference held in New Delhi in December 1947, recommended that immediate attention should be devoted to the problem of the Housing of Industrial Labour. In this State the question was taken up by the Provincial Labour Advisory Committee which discussed the Schemes of Industrial Housing circulated by the Government of India, Ministry of Labour, in April 1949. On the advice of the Provincial Labour Advisory Committee it was decided to set up a Housing Board which would take up the question of Housing for Industrial Labour in this State and devise ways and means to implement suitable Housing Schemes for Labour at the industrial centres in the State. The need for better housing of labour at economic rent, which they are in a position to pay is admitted on all sides. To discourage the growth of slums and to raise the standard of living of the workers, a properly planned and integrated housing scheme is essential for the social uplift of the worker.

With this end in view the Housing Board has been constituted and it has been clothed with the necessary powers to carry out its objective. A loan of Rs. 10 lakhs has been obtained from the Government of India for the purpose, and Rs. 5 lakhs is being raised from the Employers and the State Government. Building sites are being arranged from the Improvement Trust, Nagpur, for 400 labour quarters and land is also being taken at Pulgaon and Achalpur for 100 houses. The existing labour quarters already provided by the employers house nearly 11,000 workers as compared to 9,500 in the year 1941.

Creches for babies are now provided in 11 cotton textile mills and two pottery works. Here the children are provided with milk, medicines and dress and are kept in charge of trained nurses. The approximate number of children in the creches is 400.

Expansion of medical facilities was noticed during the decade. Well equipped dispensaries in charge of qualified doctors are provided by the textile mills, cement factories, ordnance factories and potteries. The medical benefits provided have recently been examined by the Director of Health Services, Madhya Pradesh, and suggestions made for improvements. This has been done as a first step to the provision of medical benefits under the Employees State Insurance Act, 1948. First Aid is also provided as under the Factories Act, 1948.

Water Supply.—Satisfactory water supply both for drinking and washing is ensured for their workers by most of the important factories and pure and filtered water is supplied either from tube wells, pipes or wells.

Canteens are now made statutory under the Factories Act, 1948, for factories employing 250 workers or more. At present, these are provided in eight textile mills, two ordnance factories, two cement factories, one pottery works and four other factories.

4. Factory Primary Schools.—These continued to be provided in most of the big factories. New schools were opened during the decade. A High School is also run by the Gun Carriage Factory, Jabalpur, for workers' children. The number of children of factory workers receiving education in schools maintained by Factories was about 1,300 in 1950 as against 437 in 1941.

5. Other Labour Welfare Measures.—Facilities for indoor and outdoor games, recreation, reading rooms, clubs, etc., are being provided in many of the textile mills and other big factories. No welfare activities could so far be undertaken by the Labour Department, but a scheme for Labour Welfare is under active consideration of the Government. It is expected that the scheme will be operated by the proposed welfare section of the Labour Office.

In the Coal Mines in the State, welfare facilities are provided under the Coal Mines Labour Welfare fund Act, 1947. These consist of ambulance cars for first-aid, anti-malaria organisation, pit-head baths, water supply, mobile cinema vans, radio sets, etc. Two regional hospitals are being constructed and three maternity and child welfare centres are also being set up. With the object of improving the standard of living and also to provide means of earning a subsidiary income by women workers through properly organised Cottage Industries, a section is working exclusively for the welfare of women and children. Provident Fund and Bonus Schemes have also been adopted for the Coal Mines Labour in the State under the Coal Mines Provident Fund and Bonus Schemes Act, 1948.

6. Provident Fund.—The Provident Fund has been made compulsory in the textile mills since the year 1948, as a result of the award of Industrial Tribunal while the scheme also exists in cement factories potteries, glass works and some of the big electric supply companies.

7. Co-operative Credit Societies.—For workers these exist in six textile mills and one pottery works.

8. Administrative Machinery.—A separate Labour Department has been formed in the Secretariat in charge of a Secretary to the Government. Following the recommendations of the Textile Enquiry Committee, 1941 (presided over by Shri Jayaratnam) a Labour Commissioner has been appointed for the Province in 1942, who works as the Head of the Department. For better and efficient working of labour policy of the Government, the strength of the Labour Office has been considerably increased for doing work of conciliation, and Industrial Courts have been established for adjudication of disputes. Opportunities are also being provided to the Labour Office personnel for further training and specialization. The Factory Inspectorate has been brought within the fold of the Labour Department, for better co-ordination of work in connection with labour and their welfare.

With a view to facing labour problems and improving labour relations, a State Labour Advisory Committee was constituted in December 1947, with the Minister for Labour as Chairman and representatives of employers, workers and M. L. As. as Members. Another Committee exclusively for the Textile Industry has also been constituted namely the Standing Committee (Textile) to deal with the special problems of the Textile Industry. This Committee has considered the various problems facing the Textile Industry like the Regularity Bonus, the Sporadic and illegal strikes, the question of Badli and surplus workers, normal complement of workers of the Textile Mills, etc.

This State also can claim the pride of place for having settled on a permanent footing the question of bonus for the Textile Industry. The question of Bonus for the Textile Mills of the State has been a source of constant trouble and many Industrial disputes arise on its account. In order, therefore, to settle this question on a permanent basis, a Tripartite Committee on Bonus was set up to formulate the principles according to which bonus could be calculated for the Textile Industry. This Committee has formulated those principles which have been accepted by the mill-owners and the Textile workers and bonus for individual mills will now be calculated and paid to the workers accordingly.

9. Labour Legislation.—As suitable machinery was not available for adjudication of Industrial disputes, use was made of Rule 81-A of the Defence of India Rules and six Industrial disputes were referred for adjudication. When Rule 81-A of the Defence of India Rules lapsed in September 1946, and its period of extension by six months under the Emergency Provisions (Continuance) Ordinance (No. XX of 1946) also expired, the awards given in cases of Industrial disputes referred to adjudicators on the continuance of proceedings under the Defence of India Rules came to an end. An Ordinance called the Central Provinces and Berar Validation of Awards and Continuance of Proceedings Ordinance was, therefore, promulgated and it was later replaced by the Validation of Awards and Continuance of Proceedings Act. Settlement of Industrial disputes by emergency legislation was, thus, continued pending permanent legislation for conciliation and adjudication of Industrial disputes in the Province.

The question of suitable permanent legislation was soon taken up and in August 1946, the Central Provinces and Berar Industrial Disputes Settlement Bill was introduced in the Provincial Legislature and it became Law in 1947. The Act for the first time provides for statutory recognition of the office of the Labour Commissioner and Labour Officer and defines their powers and duties. The Labour Commissioner was given wide powers in respect of Industrial disputes touching the discharge, dismissal, removal or suspension of any employee in any factory or class of factories. He has the power to order reinstatement of workers illegally removed or dismissed and if the employer refuses or neglects to carry out the order compensation can be awarded to the employee. The Labour Commissioner becomes the ex-officio Chief Conciliator for the Province and the Labour Officer can be invested with any of the powers of the Labour Commissioner. These Officers further possess the necessary powers of inspection of any premises used for the purpose of any industry or the office of any Trade Union. The Act further provides for the constitution of works committees, Provincial Industrial Courts, Boards of Arbitration and Conciliation Machinery. It also contains provision for registration of recognized unions and grant of necessary facilities to such unions for presentation of workers' grievances to the employers and for their amicable settlement. The Act has been applied to all industries except the following :—

- (i) Employment in any industry carried on by or under the authority of the Central Government, or by an Indian State Railway.
- (ii) Mines.
- (iii) Saw-mills.

It has been made applicable to the Textile Industry only recently.

Under the Act Government have constituted the Provincial Industrial Court and have also instituted District Industrial Courts in eight revenue districts of the Province.

Industrial Disputes Act.—The disputes in the textile industry were referred for adjudication to an Industrial Tribunal constituted under this Act. This Tribunal passed a number of awards dealing with minimum wages, standardisation of wages, provident fund, dearness allowance and other conditions of work of textile workers including clerks and watch and ward employees. Another Industrial Tribunal was appointed to adjudicate on the dispute of sweepers employed in Municipalities and Notified Area Committees of the State. This Tribunal's award deals with matters such as basic wages and dearness allowances. Similar Tribunals were set up for the oil industry and saw-mills.

Minimum Wages Act.—Minimum wages under the Minimum Wages Act have been fixed for employment in Cement Factories, Potteries, Oil mills, Glass Factories, Bidi Factories, Transport Services, Rice, Floor or Dal Mills, employment under any local authority in road construction or building operations and stone breaking and stone-crushing and this State is one of the few States in which such minimum wages have been fixed in most of the scheduled employments.

A Wage Board has been constituted in the State under section 5 (1) (a) of the Minimum Wages Act, 1948. With a view to facilitate the fixation of minimum wages for Agricultural-labour an enquiry was started by the Government of India towards the end of the decade which is nearing completion by March 1951.

With a view to regulate the conditions of employment in shops, restaurants, cinema houses and commercial establishments, the Central Provinces and Berar Shops and Establishments Act was passed in the year 1947. Holidays, Payment of Wages for overtime work and leave of persons employed in these establishments are regulated by the Act. It also provides for notice pay in the event of termination of services and prohibits employment of children. The Act at present applies to 21 towns in the State and covers most of the district and sub-division headquarters with a population of 20,000 and above.

10. **Organisation of Labour and Labour Relations.**—With the increasing self-consciousness among the workers, strikes and hartals became a regular feature of labour relations during the decade. The total number of strikes recorded during the decade was 761 involving 1,058,955 workers and a loss of 6,402,743 man-days.

The majority of the strikes were in the cotton textile mills while some took place in Coal Mines and Bidi Factories.

Following the rise in the cost of living, as a result of the second world war there were demands for increase in wages, allowances or for bonus. Though many of these strikes could be attributed to these economic causes, political strikes in essential employments, Government had to declare a few employments to be essential for purposes of public safety, the maintenance of public order and for maintaining of supplies and services essential to the life of the community.

Growth of Trade Unionism was noticeable during the decade and the number of trade unions on roll increased from 52 in 1941 to 90 in 1950. The total membership increased from 17,261 in 1941 to 58,745 in 1950.

The distribution of the present membership according to industries is as follows :—

Industry.	Membership
Textile Industry	23,185 (including Jute),
Printing Presses	405
Food beverages and Tobacco	6,035
Railways	10,309 (All India Railway- men's Union).
Metal Industries	5,204
Mines	9,703
Potteries and Cement	811
Ginning and Pressing	899
Others	2,194
Total ..	58,745

Trade Unionism has thus made great strides and more and more workers are taking part in the Trade Union movement.

In the past, no particular attention was paid by the Government to promote the healthy growth of the Trade Union movement and the so-called trade unions that had cropped up were no better than Strike Committees. Attempts are, however, now being made to put the Trade Union movement on a sound footing. Bogus trade unions are discouraged. It is being constantly impressed on the trade union organisations that the workers should develop a sense of responsibility and that they should not allow labour

interests to suffer by considerations extraneous to genuine trade unionism. Deliberate attempts are made by the leaders of some trade unions to exploit workers for narrow political ends in disregard of the needs of the country and it is essential that trade unions and specially the conscious section of the workers are made aware of the grave implications of such tendencies.

Representation has been given to the trade unions on the State Legislative Assembly and the Corporations at Nagpur and Jabalpur thus providing them with constitutional means for safeguarding their interests.

11. **Integrated States.**—Soon after the integration of the States with this Province, Officers of the Labour Department visited the important Industrial Centres, including Raigarh and Rajnandgaon and made a survey of labour conditions at these centres. In 1948, the various Provincial and Central Labour Acts were extended to the States under the Central Provinces (States) Applications of Laws Orders, 1948. The awards of the Textile Industrial Tribunal have been applied with suitable modifications to the Bengal-Nagpur Cotton Mills, Rajnandgaon. At Raigarh the minimum basic wages and dearness allowance have also been fixed by conciliation. The recommendations of the Fact Finding Committee, Central Provinces and Berar, have been implemented in the collieries of the integrated States. The Coal Mines Labour Welfare Fund Advisory Committee has also co-opted two members from the Coal fields of the integrated States, on the Central Provinces and Berar Coal field Sub-Committee

APPENDIX H

PART I

Progress of Agriculture in Madhya Pradesh (1941—50), by Shri S. P. Mushran, I.A.S., Secretary to the Government, of Madhya Pradesh, in the Agriculture Department, Nagpur

This monograph gives a brief account of the Agricultural activities of the State of Madhya Pradesh during the period 1941-51. This period has seen great changes in the country. Independence came soon after the victory of the United Nations in World War II. Partition of India took place and the State of Pakistan was formed. Inside India itself a process of administrative integration was set in. Small 'Princely' states were joined together to form bigger units or merged with the old neighbouring 'provinces'. In the economic sphere specially on the food front, however, the period has been one of continued stress. There were heavy military demands for foodgrains during the course of the second World War. The stoppage of import of foodgrains from Burma and other rice producing countries together with a series of indifferent harvests led to shortage of food. The "Grow More Food" Campaign was started. The shortage could not, however, be made up; and it was further aggravated after the partition of India by the loss of the best wheat producing tracts in the country. The "Grow More Food" Campaign was intensified. Freedom from foreign bread became the slogan of the day. It became necessary to make a supreme effort for increasing the production of foodgrains. Continuing shortage of food and raw materials thus gave Agriculture its proper significance in the economy of the country. And since this realisation has come, re-organisation of agriculture has been a subject of outstanding importance both before the Government and the people.

2. Agriculturally, Madhya Pradesh could broadly be divided into three tracts:—

- (1) Cotton Zone comprising of all the four districts of Berar and Nagpur, Wardha and Nimar districts.
- (2) Wheat Zone comprising of the districts of Sagar, Jabalpur, Mandla, Hoshangabad, Chhindwara and Betul, and
- (3) Paddy Zone made up of (a) Bhandara, Balaghat, Chanda, Durg and (b) Raipur, Bilaspur, Bastar, Raigarh and Surguja districts.

These are further sub-divided into seven sub-zones according to the predominance of Kharif or Rabi crops grown, soil conditions, rainfall and location as shown in Table No. 1.

3. For want of up-to-date statistics in regard to the merged areas, the figures relating to the old Central Provinces and Berar have been given in this Monograph. The complete statistics for the agricultural year 1950-51 not being available, the figures for the period commencing from the agricultural year 1940-41 and ending with the year 1949-50 have been compared with the corresponding figures for the period commencing from the agricultural year 1930-31 and ending with agricultural year 1939-40.

4. Area and production.—Madhya Pradesh occupies a unique central position and grows almost every crop that is grown in India. The following table compares the acreage and production of certain important crops, in this State, excluding the merged areas, with those in the Indian Union for the decennium ending with the year 1949-50:—

Name of crop	Percentage of area in the State to that in India	Percentage of production in the State to that in India
Juar	14	16
Wheat	11	6.4
Rice	10	7.7
Gram	8.5	5.7
Linseed	30	19
Til	10	8.4
Groundnut	5	3.6
Cotton	22	20.7

These figures indicate that production of crops other than juar is generally lower than the acreage in India. This lower production is mainly due to the fact that the area under irrigation in this State constitutes about 6 per cent of the gross cropped area as against the all-India average of 19 per cent.

5. Trend of occupied, gross cropped, net cropped and double cropped area.—The table below gives the figures during the decade from the year 1940-41:—

Year	Occupied Area	Gross cropped area	Net cropped area	Doubled cropped area
(1)	(2)	(3)	(4)	(5)
1940-41	30,974	26,883	24,546	2,338
1941-42	32,029	26,530	24,816	1,714
1942-43	32,097	26,874	24,271	2,603
1943-44	32,202	28,109	24,989	3,120
1944-45	32,256	27,764	24,633	3,131
1945-46	32,299	27,272	24,302	2,970
1946-47	32,335	27,080	24,190	2,890
1947-48	32,289	26,726	23,855	2,871
1948-49	32,344	27,417	24,376	3,041
1949-50	32,407	27,502	24,208	3,294
Average for the ten years ending 1949-50.	..	27,216	24,419	..
Average for the ten years ending 1939-40.	..	27,260	24,603	..

These figures show that when the prices of agricultural commodities rose in 1942-43 there was a scramble for bringing more land under crop. The gross cropped area registered a sharp increase of 12.35 lakh acres and the net cropped area of 7.18 lakh acres in the year 1943-44. Soon after foodgrains control was established, the enthusiasm for bringing more land under crops gradually subsided. The result was that all that had been achieved in a single year, 1943-44, was lost in the next succeeding four years. These observations find support from the figures shown below:—

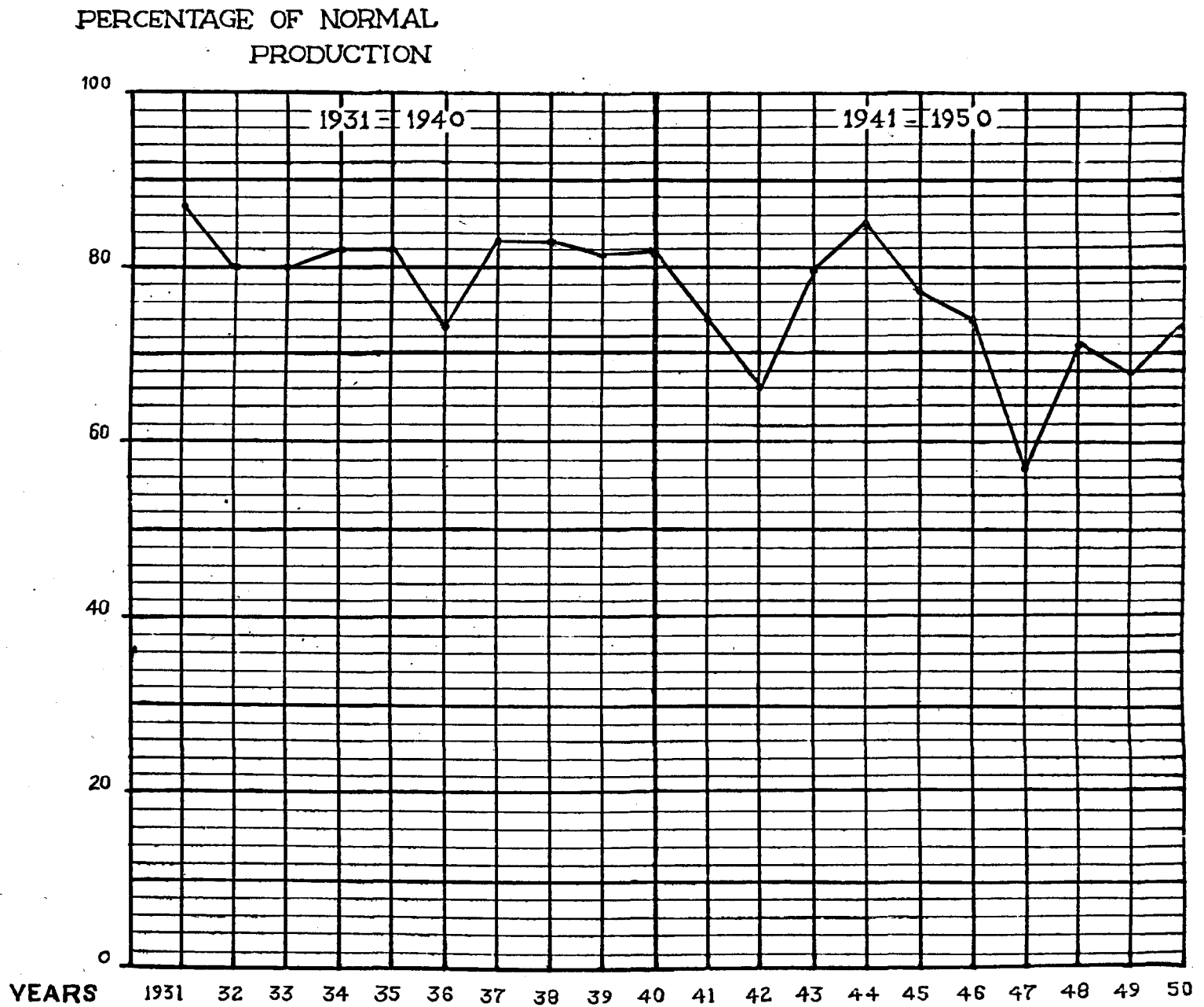
[Variations as compared to the preceding year (+) increase (—) decrease]

Year	Occupied	Gross cropped	Net cropped
(1)	(2)	[In lacs of acres]	
		(3)	(4)
1943-44	+1.05	+12.35	+7.18
1944-45	+0.54	—3.45	—3.56
1945-46	+0.43	—4.92	—3.31
1946-47	+0.36	—1.92	—1.12
1947-48	—0.46	—3.54	—3.35
1948-49	+0.55	+6.91	+5.21
1949-50	+0.63	+0.85	—1.68

The gross cropped area and the net cropped area were the lowest in the year 1947-48 mainly owing to the fact that the average outturn in the preceding year (1946-47) was the lowest. The downward trend in the gross-cropped area and net cropped area which started in the year 1944-45 and continued till 1947-48 was arrested by the promulgation of the Central Provinces and Berar Fallow Lands Ordinance (No. VI of 1948), which was later converted into an Act, as it laid a statutory duty on a holder to bring a specified area of his fallow land under cultivation. The enforcement of this law presented several difficulties but its effect has been generally satisfactory. In the year 1948-49 as much as 5.21 lakh acres were brought under crop and in the following year the gross cropped area further increased though not to the extent to which it did in the preceding year.

DIAGRAM No. 1

CHARACTER OF THE AGRICULTURAL SEASONS DURING 1931-1950
AS SHOWN BY ESTIMATES OF CROP PRODUCTION FOR MADHYA PRADESH



[To Face Page 315]

6. **Trend of area under current fallow.**—Column (15) of Table II shows that though the area under current fallow varied from 35.44 lakh acres to 44.29 lakh acres the 1940-49 decennial average was 40.09 lakh acres against 38.71 lakh acres, the corresponding figure of the preceding decennium.

7. **Trend of cropping.**—Table II further shows that there has been a distinct improvement in the trend of cropping. The area under rice has steadily increased from 56.99 lakh acres the average of preceding decennium to 63.39 lakh acres in year 1949-50. The increase has mainly occurred in the rice zone but a significant increase has also taken place in the other tracts owing partly to scarcity of rice and partly to the Grow More Food efforts. The area under wheat declined from 32.29 lakh acres in year 1940-41 to 25.44 lakh acres in 1942-43 mostly on account of rust epidemics and unfavourable seasons. In the year 1946-47, however, rust epidemic occurred on a scale not known in living memory and the area under wheat touched the lowest figure of 16.91 lakh acres in the succeeding year. As a result, partly of liberal distribution of wheat seed and partly of favourable seasons the acreage under wheat has come up to the level of 25.30 lakh acres in year 1949-50. The reduction of area under wheat has, however, been balanced by an increase in the area under pulses particularly teora and gram, the former being a hardy crop fetching a good price. The area under cotton has steadily fallen from 39.62 lakh acres the average of the preceding decennium, to 28.33 lakh acres in year 1949-50 and has been switched over to juar and groundnut. The area under juar crop has increased from 43.98 to 47.89 lakh acres and that under groundnut from 2 lakh acres to about 7.05 lakh acres. The reduction in cotton acreage and corresponding increase under juar was mainly due to discontinuance of trade with Japan which was the main buyer of short staple cotton and also to the efforts made for increasing the area under foodgrains. The area under groundnut showed a rapid rise partly because it is a profitable rotation crop and partly because of the encouragement given to the growers by subsidising distribution of improved varieties of groundnut seed.

8. **Seasons and the production of crops.**—The seasons between 1941 and 1950 were much less favourable than those in the preceding decade. This can be seen from Tables III and IV and also from Diagram I. The estimated outturn for the State as a whole from the year 1931 to 1940 fluctuated within the close range of 80 to 87 per cent of the normal outturn except in the year 1936 when it was 73 per cent. The fluctuations in the present decade range for a major part of the period between 67 and 77 per cent, except in the years 1943 and 1944 when the estimated outturn was 80 and 85 per cent and the year 1947 when it was as low as 57. The difference between the minimum and the maximum was as much as 28 in the present decade as against 14 in the preceding decade. In both the decades, however, the estimated outturn did not even approximate to the normal. Seasons in individual districts show wider fluctuations than the averages for the whole State (Tables III and IV). The fluctuations are more violent in the present decade than in the preceding one. In the main paddy tract, the outturn in a greater number of years during the period from 1931 to 1940 was either normal or approximately normal and in a few years even more than the normal, while in the present decade a normal or more than normal crop was much less frequent. The difference between the maximum (112 per cent in Bhandara district in 1943) and the minimum (44 per cent in the Balaghat district in 1942) outturns in the paddy tract was as wide as 58 in the present decade, while it was 38 in the preceding decade, the maximum being 118 per cent in Balaghat district in the year 1932 and the minimum 70 per cent in Bhandara district in 1940. In the wheat tract (including the plateau districts) the outturn in the preceding decade ranged between the minimum of 62 per cent (district Chhindwara, 1936) and the maximum of 108 per cent (district Mandla, 1932) while the minimum and the maximum outturns in the present decade were respectively 40 per cent (district Betul, 1947) and 89 per cent (Mandla, 1946). In the cotton tract, the outturns were only fair for a major part of the present as well as the preceding decade. During the ten years ending 1940 the highest outturn was 102 per cent (Nimar district, 1931) and the lowest 37 per cent (Buldana district, 1932) while during the present decade the highest outturn was 95 per cent (Nimar district, 1941) and the lowest 44 per cent (Akola district, 1949).

As a result of unfavourable seasons the average production of important crops during the present decade was 3,739 thousand tons for an average area of 22,234 thousand acres or 377 lbs. per acre, as against 4,119 thousand tons for an average area of 22,919 thousand acres or 403 lbs. per acre in the preceding decade (Table V). While the average area of the present decade was only 3.0 per cent less than the average of the preceding ten years, the average production was less by 9.2 per cent. The deviations from the decennial mean (Table V) show that the area under important crops was generally steady during the preceding decade the range of variability being 2.4 per cent above and 2.2 per cent below the decennial mean. In the present decade, however, the range of variability of this area was 4.7 per cent above and 4.4 per cent below the decennial mean. Compared with the average of the preceding decade the area under important crops was generally lower, the maximum difference having occurred in 1947-48, when it was 7.2 per cent (See Diagram 2).

The production figures for the present decade are comparatively disappointing. While the highest and the lowest production figures during the ten years ending 1940 were respectively only 4.5 per cent above and 4.8 per cent below the decennial average, the highest and the lowest production figures during the present decade were, respectively, as high as 14.1 per cent above and 21.8 per cent below the decennial average. Except during the year 1944, the production throughout this decade was below the average of the preceding ten years. The difference between the maximum and the minimum was as high as 13.3 lakh tons in the present decade, while it was only 3.8 lakh tons in the preceding one. (See Diagram 2).

As regards the individual crops (Table V-A) it is found that the production of rice has been fairly satisfactory throughout the decade, except in certain years, when it suffered from adverse seasonal factors, especially draught, in 1940-41 and 1941-42. In fact, it is this crop which has substantially helped not only this state but other parts of the country also, during the period of food shortage caused by the failure of other foodgrain crops. Production of juar has also been more or less satisfactory and so also that of the pulses, which are usually exported in considerable quantities to other parts of the country. Production of wheat has fallen considerably and has been inadequate even to meet domestic requirements. In addition to the fall in acreage, another factor, which adversely affected the yield of wheat, was the damage from rust epidemic during 1940-41, 1943-44 and 1946-47, the last being the most widespread and virulent. Amongst oilseeds, linseed and til have not fared as satisfactorily during this decade, as they did in the preceding one. Production of groundnut has, however, increased and has been sufficient to meet the deficit in other oil-seeds. Production of cotton was throughout unsatisfactory except in two or three years.

9. Agricultural development in the decade 1940—49.—This decade might well be regarded as epoch making in Madhya Pradesh in the field of agriculture. The efforts made in the past for agricultural developments pale into insignificance before the efforts made in this decade. Agricultural production in this State mostly depends on:—

- (1) Improved seed.
- (2) Manures.
- (3) Land Reclamation and Tillage.
- (4) Irrigation.

The efforts made during the decade year 1940—49 in all these directions are indicated below:—

10. Improved seeds.—For increasing the area under improved seeds two distinct processes are necessary, *viz*:—

- (1) Evolving of improved strains and
- (2) Their multiplication and distribution.

The former falls within the functions of the Research Sections and the latter within those of the Field and Extension Branch.

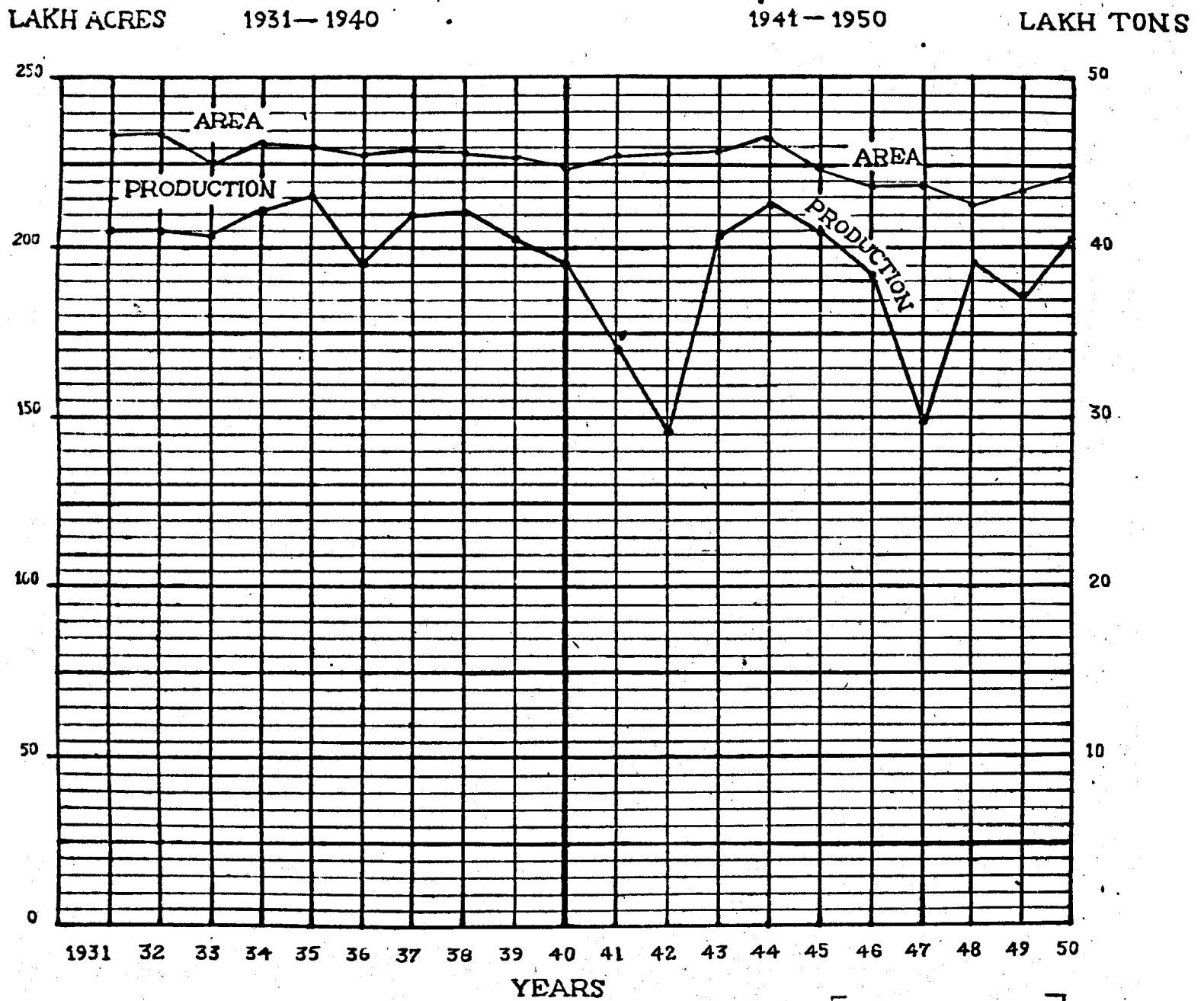
11. Agricultural Research.—In the field of Agricultural Research steady progress was maintained in the work on cotton and rice for which special schemes were in existence during the period 1931—40. To these were added schemes on Wheat, Oil-seeds and Pulses.

12. Cotton Breeding Schemes.—The improved strains of cotton recommended in the beginning of the decade were Verum 262, Verum 434, H 420 and Buri 107, a selection from American cotton. Jarilla, a medium staple cotton introduced in Khandesh by the Department of Agriculture, Bombay, found its way in the adjoining taluqs of Berar in the year 1939. It soon became popular with the cultivator on account of its better field performance, fairly high ginning percentage and better premium that it fetched over the local deshi types. It spread so vigorously in the beginning that it replaced Oomra and Verum to a very large extent. By 1946-47, however, it had begun to show signs of susceptibility to vagaries of nature resulting in low outturn with the result that the area under this variety began to fall gradually and regularly. This variety is now mainly confined to the Buldana district of Berar. H 420 has gradually gained favour with the cultivators and is replacing Jarilla and Verum 434 slowly but steadily. The Central Provinces Cotton Breeding Scheme, Nagpur, having terminated on 13th March 1948 was re-organised into 4 Cotton Breeding Schemes operating for (i) Nagpur-Wardha, (ii) Akola-Amravati, (iii) Ghat and (iv) Buldana tracts, respectively, with a view to improving the cottons grown in the respective regions. As a result of the cotton improvement work, the following results have been achieved:—

- (1) *Nagpur-Wardha tract.*—The selection No. 91 has given promising results. Its lint is soft and bright white; its ginning percentage is 34 to 35. Among the American cottons, 0/396, which is a re-selection of Buri 107, has given very good results. It has soft white lint having a staple length of 15/16". Its ginning percentage is 33 and it is capable of spinning up to 44's highest standard warp count.

DIAGRAM No. 2

AREA AND PRODUCTION OF IMPORTANT CROPS IN MADHYA PRADESH



- (2) *Akola-Amravati Tract.*—Strain No. 091 a *deshi* re-selection from H 415, has given the highest yield. It is a very hardy cotton, has soft white lint having a staple length of 13/16'' and is capable of spinning 27's highest standard warp counts. It has a high ginning percentage of over 36. Among American cottons, Buri 0394, another selection from Buri 107, is leading. It has a staple length of 15/16'' and ginning percentage of over 34. It is capable of spinning 40's highest standard warp counts.
- (3) *Ghat Tract.*—The new improved *deshi* strain No. 111, which has been evolved, appears to be promising for the tract. It has a fine white lint having a staple length of 14/16'' suitable for spinning 37's highest warp counts and a ginning percentage of about 34.
- (4) *Buldana Tract.*—M 5-A, another very good *deshi* cotton, appears to be promising. It has bright white lint having a staple length ranging from 14/16'' to 31/32'' and has been adjudged suitable for spinning up to 40's highest standard warp count. It has a ginning percentage of 34.

13. **Wheat Breeding Scheme.**—The scheme for breeding rust resistant strains of wheat suited to the black soil areas of the State was started in June 1941, with its headquarters at the Experimental Farm, Powarkhera, Hoshangabad district. The varied materials consisting of promising Indian and exotic wheats were collected and the breeding work was taken up in order to evolve strains highly resistant against black stem rust (*Puccinia graminis tritici*), which is more frequent and widespread and causes greater damage than the rust of the other two species. As a result of research work during the last ten years a number of hybrids have been evolved which have shown promising result. Some of the useful strains have now reached the stage of multiplication and would soon be released. These strains are:—

Cross	Hybrid	Maturity period
1. Ex 61 × A 115	.. 65—4	Medium.
2. Ex 61 × A 115	.. 277—1	Late.
3. Ex A 115 × E 220	.. 10—11—5	Medium.
	11—6 and selections ..	Medium.
	12 (12—15, 16, 17 and 18).	Medium.
4. N. P. 52 × Ex 30	.. 278	Very late.
5. Ex 220 × N. P. 52	.. 11—1 and all selections	Medium.
6. Ao 90 × 220 ..	.. 5—72	Very early.
	5—7—6	Very early
	5—7—7	Very early.
7. Ao 88 × 220 ..	.. 19—(1—3)	Medium.
8. Ex 39 × Ao 90	.. 172—2	Late.
	172—7—2a	Late.
	172—2—1—3	Late.
9. Ao 13 × E 220	.. 12—5—3	Medium.
	12—5—7	Medium.
	3—6—4	Medium.
	38—9	Medium.
Parents .. ..	.. A 115	Medium.
	Ao 90	Late.
	NP 52	Early.

14. **The Rice Research Scheme.**—This scheme started in 1932 and came to a close in 1944. The objects of the scheme were (1) to obtain by selection or hybridization higher yielding varieties suitable for the three main rice areas of the State, *i.e.*, Chhattisgarh, Wainganga Valley and North of the State; (2) to evolve strains, which can be easily distinguished from wild rice in the seeding stage and (3) to work suitable manurial schedules for paddy cultivation. Nine years' work resulted in (1) evolving ten high

yielding strains of medium and coarse and six of fine rice suited to the varying conditions of the rice tract, (2) evolving three hybrids with purple stem and leaves and two with dark purple auricles to overcome infestation of wildrice (Kharga). (3) Preparation of manurial schedules. The improved strains evolved are—

Early.—R 2 Nungi No. 17.

R 3 Sultu Gurmatia.

Medium.—R 4 Gurmatia.

R 5 Ludko.

X 116 (Bhondu × Parewa).

Late.—X 19 (Budhia Bako × Parewa).

R 6 (Budhia Bako).

R 7 Ajan.

R 8 Benisar.

R 8 Luchai.

Scented Varieties —R 10 Chhadri.

R 11 Dubharaj.

R 12 Banspatri.

R 13 Kubri Moher.

R 14 Badshah Bhog.

R 15 Chinoor.

Purple leaved hybrids for eradication of wild rice. { X 1 (Nagkesar × No. 17).
X 2 (Nagkesar × Bhondu).
X 3 (Nagkesar × Luchai).

It has been observed that the application of 100 lbs. of ammonium sulphate and 50 lbs. of Double Superphosphate (20 lbs. Nitrogen plus 20 lbs. P 205) per acre as a top dressing to paddy in August gives significantly higher yields. Similarly, the application of 7 mds. of powdered groundnut cake (40 lbs. Nitrogen) per acre before transplantation or biasi operations, gives good results.

15. **The Oil-seeds Research Scheme.**—This scheme started in 1937 and terminated in 1945. As a result, improved strains of linseed, sesamum, niger and safflower have been isolated as shown below:—

Linseed.—N. 3, N55.

Sesamum.—N. 41 (late) No. 128 medium, N8.

Niger.—N. 5.

Safflower.—N 7.

16. **The Pulses Research Scheme.**—The Scheme was in operation from 1st April 1943 to 30th September 1948. The following high yielding strains of tur, mung, urid and moth have been evolved.

Tur—Hyderabad P. E. 31, 32.

Mung—E. B. 6 Kopargaon.

Urid—55.

Moth—88.

Gram—10 Dacca.

Lakh—30.

17. **The Millet Research Scheme.**—The Scheme was in operation from 1943 to 1948. The high yielding types of Kodo and Kutki, viz., Kodo 30 and Kutki 45 have been evolved.

18. **Distribution of improved seeds.**—The quantity of improved seeds distributed through Government agency in the decade under review is shown below:—

	Years					
	1944-45	1945-46	1946-47	1947-48	1948-49	1949-50
Cereals (in lakh of maunds)	1.23	2.08	2.20	1.05	1.22	1.45
Cotton (in maunds)	56,773	62,796	45,329	36,010	37,086	34,196

The percentage of area under improved varieties of some of the major crops to the total area under these crops is estimated below:—

Rice	..	..	..	18.93
Wheat	..	..	..	16.50
Cotton	..	..	..	58.64

19. **Manures.**—Prolonged experiments organised on a scientific basis have decisively shown that the application of organic and inorganic manures results in increased production. Therefore, to encourage manuring of fields to a larger extent the State Government made arrangements for distribution of organic and inorganic manures to needy cultivators. The results achieved in this direction are given below:—

[Manure—In tons]

Year	Organic		Inorganic
	Ground-nut oil-cake	Urban Compost	
1943-44	688	..	..
1944-45	5,531	..	..
1945-46	13,706	10,668	331
1946-47	16,258	25,507	1,266
1947-48	6,694	31,432	1,935
1948-49	17,706	42,626	3,895
1949-50	21,485	31,466	4,958

Besides urban compost, a scheme of rural compost was introduced in the year 1949-50 in order to utilise the vast potentialities of developing locally obtainable manurial resources in rural areas by composting village waste, cattle dung, urine, etc. In the first year of the Scheme, 72,856 tons of compost were prepared. This Scheme has attracted the attention of the cultivators who are becoming increasingly manure-minded. The Janapada Sabhas and the Gram Panchayats are also taking keen interest in the working of this Scheme.

20. **Land reclamation and tillage.**—On account of a series of unfavourable seasons mostly in the wheat tract, a fair portion of land went either out of cultivation or was indifferently cultivated due to infestation of cans (*Saccharum spontaneum*). It was not considered possible to bring this land under cultivation or to improve the standard of cultivation with the bullock power available with the cultivators. In these circumstances, it was decided to get these lands deep-ploughed by high-powered tractors belonging to the Central Tractor Organization established by the Government of India. The State Government obtained some units from the Central Tractor Organization and operated them in Sagar and Hoshangabad districts of this State. The progress of work done under the scheme of re-clamation of land by Central Tractor Organization units is given below:—

Land ploughed in open seasons in acres by
Central Tractor Organization

Serial No.	Name of Centre	1948		1949		1950		Total
		Number of Units	Land ploughed in acres	Number of Units	Land ploughed in acres	Number of Units	Land ploughed in acres	
<i>Sagar district</i>								
1	Khurai	2	6,646	2	11,177	1	6,105	23,928
2	Garhakota .. ..	..	..	1	4,422	..	..	4,422
3	Patharia .. ..	..	..	1	7,594	1	3,833	11,427
4	Khimlasa .. ..	..	..	..	..	1	6,006	6,006
<i>Hoshangabad district</i>								
5	Pipariya .. ..	..	..	1	8,282	1	6,708	14,990
6	Dularia .. ..	..	..	1	6,590	..	..	6,590
7	Seoni-Malwa .. ..	..	..	..	..	2	6,758	6,758
	Total	2	6,646	6	38,065	6	29,410	74,121

With the purchase of more units by the Government of India under the International Monetary Fund Loan Scheme some more units were obtained in 1951 and 98,745 acres were deep ploughed in that year.

21. **Tractor ploughing by the Provincial Machine Tractor Station.**—For improving the standard of cultivation by doing medium ploughing, the State Government purchased 30 tractors in the year 1948 and started ploughing operations in four districts, namely, Nagpur, Akola, Amravati and Jabalpur. The strength of the tractors has been raised to 90 during the year 1950-51, and ploughing has been taken up at 10 Centres. The progress made up to 1949-50 is given below:—

Open season	Area covered in acres	Additional food production in tons
1947-48	1,073	55
1948-49	8,997	459
1949-50	17,667	901
Total ..	27,737	1,415

22. **Private Tractors Scheme.**—The work required for improving the general standard of cultivation is large and it was considered necessary to offer some inducement to individual cultivators who might like to purchase their own tractors. It was, therefore, decided in 1949 to give taccavi to those cultivators who wanted to purchase tractors on condition that they agreed to plough 100 acres of their neighbours' land. During the last three years during which this scheme has been in operation, taccavi, of the order of Rs. 15,34,007, has been advanced for the purchase of 186 tractors to private persons. The recent quinquennium census done in the year 1951 shows that the number of tractors in this State was 589. Deducting the number of tractors owned by the Central and the State Governments the number of tractors belonging to private persons work out to 408. This indicates that 222 tractors were purchased by private persons fully out of their own funds.

23. **Irrigation.**—The percentage of area under irrigation to the net cropped area in this State is much below the all-India average. There is thus great need for developing irrigation with the two-fold object of (1) increasing production and (2) maintaining it at the increased level. The development of agriculture into an organised industry will only be possible when the element of uncertainty, which exists at present, is substantially reduced. While, therefore, the need for irrigation is fully re-organised, the limiting factors are inadequacy of finance and personnel. The stabilisation of cultivation of a small holder in areas, where irrigation projects cannot be taken up for want of a suitable site is also a matter, which requires consideration. Taking these facts into consideration, it was decided to take the following steps to extent irrigation in this decade:—

- (1) *Construction and repairs of wells.*—Taccavi at a concessional rate of interest is advanced to a cultivator to dig a new well or repair an existing well for irrigating his land so as to enable him to stabilise his cultivation.
- (2) *Construction and repairs of small tanks (taccavi-cum-Subsidy) Scheme.*—Under this Scheme, private owners of small village tanks are advanced taccavi at a concessional rate equal to the actual cost of construction subject to a maximum of Rs. 150 per acre of land irrigated. If the necessary conditions attached to the advance are observed, 50 per cent of the loan advanced is treated as a subsidy.
- (3) *Village Projects Scheme.*—The idea underlying this scheme is to construct tanks or bund small nalas so that the water stored during the monsoon could be released for irrigation at a time when it is required. The area to be irrigated by a project under this scheme varies from 50 to 500 acres.

- (4) *Major Irrigation Works.*—The works capable of irrigating more than 500 acres are taken up on a planned basis by the Public Works Department of this State. The schemes introduced during the period (1941—51) were intended to develop the area under irrigation in all ways possible. The following table shows the results achieved:—

Name of scheme	Units of work	Approximate area irrigated in acres
(1) Sinking of new wells	13,857	41,571
(2) Repairs of old wells	5,832	17,496
(3) Construction and repairs of village tanks ..	..	71,118
(4) Village projects	10	3,290
(5) Major Irrigation Works	2	7,656
Total ..		141,131

It was also felt that the manner, in which irrigation was actually done, left much to be desired. A 'moat' is commonly used for lifting water from a well. This process is uneconomical and entails considerable strain on bullocks. Taccavi at a concessional rate was, therefore, advanced to cultivators for purchase of a *rahat*. Out of the amount so advanced, 25 per cent is treated as a subsidy in the fifth year on the observance of the conditions of the grant by the borrower. For the last three years, taccavi is being advanced to cultivators for purchase of a pumping set. The results achieved under these two schemes are:—

- (1) Number of *rahats* actually distributed—535.
- (2) Number of pumping sets run on mechanical power for which taccavi is advanced—323.

24. *Trend of area under irrigation and area double cropped.*—It may be interesting to compare here the decennial averages of the area under irrigation and the area double cropped:—

Decennial average	Area (in lakhs of acres)	
	Irrigated	Double cropped
1911—20	7.75	20.49
1921—30	10.94	22.06
1931—40	11.56	27.53
1941—50	16.14	27.97

These figures show that the area under irrigation is going up steadily during the last forty years. During the present inter-censal period, however, there has been a sharp increase in the area under irrigation.

25. *Other land Improvement schemes.*—As a part of the Grow More Food Plan the State Government introduced schemes for construction and repairs of paddy bunds and construction of field embankments for conversion of rabi area into do-fasli. These schemes do not technically fall under the category of irrigation schemes. The idea underlying them is to conserve moisture in the soil to ensure

production and to prevent denuding of soil by erosion. The following figures give an idea of the work done under these schemes in this decade:—

	Area in acres served
(1) Construction of new paddy bunds	3,560
(2) Repairs of old paddy bunds	97,408
(3) Construction of field embankments for conversion of rabi area into <i>do-fasli</i> .	76,983

26. Appraisal of results of "G. M. F." efforts.—The task of appraising results of "G. M. F." efforts is an extremely difficult one for several reasons. The average area under three important cereals—*viz.*, rice, juar and wheat in this State is of the order of 147·21 lakh acres. The area covered by "G. M. F." assistance in the various years from 1943-44 is given below:—

Year	Area in acres covered by	
	Recurring schemes	Permanent schemes
1943-44	12,575	21,470
1944-45	194,565	33,714
1945-46	345,811	18,026
1946-47	371,947	91,860
1947-48	195,756	148,193
1948-49	343,347	442,295
1949-50	428,153	352,703

These figures indicate that all the Grow More Food Schemes cover an insignificant fraction, being an average 5·30 per cent of the total area under cereals. The assumed increase in the production of the area covered by the "G.M.F." assistance is not likely to have any effect on market arrivals, especially when the seasonal factors during the decade were generally unfavourable. Further, a majority of "G.M.F. Schemes" are not of the "nature-proof" type. These Schemes are so designed as to result in increased production provided the monsoon and the seasonal factors are reasonably favourable. It might perhaps be asked why "Nature-proof" Schemes were not taken up. The answer is that these schemes involve such a large amount of capital expenditure that it is hardly possible to take them up.

Another difficulty is that the figures of estimated production are at present worked out by what is known as the *annevari* system. In this system, no allowance is made for the production from the areas covered by "G. M. F." assistance. It is, therefore, not possible for the results of "G. M. F. Schemes" to appear in the figures of estimated production which are given in the Forecast Reports.

While these difficulties are not easy of solution, the State Government have been anxious to get the results of "G. M. F." efforts tested on a scientific basis. To this end, an enquiry was conducted in this State under the direction and control of the Statistical Adviser to the I. C. A. R. in the years 1950 and 1951. In the first year, the enquiry was confined to finding out the

increased production from improved paddy seed and manures including chemical fertilizers. This enquiry was done in Bhandara and Balaghat districts in the year 1949-50 and the results are given below:—

Rate of response in maund/acre observed from "G. M. F." aid—

Improved paddy seed	Manures	Improved paddy seed and manure	Town Compost
By experiments—0.92	1.91	2.61	2.85
Assessed officially on 0.82 recommended doses.	2.72 (Cake) 3.40 (Am. Sulph.) 4.73 (Am. Phos.)	..	6.81

In the year 1951, the enquiry was expanded both in area and the number of G. M. F. Schemes covered by it. In extent, the enquiry was conducted in the paddy tract and the areas in Hoshangabad and Sagar districts ploughed by Central Tractor Organisation tractors. The results obtained by the Statistical Adviser are:—

Rate of response in maund/acre observed from "G. M. F." aid (Improved paddy seed and manure)—

Improved paddy seed	Manure	Improved paddy seed and manure
By experiments—0.81	1.43	1.60
Assessed officially on 0.82 recommended doses.	2.72 (Cake) 3.40 (Am. Sulph.) 4.73 (Am. Phos.)	..

The position in regard to tractor-ploughed lands is summarised below:—

Name of district	[In maund/acre]				Increase of (2) over (3)
	Prior fallow	Prior cultivated	Control	Increase	
(1)	(2)	(3)	(4)	(5)	
Sagar	9.1	8.4	7.4	1.0	
Hoshangabad	9.6	9.0	8.1	0.9	
Pooled for two districts	9.3	8.6	7.6	1.0	
Year of reclamation—					
1947-48	9.5	8.7	7.6	1.1	
1948-49	9.7	8.7	8.1	0.6	
1949-50	8.7	8.5	7.1	1.4	
Pooled for three years	9.3	8.6	7.6	1.0	

From the summary of the results it can be said that the rate of response of improved paddy seed deduced from the enquiry is more or less the same as has been officially assumed by the Agriculture Department. In the case of manures, the rate of response is substantially lower than the officially assumed figure. For tractor ploughed lands, the experiments bear out the official figure of increased production. For coming to a definite conclusion it is necessary to continue the experiments for a longer period, but, the fact remains that the "Grow More Food" Scheme do increase production in areas covered by them.

27. **Financial assistance rendered.**—The financial assistance given to agriculturists during the present decade is given below :—

Year	Ordinary A. L. Act	Tacavi under L. I. L. Act	G. M. F. A. L. Act	Taccavi under L. I. L. Act	Total
(1)	(2)	(3)	(4)	(5)	(6)
	Rs.	Rs.	Rs.	Rs.	Rs.
1940-41	10,01,945	4,65,369	..	..	..
1941-42	21,64,129	7,19,536	..	..	..
1942-43	13,34,701	1,85,240	..	..	..
1943-44	10,34,002	2,85,000	60,742	7,68,753	21,48,497
1944-45	15,36,251	1,80,223	14,51,971	15,90,185	47,58,630
1945-46	5,37,000	86,330	24,86,969	13,73,676	44,83,975
1946-47	4,75,023	8,78,580	28,09,550	16,34,615	57,97,768
1947-48	53,93,739	1,57,489	19,31,556	44,56,840	1,19,39,624
1948-49	65,19,190	5,49,625	35,35,352	88,51,944	1,94,56,111
1949-50	79,06,098	16,01,830	80,59,146	80,92,514	2,56,59,588

These figures show that the advances both for "Grow More Food Campaign" as well as for ordinary agricultural purposes have been increasing steadily.

28. **Agricultural education.**—During the decade 1941—50 there was an unprecedented demand for men trained in agriculture both from Government, as well as from the public. The "Grow More Food Campaign" started during the war and the post-war development schemes necessitated considerably expansion of the staff of the Agriculture Department. Similarly, the malguzars and big land owners prompted by the prevailing high prices of foodgrains desired to appoint as managers the men trained in modern methods of agriculture. This demand was met by increasing the number of seats in Agriculture College, Nagpur, and by opening training institutes and classes.

Agriculture College, Nagpur.—The admission to the College was increased from 35 in 1939 to 70 in 1945 and 80 in 1949. The increase in the total strength of the College from 169 prior to 1940 was 201 in 1945 and 278 in 1949. A new Agriculture College imparting agricultural education up to Intermediate standard has also been started by the Vidarbha Shikshan Prasarak Mandal, Khamgaon.

Training of Agricultural Overseers.—Under the pilot scheme introduced in 1945 three Agricultural Overseers Training Institutes were started at Betul, Chandkhuri and Ellichpur. Matriculate students were admitted and given in intensive course in straight agriculture for a period of one year. After passing out from the institute the students were appointed as Agricultural Overseers in charge of one or two Revenue Inspector's circles. 317 students were trained in these institutions.

Training of Demonstration Jamadars.—During 1944, a training class for Demonstration Jamadars was run departmentally at Nagpur. A new pilot scheme was started in 1945 by starting Demonstration Jamadars Training Classes at Labhandi, in Raipur District, Damoh in Sagar District and Buldana. The training consisted of six months practical and theory course and admission was limited to students from rural areas, who had studied up to seventh Hindi or Marathi standard. On passing the examination, the boys were appointed as Demonstration Jamadars and placed in charge of 15 to 20 villages where they were required to carry out propaganda of the "Grow More Food" and other departmental activities.

The total number of students who have been trained is given below :—

Year	Agricultural Overseers	Demonstration Jamadars
(1)	(2)	(3)
1945-46	67	189
1946-47	108	186
1947-48	105	166
1948-49	37	60
Total	317	601

Both the institutions were closed in 1948 after sufficient number of students had been trained.

Training in Agriculture in the three stages of education.—Agriculture has been included as one of the optional subjects in some of the schools as will be seen from the following table :—

Statistics concerning Agricultural Education in Primary, Middle and High Schools in Madhya Pradesh.

S. No. (1)	District (2)	Institutions teaching Agriculture							
		Secondary Schools						Total	
		Primary Schools		Middle Schools		High Schools			
		Boys (3)	Girls (4)	Boys (5)	Girls (6)	Boys (7)	Girls (8)	Boys (9)	Girls (10)
1	Nagpur .. ..	..	..	Information not received					
2	Wardha .. ..	..	..	..	..	150	..	150	..
3	Chanda .. ..	..	..	175	..	..	..	175	..
4	Bhandara	519	100	241	12	..	..	760	112
5	Amravati .. ..	..	..	149	..	470	..	619	..
6	Akola .. ..	..	..	149	15	304	20	453	35
7	Buldana .. ..	..	..	169	..	..	..	169	..
8	Yeotmal	252	..	220	46	74	..	546	46
9	Jabalpur .. ..	..	..	..	..	..	..	..	..
10	Sagar .. ..	..	..	106	..	45	..	151	..
11	Mandla .. ..	..	..	211	..	..	..	211	..
12	Balaghat	192	22	106	5	..	..	298	27
13	Hoshangabad .. ..	..	..	228	4	..	..	228	4
14	Nimar	228	..	99	..	16	..	343	..
15	Betul .. ..	..	..	376	26	106	..	482	26
16	Chhindwara .. ..	..	..	401	..	..	..	401	..
17	Raipur .. ..	..	..	480	..	148	..	628	..
18	Durg	417	..	334	..	73	..	824	..
19	Bastar .. ..	..	..	157	6	..	..	157	6
20	Raigarh .. ..	..	..	..	..	..	..	..	..
21	Surguja .. ..	..	..	..	..	..	..	..	..
22	Bilaspur .. ..	..	..	106	..	118	..	224	..
Total ..		1,608	122	3,707	114	1,504	20	6,819	256

In 1949, a class was opened in Nagpur for giving practical instruction in agriculture to persons holding land so that these persons should on return to their villages take steps to improve their own cultivation. These classes were held for a period of 30 days and were attended by 60 persons. An enquiry conducted to assess the utility of training given in these classes has revealed that a majority of persons are following the instructions given to them and that they have found instruction useful. The proposal to hold these classes in each district is under consideration.

29. **Nutritional and other requirements of Madhya Pradesh in respect of Agricultural Commodities.**—The quality of food consumed by the people is an important as quantity from the nutritional and health point of view. A balanced diet is necessary for maintenance of proper health. While the people of this State have been able to get enough quantity of foodgrains their diet in general has been deficient in protective food such as vegetables and fruits, fats, oils, milk, gur, eggs and fish. As a long range policy the State Government have to provide more and more of every commodity required for a balanced diet of the growing population. It has been calculated that to fulfil these requirements, this State should increase production of cereals and pulses by about 12 per cent; vegetables 750 per cent; fruits 60 per cent Gur and Sugar 600 per cent; oilseeds 300 per cent and milk 260 per cent along with that of fish and meat While these deficiencies cannot be met in a short time, the State Government are making earnest effort

to increase production of all these commodities—Details of “Grow More Food Scheme” undertaken in this State have already been described. The area under fruits and vegetables has increased by 39 per cent for old Central Provinces and Berar during the decennium ending 1949-50 as shown below :—

[Area in thousands of acres]

Year	Fruits and vegetables old C. P. and Berar	M. P.
(1)	(2)	(3)
Average for the decennium ending—		
1939-40	133.8	..
1940-41	152.0	..
1941-42	159.5	..
1942-43	158.5	..
1943-44	160.2	..
1944-45	156.2	..
1945-46	161.4	..
1946-47	163.9	..
1947-48	175.9	205.0
1948-49	186.0	218.5
1949-50	185.9	217.7

Similarly the area under Sugarcane has registered an increase as per table shown below :—

[Area in thousands of acres]

Year	Sugarcane old C. P. and Berar	M. P.
(1)	(2)	(3)
Average for the decennium ending—		
1939-40	28.5	..
1940-41	33.3	..
1941-42	32.2	..
1942-43	26.5	..
1943-44	29.0	..
1944-45	35.1	..
1945-46	40.5	..
1946-47	41.6	..
1947-48	52.3	58.6
1948-49	51.9	58.9
1949-50	41.1	47.4

For increasing milk supply to towns seven dairy units have been established in this State and the total quantity of milk distributed through these dairies is shown below :—

[Quantity supplied in lbs.]

1946-47 .. .. .	..
1947-48	42,095
1948-49	300,400
1949-50	470,405

A scheme for pisci-cultural development has also been introduced in this State for supply of increased quantity of fish. Under this Scheme fish seeds and spawns were imported from Calcutta and put into a nursery pond. When these fish attained the stage of fingerlings they were transported into bigger tanks, where they were allowed to develop till they attained marketable size. The total quantity of fish sold under this Scheme is given below :—

[Total quantity sold in lbs.]

1946-47 .. ..	..	..
1947-48 .. ..	..	8,000
1948-49 .. ..	..	19,920
1949-50 .. ..	..	89,120

As the supply position of spawns has become difficult in the Calcutta market owing to the partition of the country the State Government explored the possibility of local supply of fish seed and spawns. For this purpose certain sites have been selected in the Mahanadi river in the Raigarh district where steps were taken to collect spawns and fish seeds. This scheme has been tried for the last two years. In the first year, the results were not so successful, but all the same they proved conclusively that it would be possible to obtain supplies of spawns and fish seeds in the Mahanadi river. In this year, however, it has been possible to collect 21.35 lakhs of spawns and fish seeds.

30. Horticultural Development.—Another important development that has taken place during this decade is the establishment of a Horticultural Station at Pachmarhi and conversion of the Silari farm in Hoshangabad district into a Vegetable Seed Farm. Pachmarhi has been selected as a suitable site for being developed into a Horticultural Station. There are in Pachmarhi a large number of wild mango trees which by budding and grafting may be made to yield better qualities of mangoes. The other varieties of fruits which grow in Pachmarhi gardens are being improved by various scientific methods. A special officer of the rank of Extra-Assistant Director, has been placed in charge of this Scheme. A great handicap in the development of area under vegetable is that the local producers are required to import a large quantity of vegetable seeds from other States. This involves considerable expenditure and at times the seed imported is not suitable to the climatic condition of this State. To overcome this difficulty the Silari farm has been converted into a vegetable seed farm.

31. Other miscellaneous activities—Improvement of Indigenous Implements.—The Indian agriculture is mostly done by bullock-drawn implements. There is a great scope for improving these implements so as to make them more efficient and labour saving. The State Government have established an Indigenous Implements Research Section in charge of an officer of the rank of Extra-Assistant Director who has received training in agricultural engineering in Australia under the advanced Training Scheme introduced by the Government of India. Some implements have been devised during the course of one year, but their manufacture on a large scale has not yet been undertaken. Before they are manufactured their efficiency in the field must be tested. When their efficiency has been proved, steps to introduce them on a mass scale will be taken.

32. Agricultural Policy Committee.—In 1949 the State Government decided that a Committee consisting of officials and non-officials should be appointed with very wide terms of reference to examine the working of the entire field of agriculture and to make recommendations for securing improvement of agriculture in this State. This Committee laboured for about two years and has recently submitted a comprehensive report. This report is at present under examination.

33. Legislation.—This decennium has been agricultural legislation of far reaching importance. In the pre-Independence days agriculture was largely run on the principle of *laissez faire*. There are very few laws interfering with the liberty of an individual in the agricultural field. Owing to the difficult food situation, however, it was considered necessary to enact legislation in order to increase the production of foodgrains. An ordinance entitled the cultivation of Fallow Lands Ordinance was passed in February 1948, which was later converted into an Act. Under this act it is compulsory for a holder to bring specified area of fallow land included in his holding, under cultivation each year. On a rough estimate about 706,519 acres of fallow land has been brought under cultivation so far as a result of this legislation. To help the cultivator in discharging his obligation under this Legislation a subsidy of Rs. 2 per acre of fallow land broken up is offered in the first instance. As a further inducement gram seed was distributed on a subsidised basis for newly broken up areas. The next important legislation undertaken was the amendment of the Central Provinces and Berar Municipalities Act. This makes it obligatory on municipalities to dispose of night-soil and town refuse by the process of composting. The effect of this legislation has already been described. The third piece of legislation to which a reference may be

made here is the Central Provinces and Berar Reclamation of Land (Eradication of Kans) Act, 1948. Under this legislation the Reclamation Officer has power to enter and to plough any land which is notified to be Kans infested land and to recover the charges from the land holder in reasonable instalments. The progress of this scheme has already been described under 'The Reclamation of Land by the Tractors of the C. T. O.'. As it came to the notice of Government that agriculture was seriously suffering for want of labour it was decided to enact the Central Provinces and Berar Regulation of Manufacturing of Bidi's (Agricultural Purposes) Act, 1948. Under this Act, Deputy Commissioner's were authorised to declare certain periods as agricultural season during which no person residing in certain villages could undertake manufacture of bidis. This Act was passed prior to the introduction of the Constitution, but it has since been declared *ultra vires* of the Constitution.

34. Changes in the Land Tenure.—The importance of land tenure for increasing agricultural production can hardly be overemphasized. In a State, where the number of small holdings is very large it is necessary to bring about the requisite psychological urge for improvement; and stability of tenure is the single big factor contributing towards sustained effort for larger production far reaching changes in land tenure were made in the State as a result of the following Acts :—

- (1) The Central Provinces Tenancy (Amendment) Act, 1939.
- (2) The Madhya Pradesh Abolition of Proprietary Rights (Estates, Mahals, Alienated Lands) Act, 1950.
- (3) The Madhya Pradesh Agricultural Raiyats and Tenants (Acquisition of Privileges) Act, 1950.
- (4) The Berar Tenancy Law (Amendment) Act, 1950.

There are two important systems of land tenure, namely, (1) Raiyatwari tenure prevailing in the four districts of Amravati, Akola, Buldana and Yeotmal in Berar, and (2) Malguzari in the rest of the State. The important difference between the two systems is that in the raiyatwari system the occupants deal directly with the Government. In the malguzari system there is an intermediary commonly known as the malguzar or zamindar between the actual tiller of the soil and Government. The important changes effected by the Acts are :—

- (1) *The Central Provinces Tenancy Amendment Act, 1939.*—Though this Act was passed by the Legislature in 1939 it has been included because it received the assent of the Governor General on the 5th June 1940. Prior to the passing of this Act, the consent of the landlord was necessary before a tenant could transfer his holdings. In giving consent, landlords demanded a large share of the value of the land. Under this Act the maximum consent money has been statutorily fixed as shown below :—

- (1) Occupancy tenant Five times the annual rent.
- (2) Absolute occupancy tenant .. . One time the annual rent.

Further, if any land is leased out by a tenant for an aggregate period exceeding seven years in any period of ten years, the last lessee continues in possession and cannot be ejected by the lessor at his sweet will.

- (2) *The Madhya Pradesh Abolition of Proprietary Rights (Estates, Mahals and Alienated Lands) Act, 1950.*—Landlords in malguzari villages acted as intermediaries between tenants and the Government. It was felt that for agricultural development it was necessary to remove the intermediaries and end the malguzari or zamindari system. Accordingly the rights of landlord qua proprietor have been acquired on payment of compensation and the tenants in the whole of the State have been brought in direct relationship with Government.
- (3) *Madhya Pradesh Agricultural Raiyats and Tenants (Acquisition of Privileges) Act, 1950.*—Under this Act, it is discretionary with a tenant to acquire proprietary rights on payment of a fixed amount relatable to the rent assessed on his holding. This is expected to go a long way in increasing the credit of a cultivator in view of the increase in the value of his land due to its freely alienable character.
- (4) *The Berar Tenancy Land (Amendment) Act, 1950.*—Under this Act protected status has been conferred on "ten years" tenants and lessees in alienated villages and alienated lands in Berar.

35. Conclusion.—Agricultural production in Madhya Pradesh is still a "gamble in rains". There is not much irrigation and favourable monsoon and a proper season are the prime factors governing good crops. The seasonable factors were not quite favourable during the last ten years. Nevertheless there has been a sustained effort for increasing agricultural production. Land Reform Legislation has been enacted in several states. These reforms are expected to create strong social and economic forces that will increase and stabilise agricultural production. The National Planning Commission has given considerable thought to the subject of rationalisation of agriculture. It is hoped that when its schemes come

to be implemented, condition of our agriculture will improve. Our economy will cease to be a static backward economy. It will expand and keep pace with the growing population. Agriculture will cease to be merely a way of life. Production will increase and will become profitable. There will be economic efficiency. The task is great and beset with many difficulties. But there are indications that our effort will bear fruit and that agricultural prosperity will come and produce stable economic conditions in the country.

TABLE I
Statement of Crop Zones in Madhya Pradesh

Tract	Crop Zone	Soil origin	Soil	Soil condition	Rainfall	Location	Divergence in cropping dependent on	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
I	1. Cotton, Wheat, oil-seeds.	Juar, Rabi	Trap	.. Heavy—clay loam.	Fully mature ..	20" to 45"	Purna Valley, Wardha Valley, east to Nagpur, Tapi Valley.	General rainfall and position.
	2. Cotton, Kharif pulses passing to Bajra.	Juar	Do.	.. Medium—loams Regar 2nd class.	Varying stages of maturity.	20" to 45"	On higher areas associated with above.	Dependent on rainfall and state of maturity.
II	3. Wheat and other rabi crops with cotton and juar subordinate.		Do.	.. Heavy—clay to medium loams.	Varying stages of maturity.	36" to 50"	The plateau and Western areas north of Narmada passing imperceptibly into No. 4.	Position and maturity.
	4. Wheat ..	..	Old alluvial and trap.	Heavy—clay loams.	Mature ..	44" to 60"	The Narmada and adjoining area.	Practically nil other than that included by intrusions of zones 2 and 5.
III	5. Paddy, cane and wheat and rabi oil-seeds.		Metamorphic	Brown—heavy loams.	Mature ..	50" to 55"	Wainganga Valley.	Position and irrigation facility.
	6. Paddy, cane, les-ser, millets and pulses, kharif oil-seeds.		Metamorphic and in part laterite.	Red and brown sandy and medium loams.	Varying stages of maturity.	50" to 55"	Higher parts of Wainganga Valley, high lying eastern plateau and North-East of Province of high lying tracts of Chhattisgarh.	Position and soil maturity and irrigation.
	7. Paddy, wheat and rabi.		Laterite	.. Ranging from clay loam to light loam.	Mature and immature.	55"	.. Chhattisgarh ..	Position as effecting maturity and irrigation facilities.

TABLE II
Statement of area under important commodities and group of commodities in Madhya Pradesh
(In thousand acres)

Year	Total gross cropped	Total net cropped	Rice	Wheat	Juar	Kodon kutki
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Average for the 10 years ending—						
1939-40	27,260.3	24,603.1	5,699.0	3,371.1	4,398.3	1,534.0
1940-41	26,883.1	24,545.7	5,873.0	3,229.0	4,533.0	1,476.0
1941-42	26,530.1	24,816.5	5,757.5	2,850.6	4,739.4	1,676.7
1942-43	26,873.9	24,270.7	5,654.1	2,543.6	5,307.1	1,887.9
1943-44	28,108.8	24,988.9	5,874.4	2,768.1	5,647.1	1,845.5
1944-45	27,763.6	24,301.9	6,022.9	2,796.5	5,184.6	1,595.0
1945-46	27,272.0	24,190.1	6,071.4	2,678.7	5,045.7	1,527.3
1946-47	27,080.1	24,190.1	6,119.2	2,883.1	4,721.2	1,469.4
1947-48	26,726.0	23,855.0	6,207.0	1,691.0	5,002.0	1,479.0
1948-49	27,417.0	24,376.0	6,304.0	1,844.0	5,045.0	1,486.0
1949-50	27,502.0	24,208.0	6,339.0	2,530.0	4,789.0	1,472.0

TABLE II—cont.

Year	Pulses			Oil-seeds			Cotton	Current fallow
	Gram	Teora	Other pulses	Groundnut	Linseed	Other oil-seeds		
(1)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Average for the 10 years ending—								
1939-40	1,200.2	957.3	2,492.5	193.9	1,104.5	955.6	3,962.0	3,871.4
1940-41	1,152.0	946.5	2,255.9	232.8	1,218.0	884.0	3,572.0	3,730.0
1941-42	1,116.5	774.6	2,196.5	194.4	966.1	885.7	3,804.5	3,544.0
1942-43	1,068.1	1,022.3	2,437.7	234.1	1,033.6	811.3	3,772.5	4,138.0
1943-44	1,250.6	1,106.2	2,631.0	302.4	1,135.7	800.2	3,203.0	3,647.0
1944-45	1,353.9	1,278.0	2,707.9	606.1	1,130.3	756.2	2,803.3	4,031.0
1945-46	1,306.6	1,249.4	2,670.4	584.6	947.4	718.0	2,955.6	4,267.0
1946-47	1,364.5	1,187.1	2,617.1	559.4	912.7	786.5	2,966.7	4,300.0
1947-48	1,492.0	1,214.0	2,703.0	594.1	998.0	802.3	2,893.0	4,429.0
1948-49	1,558.0	1,223.4	2,909.0	615.9	1,014.0	768.0	3,036.0	3,909.0
1949-50	1,637.0	1,285.0	2,914.0	705.0	1,052.0	722.0	2,833.0	4,093.0

TABLE III

Outturns of crops in terms of percentages of the normal outturn (Period 1931—40)

District	Years										
	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
Sagar	77	95	84	79	86	92	88	91	99	71	
Jabalpur	77	89	76	73	92	78	81	82	76	73	
Manala	80	108	64	86	81	78	86	86	95	74	
Hoshangabad	81	85	83	82	75	83	79	74	72	70	
Nimar	102	66	92	91	66	92	81	82	81	79	
Betul	94	88	72	78	68	70	76	76	83	72	
Chhindwara	77	79	68	80	68	62	77	73	72	65	
Wardha	96	50	69	69	67	55	70	75	53	78	
Nagpur	95	58	64	68	74	57	63	73	49	67	
Chanda	105	96	88	90	90	77	88	96	76	76	
Bhandara	76	108	94	106	95	91	99	95	86	70	
Balaghat	87	118	109	101	105	92	105	87	102	74	
Durg	96	110	99	104	100	77	97	97	96	80	
Raipur	89	108	102	98	109	75	97	87	98	85	
Bilaspur	97	112	98	96	106	87	112	97	100	91	
Akola	81	53	72	74	70	56	68	73	54	78	
Amravati	78	50	70	69	64	63	84	80	65	80	
Buldana	76	37	70	77	69	65	72	65	67	77	
Yeotmal	91	56	58	57	61	61	62	85	75	88	
Average for C. P.	89	92	89	87	88	77	81	85	86	81	
Average for Berar	82	49	67	69	67	61	71	75	66	81	
Average for C. P. and Berar	87	80	80	82	82	73	83	83	81	81	

Source—Season and Crop Reports—Statement V.

TABLE IV

Outturns of crops in terms of percentages of the normal outturn (Period 1941—50)

District (1)	Years										
	1941 (2)	1942 (3)	1943 (4)	1944 (5)	1945 (6)	1946 (7)	1947 (8)	1948 (9)	1949 (10)	1950 (11)	
Sagar	80	72	83	67	78	68	50	66	84	75	
Jabalpur	59	38	82	76	81	74	56	80	87	76	
Mandla	60	42	74	93	85	89	72	85	85	78	
Hoshangabad	78	59	75.5	65	65	65	46	54	80	71	
Nimar	95	77	80	82	71	78	46	70	49	65	
Betul	69	60	69	79	68	57	40	55	64	73	
Chhindwara	66	58	73	73	71	61	44	55	70	75	
Wardha	80	77	74	79	63	62	50	56	44	67	
Nagpur	73	68	68	79	56	57	46	55	54	68	
Chanda	90	75	91	104	88	78	68	87	76	77	
Bhandara	89	74	112	100	97	88	66	86	83	76	
Balaghat	68	44	105	96	86	91	68	91	78	76	
Durg	66	65	88	103	91	87	67	78	78	71	
Raipur	54	57	99	104	91	85	62	88	80	76	
Bilaspur	46	51	91	103	93	86	86	89	90	76	
Raigarh .. .. .	..	..	..	..	..	..	..	..	..	..
Surguja .. .. .	..	..	..	..	..	..	..	..	..	..
Bastar .. .. .	..	..	..	..	..	..	..	..	..	..
Akola	83	77	66	82	65	68	47	74	44	70	
Amravati	87	84	70	87	70	68	51	85	45	70	
Buldana	93	72	68	83	69	70	62	71	51	72	
Yeotmal	82	81	66	81	74	70	58	73	45	72	
Average for C. P.	69	61	85	86	80	75	58	70	75	..	
Average for Berar	86	79.5	68	83	69	69	54	76	46	..	
Average for C. P. and Berar	74	66	80	85	77	74	57	71	68	73	

Source—Season and Crop Reports—Statement V.

TABLE V

*Area and production of important crops in Madhya Pradesh and deviations from the decennial means
(In thousands)*

Year (1)	Decade ending 1940				Decade ending 1950						
	Acreage		Production		Year (6)	Acreage			Production		
	Area in acres (2)	Percentage deviation from the decennial mean (3)	Quantity in tons (4)	Percentage deviation from the decennial mean (5)		Area in acres (7)	Percentage deviation from the decennial mean (8)	Percentage deviation from the average of the preceding decade (9)	Quantity in tons (10)	Percentage deviation from the decennial mean (11)	Percentage deviation from the average of the preceding decade (12)
1931	23,454	+2.3	4,109	-0.2	1941	22,629	+1.8	-1.3	3,448	-7.8	-16.3
1932	23,460	+2.4	4,093	-0.6	1942	22,751	+2.3	-0.7	2,925	-21.8	-28.9
1933	22,676	-1.1	4,080	-1.0	1943	22,339	+0.5	-2.6	4,079	+9.1	-1.0
1934	23,138	+1.0	4,223	+2.5	1944	23,277	+4.7	+1.6	4,265	+14.1	+3.5
1935	22,965	+0.2	4,306	+4.5	1945	22,318	+0.4	-2.6	4,101	+9.7	-0.4
1936	22,769	-0.7	3,922	-4.8	1946	21,984	-1.1	-4.1	3,863	+3.3	-6.5
1937	22,886	-0.6	4,219	+2.4	1947	21,929	-1.4	-4.3	2,975	-20.4	-27.8
1938	22,822	-0.4	4,240	+2.9	1948	21,264	-4.4	-7.2	3,945	+5.5	-4.2
1939	22,615	-1.3	4,062	-2.4	1949	21,852	-1.7	-4.7	3,738	..	-9.2
1940	22,406	-2.2	3,938	-4.4	1950	22,094	-0.6	-3.6	4,053	+8.3	-1.6
Average for 10 years	22,919	..	4,119	..	..	22,234	..	-2.8	3,739	..	-9.2

TABLE V-A

Statement showing the production of certain crops in Madhya Pradesh

(In thousand tons)

Year	Rice	Juar	Tur	Kodon kutki	Til	Cotton (in bales)	Sugar- cane	Wheat	Gram	Masur	Linseed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Average for decade— 1930-40	1,593.3	915.0	988.0	159.1	36.1	695.4	46.3	658.0	219.4	51.0	92.9
1940-41	1,100.0	979.0	95.0	104.0	39.0	919.1	51.0	572.0	197.0	53.0	97.0
1941-42	891.6	880.8	103.1	143.1	39.7	1,007.9	46.9	389.6	157.4	40.9	53.6
1942-43	1,829.2	996.6	114.9	167.4	35.4	536.5	37.8	570.9	180.8	36.9	74.5
1943-44	1,829.1	1,260.6	124.4	188.9	33.0	636.7	43.1	370.2	180.6	43.4	79.6
1944-45	1,724.6	1,067.6	89.8	147.2	25.3	475.5	52.0	503.3	257.1	64.1	78.4
1945-46	1,641.2	1,019.0	91.9	139.5	23.7	545.5	56.8	436.0	227.9	56.0	73.9
1946-47	1,400.6	824.9	69.7	126.5	30.1	471.4	54.3	111.6	192.5	32.2	48.7
1947-48	1,704.0	1,197.0	86.0	134.0	33.0	573.9	68.0	261.0	243.0	49.0	69.0
1948-49	1,720.0	751.0	84.0	142.0	26.0	346.4	63.0	408.0	330.0	69.0	84.0
1949-50	1,893.0	891.8	84.0	138.0	25.0	289.1	60.0	435.0	274.0	57.2	83.0

Year	Ratoon		Planted		Total
	Irrigated	Unirrigated	Irrigated	Unirrigated	
(1)	(2)	(3)	(4)	(5)	(6)
1939-40	6,757	147	20,597	2,516	30,017
1940-41	6,436	133	23,654	3,036	33,259
1941-42	6,884	206	22,253	2,838	32,181
1942-43	5,354	329	18,222	2,593	26,498
1943-44	5,888	203	20,886	1,993	28,970
1944-45	9,687	281	23,020	2,157	35,145
1945-46	10,864	687	25,829	3,141	40,521
1946-47	9,917	1,237	26,822	3,653	41,629
1947-48	15,263	1,944	36,209	5,157	58,573
1948-49	14,053	2,423	34,194	8,074	58,744
1949-50	13,224	2,914	25,991	5,252	47,381

PART II

Note on the Consolidation of Holdings by Shri S. M. Seth, I.A.S., Director of Land Records Madhya Pradesh

1. Consolidation of holdings, popularly known as "Chakbandi" in the Chhattisgarh tract denotes, as the term implies, consolidation of scattered agricultural holdings. Extreme fragmentation of holdings in Chhattisgarh was the legacy of the now obsolete practice of Lakha Bata which was a device to equalize the holdings of land by periodical distribution of fields in the village so as to ensure that each cultivator in turn got his share of different kinds of land. Though the need for consolidation of holdings was great, neither the private attempts to bring about consolidation based on voluntary exchange of fields, nor the efforts of revenue and settlement officers to evolve a simple system of consolidation could achieve much and it was not till the Consolidation of Holdings Act was passed in 1928 could any progress be made to remedy uneconomic management or inefficient cultivation of land which was constantly subjected to progressive fragmentation. An idea of the seriousness of the problem can be had from the fact that an average holding of ten acres was spread over 30 to 40 scattered patches.

2. After the passing of the Consolidation Act in 1928, a modest beginning was made and one party of field workers under a consolidation officer started work in the Raipur, Bilaspur and Durg districts. Once the early prejudice for consolidation vanished and the advantages secured became more and more clear, its popularity increased so steadily that even the levy of a small fee per each consolidated acre did not in any way affect it. In order to cope with the increasing demand for consolidation separate consolidation staff was provided for each of these three districts in the year 1937 after which there was encouraging progress almost till the world war II gave a set back to the process resulting in the staff being disbanded in the year 1945. The work was, however, resumed with one party in 1946 and in 1948 the Consolidation of Holdings Act was extended to the Sagar district in order to consolidate the area ploughed under the tractor scheme.

3. During the last twenty-five years, 2,720 villages, involving an area of 2,418,851 acres belonging to 252,513 permanent holders were consolidated and the number of khasra numbers was reduced from 4,893,451 to 898,762. Consolidation fee was first levied at four annas per acre but it was increased from time to time and is now twelve annas per acre. During the last twenty-five years, the total expenditure incurred on consolidation amounts to Rs. 10,46,185 while the total receipts in the shape of consolidation fees are Rs. 6,16,393. Unlike consolidation in the rice tract, consolidation of holdings in the wheat tract of the Sagar district is still in the experimental stage and no fee is being charged for consolidation in that district.

The average size of a khasra number in the villages consolidated in the Chhattisgarh tract rose from 0.48 acre before consolidation to 2.7 acres after consolidation, while in the Sagar district the average area of a khasra number rose from 2.55 acres to 4.08 acres.

4. As regards the future of consolidation, the prospects are bright and consolidation which was so far confined to the rice tracts is gaining new popularity in the wheat area. Even in the rice tract what has so far been accomplished is only a fraction of what can be done, but the future possibilities of consolidation are closely connected with the problem of finance as even with the increase in consolidation fee the wide gap between income and expenditure is not likely to be bridged.

Statement showing details of the progress of Chakbandi in the Chhattisgarh Division up to 1949-50

(1)	(2) No. of villages for which schemes are prepared	(3) Area consolidated Acres	(4) No. of permanent holders	(5) Khasra numbers before chakbandi	(6) Khasra numbers excluded from chakbandi i.e., baris and kothers	(7) Net khasra numbers after chakbandi	(8) Percentage reduction of col. (7) on col. (5)	(9) Expenditure Rs.	(10) Rate per acre Rs. a. p.	(11) Cost levied at the rate of 4 annas per acre and 6 annas per acre since 1942-43
Voluntary basis	9	6,242	387	15,825	540	2,174	86	..	..	..
December 1926 to September 1928.	10	10,051	769	25,804	1,641	4,373	82	23,369	1 7 0	..
October 1928 to September 1929.	22	19,677	1,352	56,558	2,783	6,680	88	15,671	0 12 8	..
October 1929 to September 1930.	79	53,752	5,179	101,834	7,469	20,524	78	19,501	0 5 10	..
October 1930 to September 1931.	58	59,723	4,740	108,057	5,724	15,489	85	19,866	0 5 6	..
Total ..	178	149,445	12,427	308,078	18,157	49,240	83	78,407	0 8 5	..

Statement showing details of the progress of Chakbandi in the Chhattisgarh Division up to 1949-50—cont.

(1)	(2) No. of villages for which schemes are prepared	(3) Area consolidated Acres	(4) No. of permanent holders	(5) Khasra numbers before chakbandi	(6) Khasra numbers excluded from chakbandi i. e., baris and kothares	(7) Net khasra numbers after chakbandi	(8) Percentage reduction of col. (7) on col. (5)	(9) Expenditure Rs.	(10) Rate per acre Rs. a. p.	(11) Cost levied at the rate of 4 annas per acre and 6 annas per acre since 1942-43
October 1931 to September 1932.	103	113,364	9,763	281,209	13,631	24,808	91	22,696 0 3 8	22,700	
October 1932 to September 1933.	121	115,464	10,860	297,565	12,438	29,627	90	24,598 0 3 5	28,866	
October 1933 to September 1934.	127	118,154	10,246	184,912	11,705	40,359	77	26,738 0 3 7	29,572	
October 1934 to September 1935.	179	175,959	14,528	356,080	20,810	60,414	82	41,798 0 3 10	44,045	
October 1935 to September 1936.	220	222,285	19,774	497,739	27,580	76,563	84	45,867 0 3 4	55,640	
October 1936 to September 1937.	263	238,853	21,785	507,915	32,826	79,926	83	48,989 0 3 3	59,766	
October 1937 to September 1938.	252	220,152	25,797	481,715	39,173	79,874	82	67,230 0 4 11	55,063	
October 1938 to September 1939.	242	218,564	25,184	421,232	42,101	90,530	76	67,747 0 4 11	54,636	
October 1939 to September 1940.	252	202,033	24,909	370,323	40,588	79,767	76	64,901 0 5 1	50,520	
October 1940 to September 1941.	137	111,785	11,681	219,869	15,726	39,479	81	56,928 0 9 1	42,164	
October 1941 to September 1942.	135	120,895	16,882	230,362	27,705	51,461	75	49,737 0 6 7	41,410	
October 1942 to September 1943.	140	118,871	16,642	235,313	25,651	51,346	76	63,659 0 8 7	43,777	
October 1943 to September 1944.	129	98,160	12,861	175,522	16,236	41,238	77	65,254 0 10 8	36,763	
October 1944 to September 1945.	32	30,330	3,521	63,444	5,248	22,094	67	30,117 1 0 0	11,909	
October 1945 to September 1946.	..	..	..	..	..	..	..	..	..
Total	..	2,332	2,104,869	224,433	4,323,200	331,418	767,486	80	676,259 0 5 1	576,831
Grand Total	..	2,510	2,254,314	236,860	4,631,278	349,575	816,726	82	754,666 0 5 1	576,831
October 1946 to September 1947.	18	11,894	1,341	33,581	1,748	6,526	80	24,781 2 1 0	4,446	
Grand Total	..	2,528	2,266,208	238,201	4,664,859	351,323	823,252	..	779,447 ..	581,277

Statement showing details of the progress of Chakbandi in the Chhattisgarh Division up to 1949-50—Contd.

(1)	No. of villages for which schemes are prepared	Area consolidated	No. of permanent holders	Khasra numbers before chakbandi	Khasra numbers excluded from chakbandi i.e., baris and kothers	Net khasra numbers after chakbandi	Percentage reduction of col. (7) on col. (5)	Expenditure	Rate per acre	Cost levied at the rate of 4 annas per acre and 6 annas per acre since 1942-43
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
		Acres						Rs.	Rs. a. p.	Rs. a.
October 1947 to September 1948.	30	24,479	2,999	63,065	10,050	17,056	87	36,576	1 8 4	9,180 0
October 1948 to September 1949. (Raipur)	30	23,042	3,054	55,077	7,810	18,373	78	34,058	1 7 8	9,489 4 i.e. 5,863 9 @ 0 6 per acre 3,625 11 @ 0 8 per acre
Sagar	45	32,848	2,592	15,046	..	9,102	40	37,193	1 2 2	No cost levied.
Grand total from 1926 to 1949.	2,633	2,346,577	246,846	4,798,047	369,183	867,783	82	9,87,274	0 4 1	15,99,946 4
October 1949 to September 1950. (Raipur)	41	34,661	3,274	82,093	5,976	22,832	78	39,978	1 2 4	16,447 1
Do. (Sagar)	46	37,513	2,393	13,317	2,919	8,147	39	18,933	0 8 1	No cost levied.
Total for 1949-50	87	72,274	5,667	95,410	8,895	30,979	68	58,911	..	16,447 1
Grand Total 1926 to 1950	2,720	2,418,851	252,513	4,893,451	378,078	898,762	82	10,46,185	0 7 0	6,16,393 5

PART III

Note on the Net Consumable Grain (Rice, Wheat and Juar) in Madhya Pradesh (excluding merged territories) by Shri P. B. Dixit, Officer on Special Duty, Survey Reports (Department of Agriculture)

The Department of Land Records, Madhya Pradesh, is the only authority publishing the figures of area and production of all the crops and hence there is no scope for any controversy over the reliability of the information as has been reported in the Rajasthan note.

Rice, wheat and juar are the three most important foodgrains of this State. Their production is estimated to be more than ninety per cent of the total production of cereals and millets. Therefore only these three crops have been dealt with for calculating the net consumable grains.

The net consumable grain has been worked out after making the following deductions from the total productions :—

- (1) Seed,
- (2) Losses in storage due to driage, dampness and weevilling, etc., losses in transit and losses due to mishandling,
- (3) Losses in processing (grinding),
- (4) Stock feeding.

1. Seed.—The per acre seed rates differ from tract to tract and according to the systems of sowing as noted below :—

Rice.—80 lbs. to 100 lbs. in broadcast system.
60 lbs. to 100 lbs. in transplantation.

Wheat.—40 lbs. in Berar to 120 lbs. in Haveli tract of the northern districts.

Juar.—4 lbs. to 6 lbs. in Berar, 8 lbs. to 12 lbs. in the plateau and northern districts.

The average seed requirements for the three crops work out to be about one-tenth, one-eighth and one-sixtieth of the total production of rice, wheat and juar respectively. The estimates given in the statements are based on these proportions with due regard to the rise or fall in area and production.

2. Losses in storage, etc.—The surveys conducted by the marketing section of the Agriculture Department show that the loss in storage due to driage in hotter parts of the year, dampness during rains and due to insects and rats, etc., on an average amounts to 2.5 per cent of the total production. In juar, however, the loss in storage is greater than in the other two grains, firstly because in some parts of the state it is stored in underground pits, whereby some of the grain becomes completely unfit for human consumption, and secondly due to its being more susceptible to weevil than the other grains in coal of storage in bags. The total loss in juar, therefore, has been estimated at 3.5 per cent. About 0.5 per cent of the total production is estimated to be completely lost due to mishandling on the farm and in the process of marketing and distribution.

For loss in transit only the marketable surplus is taken into account. The average loss in transit is estimated to be one per cent but as only a part of the marketable surplus is involved in long distance movement, a loss of 0.5 per cent only has been spread over the total marketable surplus.

3. Losses in processing.—About one per cent of the quantity processed is taken to be completely lost. In case of wheat, however, the bran is separated before the flour is used in the kitchen. Bran forms about 14 to 15 per cent of the whole wheat. But all consumers of wheat do not remove the bran to this extent, while some people do not remove it at all, and therefore the loss on this account has been estimated at 5.0 per cent only.

4. Stock feeding.—In general practice rice and wheat are not fed to the live stock. In case of juar, however, it is customary to feed working bullocks with cooked juar on pola day (a bullock festival). Young oxen calves below one year in age are also fed juar flour along with a small quantity of sweet oil and salt for about four months. It is estimated that about 3.5 per cent of the total production of juar is used for stock feeding.

Statement showing the net availability of the three food grains for human consumption are appended herewith. The position of all the grains put together is summarised below :—

Particulars	[Thousand tons]					
	Period					
	Decennium ending 1929-30		Decennium ending 1939-40		Decennium ending 1949-50	
	Quantity	Percentage of production	Quantity	Percentage of production	Quantity	Percentage of production
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Production	3,137.0	..	3,280.0	..	3,004.0	..
(2) Deduct—						
(i) Losses	198.6	6.3	203.5	6.2	185.9	6.2
(ii) Seed requirements ..	248.0	7.9	263.0	8.0	244.0	8.1
(3) Balance left	2,690.4	85.8	2,813.5	85.8	2,574.1	85.7
(4) Net exports	68.0	2.2	186.0	5.7	74.0	2.5
(5) Net available for human consumption.	2,622.4	83.6	2,627.5	80.1	2,500.1	83.2

Four statements showing the details of production and losses, etc., are appended herewith.

**AVERAGE ANNUAL AVAILABILITY OF WHEAT FOR HUMAN CONSUMPTION IN
MADHYA PRADESH (EXCLUDING THE MERGED TERRITORIES)**

(In thousand tons)

Item (1)	Decennium ending		
	1929-30 (2)	1939-40 (3)	1949-50 (4)
(1) Production	706.0	664.0	400.0
(2) Deduct—the losses estimated on total production—			
(i) in storage due to drriage, dampness and insects, etc., at 2.5 per cent.	17.7	16.6	10.0
(ii) due to defective handling on the farm and mis- handling in marketing and distribution at 0.5 per cent.	3.5	3.3	2.0
Total (i) and (ii) ..	21.2	19.9	12.0
(3) Balance	684.8	644.1	388.0
(4) Deduct—seed requirements	88.0	83.0	50.0
(5) Balance	596.8	561.1	338.0
(6) *Deduct—losses in transit at 0.5 per cent of the mar- ketable surplus.	1.5	1.4	0.4
(7) Balance	595.3	559.7	337.6
(8) Deduct—net exports (–) or add net imports (+) ..	–44.0	–32.0	+31.0
(9) Balance left for conversion into flour	551.3	527.7	368.6
(10) Deduct—losses in processing—			
(i) in the form of bran which is sieved out before actual use in the kitchen at 5.0 per cent.	27.6	26.4	18.4
(ii) completely lost in processing at 1 per cent ..	5.5	5.3	3.7
Total (i) and (ii) ..	33.1	31.7	22.1
(11) Balance—estimated to have been utilised for human consumption.	518.2	496.0	346.5

*N. B.—Marketable surplus in the preceding two decades was 41.6 per cent while in the present decade it is only 21.5 per cent.

**AVERAGE ANNUAL AVAILABILITY OF JUAR FOR HUMAN CONSUMPTION IN
MADHYA PRADESH (EXCLUDING THE MERGED TERRITORIES)**

(In thousand tons)

Item (1)	Decennium ending		
	1929-30 (2)	1939-40 (3)	1949-50 (4)
(1) Production	988.0	991.0	1,031.0
(2) Deduct—the losses estimated on total production—			
(i) in storage due to drriage, dampness and insects, etc., at 3.5 per cent.	34.6	34.7	36.1
(ii) losses due to defective handling on the farm and mishandling in marketing and distribution at 0.5 per cent.	4.9	5.0	5.2
(iii) stock feeding at 3.5 per cent	34.6	34.7	36.1
Total (i), (ii) and (iii)	74.1	74.4	77.4
(3) Balance	913.9	916.6	953.6
(4) Deduct—seed requirements	16.0	17.0	19.0
(5) Balance	897.9	899.6	934.6
(6) *Deduct—the losses in transit at 0.5 per cent of the marketable surplus.	1.4	1.5	1.6
(7) Balance	896.5	898.1	933.0
(8) Deduct—net exports (–) or add net imports (+) ..	–2.0	+7.0	–2.0
(9) Balance left for conversion into flour, etc.	894.5	905.1	931.0
(10) Deduct—the losses in processing at 1.0 per cent ..	8.9	9.0	9.3
(11) Balance—estimated to have been utilised for human consumption.	885.6	896.1	921.7

*N. B.—The marketable surplus in all the three decades has been estimated at 30 per cent of the production.

APPENDIX I

Distress caused in Madhya Pradesh by wars, famines, scarcities and pestilence in the past

1. The history of the distress and loss of life as a result of wars, scarcities and famines of the past up to 1902 is well illustrated in the following paragraphs from the "Imperial Gazetteer of India, Provincial Series, Central Provinces" (1908) (pages 70—74) :—

"The earliest scarcities of which accounts are available resulted from political disturbances rather than climatic causes. War and its effects account for distress which prevailed in the Upper Nerbudda Valley during the years 1771, 1783 and 1809. It is recorded that in 1771 wheat sold in Narsinghapur at 10 lbs. to the rupee. In 1803 a failure of the rains caused a famine in Nimar and Hoshangabad, which had already suffered greatly from the inroads of Sindhia's armies. The famine is still known in Nimar as the "Mahakal", when grain sold at 1 lb. per rupee or about two or three hundred times its price in seasons of prosperity. In 1818-19 the Nagpur country and the districts, north of the Nerbudda, suffered from a famine caused by the failure of the autumn rains and excessive rain during the following cold season. Acute famine prevailed for months in these localities, and in Jubbulpore wheat sold at 8 lbs. to the rupee. *In Nagpur many of the poorer cultivators are reported to have sold their children into slavery.* From 1823 to 1827 the districts of Seoni and Mandla suffered from a succession of short crops due to floods, hail and blight, and many villages were deserted. In 1825-26, according to oral tradition, famine attended with loss of life occurred in Nagpur, and it is said that many people died after eating the cooked food which was doled out to them at the Raja's palace. In 1828-29 there was a famine in Raipur and Bilaspur, the price of grain rising from about 300 to 24 lbs. a rupee. In 1832-33 excessive rain followed by drought was the cause of severe distress in the Nerbudda Valley, the Nagpur country, and Berar. *Heavy mortality occurred in Betul, and 5,000 people are said to have died in the city of Nagpur.* In Wardha children were sold for 10 lbs. of grain. The following year, owing to a failure of the autumn rain, the spring crop area of Jubbulpore district was left practically unsown and the prices reached 16 lbs. per rupee. Grain was imported by Government agency into Seoni and Mandla. In 1834-35 a partial failure occurred in Chhattisgarh, and in spite of the export of grain being prohibited, prices rose to 15 or 20 times their normal level. Drought in 1845 caused severe distress in Nimar and Chhattisgarh; and in 1854-55 a visitation of rust destroyed the wheat crop of the northern districts, and is still well remembered by the people as a parallel to the similar disaster of 1894-95. *Parents sold their children in Damoh, and many deaths from starvation were recorded in Saugor.* In 1868, the year of the Bundelkhand famine, the rains ended abruptly a month before the due time; but a heavy fall in September saved the situation over the greater part of the country, and acute distress was confined to the Vindhyan districts, the Wainganga rice tracts, and Chhattisgarh. Distress was, however, severe in these areas. *Hundreds of deaths were reported to have occurred from starvation, and the ordinary mortality is estimated to have been terbled.* About 17 lakhs was expended on relief."

"The famine of 1868-69 was followed by a period of years of prosperity, broken only by the failure in 1886 of the rice crop of Chhattisgarh. From 1893 commenced the recent cycle of bad years. In that year, and in 1894 and 1895, the spring crops of the northern districts were spoiled by excessive winter rain. In 1894 the wheat was almost entirely destroyed by rust in Saugor and Damoh, and distress ensued. Road works were opened, but the numbers on them never reached 20,000, and only about a lakh was expended on relief. Both in 1894 and 1895 the rice crop was also severely damaged on the threshing floors by the late rain. In 1895 the monsoon stopped abruptly in the middle of September; the autumn crops were poor, and the spring harvest realized about half a normal yield on a diminished area. Four years of poor harvests thus preceded the failure of 1896, when the rains, which up to then had been plentiful and even excessive, stopped suddenly at the end of August. The effect of the drought was the destruction of the autumn crops, with the exception of irrigated rice, cotton and *juar*. The spring crops were fair, but owing to the dryness of the soil only half the normal area was sown. The all-round outturn was 56 per cent of an average crop, but the distress was greatly aggravated by the failures of the preceding years. Severe famine prevailed throughout 1897, except Nimar, Chanda and Sambalpur, which partially escaped. Direct expenditure on famine relief was about 1½ crores, and indirect expenditure, famine loans, remissions of land revenue and charitable relief made up another crore. *The Provincial death-rate for the year was 69 per mille, as against 32.4 during the decade 1881—91;* the mortality was especially severe during the monsoon months. Owing partly to the wide area over which this famine extended, and partly to the deficiency of transport, prices ruled high, the extreme point reached being 12½ lbs. per rupee in Balaghat. The largest number relieved was 703,000, or 8.5 per cent of the population affected, on the 29th May. The famine of 1897 was followed by two years of fairly good harvests, but in 1899 occurred the most complete failure of the rainfall ever known. Only five districts received more than half their average rainfall, and five received only a third. The wheat crop was above half an average in six of the northern districts; but over the rest of the Province both crops failed completely, the all-round outturn for the Province being only a quarter of the normal. *Famine prevailed in all districts from October 1899 to November 1900, and the deficiency of the rainfall led to severe epidemics of cholera, dysentery, diarrhoea and other diseases resulting from bad water.* The administration of this famine was extremely liberal and efficient, the direct expenditure being nearly 4½ crores, while indirect expenditure and remissions of the revenue added another crore and 30 lakhs. The numbers on relief exceeded 2½ millions, or 23 per cent of the population of the affected tract, in July 1900 and the total number of units relieved for one day was 55 millions. In spite of the greater severity of the famine, prices were generally lower by from 1 to 3 lbs. per rupee than in 1897, the imports of Bengal rice assisting materially to keep them down. The highest price for the cheapest foodgrain was 14½ lbs. per rupee in Chhindwara. *The mortality for the year was 57 per mille, and was greatly aggravated by diseases due to the scarcity and bad quality of water.* After two more fairly good seasons a prolonged break in the rains between the last week of July and the last week of August 1902 caused a failure of the rice crop in Raipur and the Wainganga Valley. Famine was confined to Raipur, which reaped only a third of an average crop."

2. Describing the effects of the big famines of 1897 and 1900 on the population growth, the following observations are made in the "Imperial Gazetteer" (page 22) :—

"This period was the most disastrous through which the Central Provinces have had to pass since the Maratha Wars of the beginning of the Century. In 1897 and 1900 occurred two famines of the first magnitude, occasioned by complete failures of both harvests, and effecting nearly the whole area of the Province. In four other years there were partial failures of crops, and in seven out of ten years, severe epidemics of cholera. Of the decrease, which exceeded 800,000 persons, between an eighth and a quarter is probably due to emigration to Assam and other Provinces, and the remainder to the effect of these calamities, which the utmost efforts of the Administration could only partially obviate."

3. The above account of the famines and scarcities relates to the period up to 1902. After 1902, although no famine or scarcity has caused so much distress as the great famines of the past, there have been repeated serious failures of crops in different years resulting in the declaration of famine or scarcity conditions in different parts of the State. The influenza epidemic of 1918-19 was, however, a calamity of unprecedented scale.

4. After the great famine of 1899-1900, the State was in a process of recovery when the famine and scarcity conditions of 1907-08 appeared. The Famine and Scarcity Report of the Central Provinces and Berar for 1907-08 contains the following significant brief review of the previous calamity :—

“ The Central Provinces and Berar, including the Feudatory States, have a population, as recorded at the Census of 1901, of over 13½ millions, more than 70 per cent of whom are directly dependent on agriculture. The provinces suffered severely in the great famines of 1896-97 and 1899-1900. In the former the number of persons on relief, in the Central Provinces alone, rose at one time to 692,000 or 6·41 per cent of the population, while in Berar, which escaped comparatively lightly, over 40,000 persons were relieved on famine works, and gratuitous relief was given on a small scale. That famine was, in the Central Provinces, the culminating point of a series of bad seasons especially in the northern districts ; in the short interval which followed it, and preceded the greater calamity of 1899, the harvests were fair, but were not sufficient to restore the exhausted resources of the people, with the result that when the famine of 1899-1900 came and the distress was deepest no less than 2,322,000 persons in the Central Provinces received relief at the hands of the State, while in Berar over 601,000 were relieved. In either province these figures represented more than a fifth of the population. The effect of the famines was seen at the Census of 1901, when it was found that the population of the Central Provinces, where the decade had been one of almost unbroken hardship, had decreased by 8·3 per cent. In Berar, which had escaped lightly up till 1899, the figures did not tell the same mournful tale, but there was nevertheless a small decrease in the population. In 1900-01 the net cropped area of the combined provinces was nearly a million acres smaller than in 1893-94.”

5. The tracts, which were worst affected during 1907-08, were described in the Famine and Scarcity Report as follows :—

“ The failure of the monsoon was most serious in the northern half of the provinces, and the tracts most severely affected were those where the soil is of poor quality, the people backward and cultivation of a low order. In these tracts the kharif crop is the most important and yielded an average outturn of less than 30 per cent of the normal. The rabi crops are as a rule not of much importance, and owing to the hardness of the soil and the want of moisture in it the rabi sowings were reported to be very short, averaging less than 40 per cent of the average. These tracts were, more particularly, the uplands of the Damoh district, the Banda tahsil and a small area in the south-east of the Saugor district, the Murwara tahsil and non-*haveli* portion of the Sihora tahsil in Jubbulpore, the Dindori tahsil of the Mandla district, and the north-eastern part of the Betul district. Their area may be put roughly at 6,600 square miles, and their population at 470,000 persons. It was in these tracts that there was greatest probability of regular famine relief being required, and it was here that it was first found advisable to grant village-relief and open village-works.”

6. The other tracts of the State were reported to be less seriously or lightly affected. The conditions of the time are reviewed in the Central Provinces Revenue and Scarcity Department Resolution No. 497-X-63-2 of 18th March 1909 as follows :—

“ The climatic conditions of the year 1907 bore a close resemblance to those of the famine year of 1896, and were so peculiarly unfavourable to agriculture as to give rise to widespread hardship amongst the agricultural classes. Not only was the rainfall deficient in quantity, but the time and manner of its distribution were abnormal. The monsoon opened late, more particularly in the Jubbulpore Division, and in June and July nearly every district in the Provinces received less than the average quantity of rain. This deficiency was most marked in the north of the Provinces, where a rainfall of less than half the normal was registered during these two months ; but the scattered showers which occurred were sufficient for the purposes of sowing, and though the germination was poor in the lighter soils, the condition of affairs during the early part of the monsoon was not such as to give rise to serious alarm. In the south of the Provinces the distribution of rain was more normal, and the prospects of crops up to the end of July were not unfavourable. During the latter part of July and the whole of August there was almost continuous rainfall, the amounts registered being in excess of the normal in 19 out of 22 districts (including Berar). Early in September the monsoon came to an abrupt termination. In the Nagpur and Chhattisgarh Divisions sufficient rain fell in the second week of this month to prevent an absolute failure of the kharif crops, but the distribution was capricious and the outturn of the crops consequently varied largely even in different parts of the same district. In the Nagpur and Chanda districts the kharif crops were not much below the normal, the outturn being approximately 75 per cent of what might be expected in an average year ; but in the remaining districts of these two divisions the outturn of kharif was little more than half the average. In the Jabalpur and Nerbudda Divisions there was an entire cessation of the rains in September, and this resulted in a more complete failure of the kharif crops than in the south of the Provinces. Already considerable damage had resulted from the continuous rain of August, and the hot September sun withered the plants before they reached maturity. Even in the better soils a partial failure of the kharif crops resulted while in the lighter soils the failure was almost complete, and in most of the northern districts the total kharif outturn was little more than one-third of the normal. The early termination of the monsoon was not without its effect on the rabi crops also. No rain fell in October and in the greater part of November ; and the rabi sowings of 1907 fell short of those of the previous year by 2,227,000 acres. Even where it was found possible to sow, the germination of the seed was defective and the outlook was decidedly gloomy, until at the close of November the much needed rain arrived ; the fall though not heavy was well distributed and was sufficient to avert complete disaster ; the condition of the standing crops at once improved, and on the restricted area sown the outturn of the spring crops considerably exceeded expectations, though the total produce was much below that of a normal year.”

7. The conditions in the Nerbudda Division during 1907-08 are described as follows by the Commissioner in his Land Revenue Report of the year :—

“ The year was an adverse one for the agricultural classes, and the failure of the harvest was bound to have a bad effect on their material prosperity. The smaller agriculturists and the labouring classes had a very hard time. To meet the situation Government forests were thrown open for the free removal of head-loads of fuel and grass and the free extraction of edible minor produce was also allowed. Road works under the management of the Public Works Department were started and liberal taccavi advances were made, which enabled several malguzars to start private works on which many poor agriculturists and labourers got work near their homes. These arrangements afforded sufficient support for the needy, and there was no unusual emigration or wandering in search of work. Gratuitous relief was also given where necessary.

There was no serious epidemic among cattle, but the shortage of fodder is reported to have caused deterioration in their condition, and a large number of them succumbed to the rigours of the rains.”

8. Describing the distress caused in the Nagpur Division during the scarcity year 1907-08, the Commissioner observed in his Revenue Administration Report as follows :—

"The intensity of the crop failure in parts and the high pitch reached in the prices of foodgrains everywhere subjected the people to a severe strain. All the district reports indicate the very satisfactory resisting power exhibited by cultivators and labourers in meeting the effects of a season which a few years ago would, at least in parts, have involved extensive expenditure on famine relief. In the Balaghat report the Deputy Commissioner says with confidence that practically every cultivator was found to have some money or grain in reserve though they availed themselves freely of help from Government loans. In Bhandara it is remarked that the people met the situation in a manner very different from previous calamities. The high prices secured were no doubt a direct gain to those who had crops to sell and they were not a few. But no doubt on the whole there has been some increase of the indebtedness of agriculturists which of late especially in the cotton tracts has been on the decline. Such a result was inevitable, especially as marriages were pushed on owing to the approach of 'Singhast', but with a few good seasons the effect will disappear. A widespread misfortune was the very heavy mortality of cattle during July and August 1908, due partly to poor nourishment during the hot weather, but chiefly the continued rainfall which in many places was accompanied by a plague of caterpillars that was specially injurious to the grazing. Fairly liberal help in the way of *taccavi* will be needed on this account in the current year. The condition of the labouring classes remained satisfactory throughout. It is described as one of 'blatant prosperity' in the Wardha report. There does not seem to have been even any general fall in wages, except in respect of manganese carting. Government Public Works Department, Irrigation and Forest Departments works were expanded, but even in Bhandara and Balaghat the demand for labour was often in excess of the supply."

9. The conditions of the cultivating classes during 1907-08 in the Chhattisgarh Division are described by the Commissioner as follows :—

"In consequence of the very inferior kharif harvest the condition of the cultivating classes was naturally worse than it was in the previous year. But the extent of their deterioration was astonishingly small. The gratifying feature of the situation was that people generally showed far more staying power than could possibly have been anticipated from the history of the last 10 or 12 years. It is true that cultivators, whose crops yielded anything at all, were in some measure compensated for a diminished outturn by the high prices prevailing, and that the previous year's kharif harvest had been superabundant. But after making full allowance for these two comparatively favourable circumstances there was nothing in the experience of the recent past to suggest that they would display the resource actually displayed by them. It now seems, however, that the lessons of the late famines have really been taken to heart. Even so the people could hardly be expected to pass, wholly unaided, through the ordeal with which they were confronted. Accordingly such action as seemed necessary was taken by Government to mitigate the effects of the widespread failure of crops. Revenue was suspended in villages where inquiry showed the need for suspension; and the suspension was announced in good time. In a few places, revenue, which had been suspended in previous years, was remitted. Large sums were advanced for the improvement of land, a large amount being given out than had ever before been given out in the Division for this purpose. Large sums were also advanced, when the time for kharif sowings approached, for the purchase of seed and cattle. The Public Works Department programme of works was expanded in order to provide employment for labourers who might be in search of it. District Councils from their limited resources spent all that they could on public works. The Court of Wards was not behindhand in rendering aid to ease the situation. In the four northern Zamindaris of the Durg district, which are under the Court of Wards, the forests were thrown open for the free extraction of fruits and roots and head-loads of firewood. This example was followed in that district by Zamindars managing their own estates. Indeed, in many parts of the Division material assistance was given by private individuals who, with or without the help of *takavi* constructed tanks and field embankments and other works. In these various ways the necessity for measures of actual famine relief was avoided throughout the Division except in a very restricted area in the Bilaspur district. In the northern Zamindaris of Durg, where there was a marked failure of rice and kodon, actual distress was averted by a good mahua crop. But in the northern and western parts of Bilaspur, where there was an equally bad failure of rice and kodon, the mahua crop also failed; and distress ensued. In the rainy season it was found necessary to distribute gratuitous relief here. But the total period for which relief was given nowhere exceeded three months; the total amount spent in relief was less than Rs. 6,500; and the total number of persons in receipt of relief at any one time never reached 1,750." []

10. The losses sustained by the agricultural classes in the Jabalpur Division during the scarcity year 1907-08 are described by the Commissioner in the Land Revenue Report as follows :—

"The two previous years had been years of marked prosperity and while in the year under report the agricultural classes have sustained severe losses, their power of resistance to adversity has been a marked and satisfactory feature of the year throughout the Division.

The special measures taken to prevent distress due to the failure of the crops and the high prices of foodgrains have formed the subject of separate reports, and I need not dilate on them here. As the Deputy Commissioner of Saugor remarks in speaking of the condition of the people, the results show that 'We have simply been marking time for a year. We have not gone back, but are ready if given the chance to continue the advance made in the past six years', and all the district reports show that this is true for the Division as a whole.

The labouring classes have also suffered less than was to be expected; the extension of the programme of ordinary works and the improvements carried out by the richer tenant and malguzars, either with their own money or by the aid of loans from Government, has enabled them to tide over the period of high prices and has prevented them from having to emigrate in search of work.

With the exception of a serious outbreak of malaria fever during the monsoon, there was no epidemic during the year, and in spite of the high price of food, there was no serious increase in the death-rate."

11. The next year of serious crop failure is reported in 1913-14, when, in their Resolution No. 762-X-63-II of 28th April 1915, the Revenue and Scarcity Department of the Central Provinces Administration made the following observations :—

"The year was one of serious crop failures, especially in the northern districts and in Chhattisgarh, owing to early and abrupt cessation of the rains of 1913. The kharif harvest was more or less of a failure everywhere; the rabi harvest was much better, but the area on which it was sown was greatly restricted on account of want of moisture at sowing time. In the three districts of Jubbulpore, Damoh and Mandla it was found necessary to grant a small measure of direct famine relief, but elsewhere the situation was adequately met by the expansion of ordinary works, the grant of forest concessions, the suspension of land revenue and the distribution of *takavi* on a liberal scale. The people came through the ordeal without any manifestation of severe distress, and the most serious effect of the calamity was the depletion of wheat stocks. On the other hand, the Provinces were fortunately free from any widespread epidemic disease. The present season has been fortunately a good one and all traces of last year's trouble have practically disappeared."

12. The scarcity during 1913-14 was particularly severe in the northern districts. The following observations made by the Financial Commissioner in his Land Revenue Administration Report for 1913-14 about the conditions of the year are of interest :—

“The conditions of the year were such as to put the resources of the agricultural classes in many parts of the Province to a severe test, and the comparative ease with which they came through the ordeal has brought out very clearly the stability of the position attained by both cultivators and labourers as the result of a series of generally prosperous years. Malguzars and tenants with substantial holdings had sufficient reserves and took full advantage of the comparative cheapness of labour to build houses and improve their land; the smaller tenants undoubtedly felt the pinch more severely, but with the assistance afforded by Government were able to eke out the scanty harvest in various ways; and labourers, though they did not everywhere retain the commanding position which they had held in previous years, found ample employment at rates which at the worst assured them a living-wage in spite of the rise in the prices of all the staple-foodgrains. The extent and effect of the crop failure were by no means uniform and the amount of help required from Government varied considerably. In the Nagpur Division conditions were almost normal until the end of the year, when the fall in the price of cotton consequent on the outbreak of the European War had a disturbing effect in the cotton growing districts. In the other Divisions suspensions and remissions of revenue had to be granted on a liberal scale and there was a greatly increased demand for Government loans both for land improvement and for the purchase of seed-grain and cattle. The only district, however, in which there appeared any signs of actual distress calling for special relief measures were Jubbulpore, Damoh and Mandla, and here the situation was promptly and adequately met by an expansion of the work programmes of the Forest, Public Works and Irrigation Departments, the grant of forest concessions and the distribution of gratuitous relief doles on a strictly limited scale. Even in these districts, where the crop failure was most severe, the people showed great power of resistance and no permanent deterioration has resulted from the scarcity; from Damoh it is reported that the kharif harvest of 1914-15 has been so good that the people have already forgotten last year's trouble. The year was a generally healthy one; cholera and smallpox appeared in places in epidemic form, but plague was again almost entirely absent. In some districts cattle suffered some distress owing to shortage of fodder, but no abnormal mortality was reported.”

13. The year 1918-19, again brought about scarcity and famine conditions accompanied by the abnormal influenza epidemic and the following description in the Revenue and Scarcity Department Resolution No. I-D-XII of 5th July 1920 is of interest :—

“In several respects the year 1918-19 has been one of the most remarkable in the revenue history of the province. The monsoon was uncertain at the start, and a prolonged break in July impeded the progress of the young kharif crops, the tension being somewhat relieved by some subsequent rain. But the monsoon practically failed altogether from the middle of September, being thus one of the most unfavourable on record. The crop prospects in October were thus very gloomy. The outturns of kharif crops were nowhere anticipated to be half the normal except in the few irrigated tracts, and in the Chhattisgarh and Jubbulpore Divisions the prospects were much worse. The drought affected most adversely the rabi sowings; the area sown with rabi crops decreased by 30 per cent, the fall in the Chhattisgarh Division being no less than 53 per cent. To add to the difficulties of the season, *the influenza epidemic in October-November resulted in the most appalling mortality within the memory of man, the deaths being estimated at 5 per cent of the total population.* Moreover, prices continued to rise throughout the year to levels unknown in the worst famine years. Conditions thus pointed to the probability of a severe famine, and arrangements were rightly made for this contingency. The measures taken for the relief of distress will be fully described in the famine report, and it is sufficient in this resolution to state that in the most affected tracts suspensions of land revenue and rent were granted, agricultural loans were distributed on a liberal scale, ordinary works were expanded and relief works were started wherever there was a demand for labour, gratuitous relief was given on a liberal scale, and cheap grain shops were started in towns. *Famine or scarcity was declared in the whole or portions of 12 out of the 18 districts*, but the amount of relief required nowhere approached that forecasted as likely to be required. Unusual rain in November-December improved the prospects of the late kharif crops, and indeed turned the outturn of cotton in the Nagpur Division from an estimated half crop to a full yield. Rabi prospects were also improved, and with good winter rain, the outturn on the restricted area sown was excellent. The crop outturn of the year is estimated at 57 per cent of the normal outturn on the normal area. The cultivators benefited largely by the very high prices at which they sold their produce, and were in no difficulty except in the few isolated tracts where the failure was most complete. The normal shortage of labour was aggravated by the appalling mortality caused by influenza, which resulted in a considerable rise in wages, and the demand for relief work was nothing like so large as had been anticipated. The result has shown that the greatly increased power of the population to resist famine conditions, caused by the great changes in economic conditions during the past decades, was considerably under-estimated. The numbers on relief were only a small fraction of those relieved in the great famine, and fell short of those of 1907-08, when crop failure was certainly not so great nor so widespread, and when there were not the aggravating circumstances of 1918-19. Thus the Province overcame this difficult year much better than was anticipated, and the reports testify to a remarkable power of recuperation when the favourable monsoon of 1919 brought a return of prosperity. It will take a few good years, however, to make a complete recovery in the worst affected tracts of the Jubbulpore Division and some jungle tracts in other Divisions. The Chief Commissioner acknowledges the promptness with which the officers of Government took all the measures necessary to prevent and alleviate distress. With one exception, the machinery for relief was always, as it should be, in advance of the necessity for the relief. The one exception was in the backward Mandla district, where communications are the worst in the Province and where, owing to the heavy cold-weather rain of January and February 1919, it was very difficult for the officers of Government to travel freely and gauge the distress as it arose. Apart from gratuitous relief and special arrangements for the import of grain to meet monsoon needs, the main measures taken in this district were works on the improvement of communications, which should render a future scarcity in the district more easy to handle.”

14. In his Report on the Land Revenue Administration during 1918-19, the Financial Commissioner reviewed the distress caused by the scarcity conditions and the influenza epidemic as follows :—

“Owing to the large exports of previous years, the failure of the kharif crops caused a further rise in the price of all foodgrains and this, combined with the epidemic of influenza and the general high cost of living, caused much distress among the smaller cultivators and the labouring classes, with the result that relief measures were found necessary in 12 districts. These will be described in detail in the report on the famine relief measures of the year, and it will suffice to say here that liberal suspensions of revenue and rents, large grants of takavi and the starting of relief works, together with the opening of Government forests for the extraction of head-loads of grass and fuel and of edible products, enabled the people to weather the storm, while the power of recuperation which they subsequently exhibited surprised even those who knew them best. Labour was scarce, largely owing to the heavy influenza mortality, and so commanded high wages. In fact, many of the relief works which were opened failed to attract the number of workers which was expected. Such cultivators as were fortunate enough to reap a good rabi crop made large profits from the high prices which they were able to secure and in the cotton tracts the prosperity of recent years was fully maintained by the unexpectedly large crop which was picked and the very high rates which prevailed. Local stocks, however, were seriously depleted, but the situation was eased by the controlled import of rice from Bengal, Rangoon and Chhattisgarh, and the opening of

cheap grain shops afforded further relief. A considerable reduction was also effected in the price of kerosene oil and salt by the control which was undertaken by local bodies. The Commissioner of the Jubbulpore Division considers, however, that *it will be many years before the districts of that division recover their normal agricultural prosperity*. Apart from influenza, cholera prevailed in many districts, particularly in Jubbulpore, but the year was comparatively free from plague. Cattle disease appeared in a sporadic form over most of the Province, but was nowhere severe, though in Betul mortality was high owing to the scarcity of fodder. In a year like this, there is always a danger of the Malguzars of aboriginal castes parting with their villages owing to temporary difficulties, and it is satisfactory to find that in Mandla the Central Provinces Land Alienation Act, II of 1916, has been the means of preventing ill-considered transfers by aboriginal owners in temporary difficulties."

15. Describing the fall in the area of agricultural land, the Financial Commissioner makes the following further observations :—

"Owing to the character of the season there was little demand for land, and the area held by tenants, which has been steadily rising during recent years, fell again to the level attained in 1916-17, the fall being general to all parts of the Province. Only a small portion of the land abandoned passed into the cultivation of Malguzars, for while the tenant area fell by over thirty-eight thousand acres, the homefarm only increased by seven thousand."

16. The conditions in Berar during 1918-19, resulting from the influenza epidemic and inadequate and bad distribution of rainfall, have been described as follows in the Revenue and Scarcity Department resolution No. 322-C-XII of 20th April 1920 :—

"The annual report on the revenue administration of Berar was received three months late from the Commissioner, and the publication of this resolution is consequently delayed. The year was full of difficulties. The rainfall was short and badly distributed and stopped prematurely, and in October 1918 there were very gloomy forebodings regarding the prospects of the crops. At the same time the violent influenza epidemic reached its height and was responsible for the appalling mortality of over a quarter million deaths in a population which at the last census amounted to just over three million persons. In the best of years the division imports some of its food-stuffs, and the poor kharif outturn in 1918-19, coupled with the depletion of stocks due to inferior harvests in the two preceding years, increased largely the need for import just at the time when crop failure in other parts of India greatly increased the pressure on the already overtaxed railways. Berar, however, overcame its difficulties better than was anticipated. The yield of the important jwar crop was everywhere very poor, but the early winter showers improved the outturn of cotton, which was everywhere better than half the normal and in East Berar reached three-fourths of the normal. Wheat was practically a failure in the Buldana district, but again the eastern districts of Amraoti and Yeotmal obtained three-quarters of the normal outturn. The cultivators were saved by the abnormally high prices for which they sold their cotton, a record-rate being reached at the beginning of the season. These large profits enabled them to purchase food-stuffs and other necessaries in spite of the high prices. The chief anxiety of Government was for the landless labourer and the small cultivator who supplements his agricultural income by labour, but here again the exceedingly heavy mortality during the influenza epidemic caused a great shortage of labour and a substantial rise of wages. Prices reached heights hitherto unknown, crime was abnormally heavy, and control was exercised over railway traffic by a system of import and export permits under which an effort was made to regulate prices."

17. The effect of the influenza epidemic in Berar in 1918 is summarised as follows by the Commissioner in his Revenue Administration Report :—

"Influenza appeared in a mild form in August and September and assumed a virulent type in October and continued its ravages till December. It reduced the population of the Division by more than 233,000, paralyzing agricultural operations due then and soon after. It carried away whole families, and deprived many of the survivors of their bread-winners. This depleted the labour class and contributed in no small measure to the rise in wages. All possible efforts were made to provide for medical treatment and special diet to the patients, and in this work local bodies and private individuals joined voluntarily and co-operated enthusiastically. After the influenza ceased, relief in the form of clothes, etc., was afforded to the destitute."

18. In the Famine and Scarcity Report of 1918-19 of the Central Provinces and Berar, the following description is given about public health and mortality during the period of the scarcity and famine :—

"The outstanding feature of the period is the influenza epidemic, which assumed a virulent form in September 1918 and rapidly spread all over the Province. The mortality due to the disease was appalling, and from the month of October 1918 to January 1919, when the disease gradually disappeared, the death-rate for the Province was as follows :—

	October 1918	November 1918	December 1918	January 1919
(1) Death-rate per mille per mensem	(2) 18.12	(3) 39.92	(4) 11.18	(5) 3.78
Decennial average of death-rate per mille per mensem	4.01	3.44	3.20	2.70

The disease was not confined to any particular part of the Province nor the mortality to any particular class, but as was to be expected, the population in villages far from any medical help suffered severely. The epidemic came at a time when prices were high and scarcity had begun, and among the village population it caused much physical deterioration which was responsible for much of the distress that followed. Prompt measures were adopted for the distribution of medicines, food and clothing to the poorer classes, and a Government grant of Rs. 2,67,024 was sanctioned and distributed among the various districts. The disease disappeared in February 1919, and thereafter the general mortality of the Province was not abnormally high, except in certain districts. Cholera is a usual concomitant of famines, and precautionary measures were taken in Jubbulpore district by the disinfection of wells and supply of medicines to revenue officers and police station-houses. Much propoganda work was also done by the distribution of pamphlets describing the measures to be adopted in case of an outbreak. The disease was first introduced into the districts of Jubbulpore and Mandla by immigrants from Rewa State, who came for the spring harvesting in March 1919. The

completion of harvesting spread it all over Jubbulpore district, and in May 2,560 persons died in the district from it. But from this month it began to decline and disappeared by the end of August, as a result of the energetic measures taken to stamp it out. The death-rate in the Jubbulpore district during the months of April, May and June was as follows :—

	April	May	June
Death-rate per mille per mensem	6.39	4.85	3.67
Decennial average for the district	2.61	3.12	3.11

The only other part of the Province where cholera appeared in an epidemic form was Chhattisgarh, where it was introduced in May by immigrants from the surrounding Feudatory States. The following table shows the mortality in the districts of this Division :—

District	April 1919		May 1919		June 1919		July 1919		August 1919		September 1919	
	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal	Actual	Normal
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Raipur	3.23	..	6.08	..	6.59	..	3.45	..	4.35	..	4.71	..
Bilaspur	3.29	2.65	5.55	3.14	6.19	2.74	3.26	2.55	3.35	3.61	2.71	4.10
Drug	2.38	..	3.66	..	7.59	..	5.18	..	5.35	..	4.84	..

In Bilaspur the disease claimed 10,000 victims before it disappeared in June. In a few other districts cholera appeared in scattered places, and the highest mortality from this disease alone for the Province as a whole was 1.21 per mille in June, from when it began to decline. Smallpox occurred in a few districts on a small scale and malarial fever appeared as usual in August. Apart from the influenza epidemic in the beginning and the cholera outbreak during the hot weather, the year was not abnormally unhealthy, and the physical condition of the labourers on scarcity works was good. It is noteworthy that except in the camp on the Parlat tank work in Jubbulpore district, cholera did not appear on any of the scarcity works, and it says much for the care taken by the Public Works Department in the sanitation of the work camps. There were no deaths from starvation except some four or five doubtful cases in the Raipur district, and these after investigation appeared to be cases of beggars who had wandered away from their villages where they would have been maintained and sunk exhausted on the way. Except for the deaths from cholera the heavy mortality of the year cannot be attributed to the conditions arising out of the scarcity, the influenza epidemic alone being responsible for almost the whole of the excess mortality."

19. The year 1920-21 was, again a year of famine and scarcity conditions in the State and the following description from the Central Provinces and Berar Famine and Scarcity Report for 1920-21 is of interest :—

"*Failure of 1920-21.*—The crop failure of 1920-21 was like its predecessors in 1907-08 and 1918-19, due to the abrupt cessation of the rain in the middle of September 1920. The monsoon of 1920 broke somewhat late in the last week of June. The rainfall was light but well distributed and sufficient, and by the end of July all crop prospects were good, except in four districts. An opportune break then occurred and was followed by good showers in August except in the Chanda, Akola and Amraoti districts where practically no rain fell. In Mandla the rainfall had been excessive, standing crops were damaged, and a large area had to be resown. Light rain continued to fall in the first week of September and was succeeded by moderately heavy showers all over the Province in the second week. More rain, however, was urgently required in several districts, especially in the rice-country and in Berar. Elsewhere, standing crops were at this period in fair condition and prospects were not unfavourable. From this time onwards, however, the rain came to an abrupt stop, and except for a few light showers in certain districts, no further rain was received anywhere from October 1920 to the latter half of January 1921. The result, as on all previous occasions, was a severe failure of the kharif harvest. The monsoon rainfall was 28.42 inches against the average of 43.17 inches.

The prolonged drought, coupled with the excessive heat, hardened the soil and caused a great contraction of the area sown with spring crops. The total rabi area sown was 30 per cent less than in 1917-18. The want of moisture in the soil which was responsible for the decrease in sowing, coupled with the absence of all rain till late in January, prevented satisfactory germination on light soils and a general failure of the rabi harvest resulted. The combined outturn of both harvests over the whole Province amounted to only 42 per cent of the normal crop against 55 per cent in the two scarcity years 1907-08 and 1918-19. The Jubbulpore and Berar Divisions suffered most. In Seoni and Mandla the combined outturn of all crops did not exceed 25 per cent of normal. Saugor alone of the districts of the Jubbulpore Division the combined outturn exceeded 55 per cent of the normal. In three Districts of Berar the outturn was between 26 and 27 per cent of the normal and in the fourth district only reached 40 per cent. Other Divisions were more favoured, but only in comparison with the worst afflicted tracts. In Nerbudda Division, the outturn was 47 per cent of the normal in Chhindwara and 37 per cent in Betul; in the Nagpur Division, it was 38 per cent in Bhandara and 42 per cent in Balaghat; while in the Chhattisgarh Division, the outturn in Drug was only 37 per cent of the normal and in Raipur the most favoured district in the Division, did not exceed 52 per cent. In only three districts of the Province did the outturn reach more than 60 per cent of the normal. The crop failure was more serious than any which has occurred since 1899-1900.

Areas and classes affected.—The first districts to be affected were Mandla and Seoni in the Jubbulpore Division and Bilaspur and Drug in Chhattisgarh. Scarcity was declared in the whole of the first two districts and in parts of the latter two from the beginning of December. It was declared very shortly afterwards in the same month in the greater part of the Jubbulpore district, part of the Damoh district and in the Amraoti, Akola and Buldana districts of Berar. By the third week of February it had become necessary to declare a state of famine in the whole of Mandla, Seoni and the greater part of Jubbulpore, where the situation was again complicated by a rush of immigrants from Rewa State. The Nagpur Division was less affected, but the Sironcha tahsil of the Chanda district was declared to be in a state of scarcity in January 1921, and a similar declaration was eventually made in parts of Balaghat, in the Deolapar tract of the Nagpur district and part of the Arvi tahsil of Wardha district. In Nerbudda Division it was only in the two plateau districts that scarcity conditions prevailed. In March and April scarcity conditions spread over the Raipur district, thus involving the whole Chhattisgarh Division. Most of the Feudatory States were also affected. In April the Melghat taluq of Amraoti, hitherto excluded, was brought under scarcity operations.

Over the Province as a whole nearly 12,000 square miles, with a population of nearly 1½ millions, were declared to be under famine and 35,000 square miles, with a population of over 4½ millions, under scarcity. In 1899-1900 the whole Province came under famine.

As always, the classes most affected were the labourers and smaller tenants. The petty artisans in towns, especially the handloom weaver class, were also hard hit. The more substantial tenants and petty landlords found the liberal suspensions of land revenue and the loans advanced by Government under the Agriculturists' Loans Act sufficient to tide them over the crisis.

Comparison of degree of crop failure in 1899-1900 and 1920-21.—The rainfall and crop outturn statistics in Tables I and III show that, except in certain limited areas, the climatic conditions were more unfavourable in 1899-1900 than 1920-21 and the crop failure was more severe. In the former year, the failure of monsoon after August was much more complete and the shortage began earlier. In Betul, the most unfortunate district in that year, only 2 inches of monsoon rain fell after the end of July. Turning to the crop outturn it will be seen that the crops of 1920-21 were considerably better than those of the former year, except in the Seoni and Mandla districts, where the failure of 1899-1900 was not so complete as elsewhere and was indeed surpassed by that of 1896-97. Unfortunately crop outturns in Berar for 1899-1900 are not available, but the local officers conclude from examination of reports and records of that time that, bad as the crop was in 1920-21, it was slightly worse in 1899-1900. On the other hand, whereas it was commonly believed that the stocks of *juari* in the grain pits at the beginning of the famine of 1899 were sufficient for three year's consumption, the granaries were nearly empty in 1920. In making comparisons between the methods and results of the two years, allowance must be made for the difference in degree of distress."

20. The mortality of the Famine and Scarcity period of 1920-21 was reported to be 23 per cent above the decennial mean of the years 1908 to 1917 and the reasons are explained in the following observations made in the Famine and Scarcity Report of the year :—

" Though there was no devastating general calamity such as the influenza epidemic which occurred in the year 1918, the mortality of the famine period under report was 23 per cent above the decennial mean of the years 1908 to 1917, being 43·66 compared with 35·58 per thousand. The direct cause of the increase must be sought mainly in the cholera epidemic which visited the Province in the hot weather of 1921 and in the widespread attacks of malaria which occurred towards the end of the monsoon of 1921. But indirectly the weakening effects of the influenza epidemic of 1920 and the strain of hard times must have largely reduced the resisting powers of the people. In the beginning of the year some few cases of plague, cholera and small-pox, aided by influenza and an epidemic of relapsing fever in the northern districts, slightly raised the total mortality of the Province, and although these diseases had to a large extent disappeared by January 1921, non-epidemic mortality continued above the normal. The main increase in the mortality of the Province during the year under report occurred, as already indicated, during the hot weather and rains of 1921. Cholera first appeared in the month of February when 398 deaths occurred. But from that month onwards a rapid increase in the number of deaths took place, the total being 3,564 for April, 6,657 for May and 20,788 for June, of which the greater part occurred in Mandla and Chhindwara and in the districts of Chhattisgarh in which, owing to the absence of wells and failure of the previous monsoon, people were largely compelled to have recourse for drinking purposes to the stagnant water remaining in pools and *nalas*. The advent of the rains considerably reduced the mortality from cholera in July when 10,517 deaths were registered and the Province was practically free of the epidemic by October 1921. The Provincial death rate, however, owing to severe attacks of malaria during the rains, which the reduced vitality of the people was unable to shake off, and a severe attack of plague in Jubbulpore, remained largely above the normal. The death rate per mille in the worst affected districts is shown in the table below, which compares the mortality of the year from all causes and from all causes other than epidemics with the quinquennial average from all causes for the years 1912 to 1917 :—

Districts (1)	Death rate per mille		
	From all causes (2)	From causes other than epidemics (3)	Quinquennial average for 1912-17 (4)
Jubbulpore	72·36	64·56	36·57
Mandla	67·38	45·08	26·94
Seoni	63·44	46·09	31·41
Damoh	60·06	54·46	41·63
Chhindwara	51·67	45·27	32·60
Durg	52·75	46·10	38·68
Raipur	44·71	39·40	32·39
For the Province as a whole	43·66	39·05	35·58"

21. The scarcity during 1920-21 has been described as the worst in respect of failure of crops since the famine of 1899-1900. The following account appears in the Government of the Central Provinces Revenue Department Resolution No. 1948-1455-XII of the 27th July 1922 :—

" The year 1920-21 was, in many respects, a repetition in an intensified form of the conditions of the year 1918-19 with a short rainfall, widespread crop failure and yet much less distress than might have been expected. The monsoon broke somewhat late in the third week of June, and, though light in character, the rainfall was at first well distributed. It continued to be generally satisfactory in July, but was hardly sufficient in the rice districts of the Nagpur Division, where transplantation was impeded. Elsewhere, up to the end of July, prospects were generally fair. Long breaks in August, however, told upon the crops. Biasi in Chhattisgarh could not be performed, and the already delayed transplantation in the rest of the rice country could not be completed. The cotton and *juar* crops were stunted and other crops on light soil withered. Good showers received in early September revived the drooping crops, but from the middle of this month, no rain was received till the middle of January in any district, and serious failure of the *kharif* crop was early made evident. The early cessation of the September rain and the hardening of the soil under the hot rays of the October sun diminished *rabi* sowings, and the general result was the worst failure of crops, both of *kharif* and *rabi*, that has been experienced since the famine of 1899-1900. For the Province as a whole, the percentage of the normal yield on a normal area of all crops taken together was 47 per cent only compared with 57 per cent in 1918-19. In no district of the Province did the outturn exceed 75 per cent of the normal. In only three districts did it exceed 60 per cent, and in six districts it fell below 40 per cent. The worst affected districts were Mandla and Seoni where the outturn was below 30 per cent of the normal, in Chhindwara where it was 31 per cent and in Durg where it was 37 per cent. The outturns of wheat and cotton for the province as a whole were estimated at only 7 annas and 9 annas, respectively, while rice and *juar* gave an 8 annas outturn or less.

22. The Commissioner, Jabalpur Division, described the season of the scarcity year of 1920-21 as the worst that had been experienced for over 20 years. He made the following observations in his Land Revenue Administration Report:—

“The main feature of the agricultural conditions of the year 1920-21 may be summarized in a few words, as short rainfall, early cessation of the monsoon, consequent failure of the kharif crops, especially rice and kodo-kutki, contraction in the area of rabi sowings, short rabi outturn, and general distress deepening to pretty severe famine everywhere in the Division except in the Saugor district and the Haveli tract of Damoh and Jabulpore. On the whole, the season was about the worst that has been experienced for over twenty years. The monsoon of 1920 started rather late in June and gave fair but somewhat scanty rain in July and August. It stopped abruptly early in September, after which no more rain fell till towards the end of January 1921. The consequence was that the kharif crops, especially rice and kodo, withered away and were either a complete failure or gave a very scanty return. Saugor fared rather better than the rest of the Division, jwar doing fairly well and the rice and minor crops being rather better than elsewhere. The early stoppage of the monsoon and the great heat left the soil with insufficient moisture for rabi sowings; the rabi area contracted by about 25 per cent, and on this reduced area the germination and growth of the plants was affected by absence of moisture. Luckily, some showers fell towards the middle of January and partially saved the situation, especially in Saugor, which did better with rabi as it had done with kharif.”

23. The conditions in Nagpur Division during 1920-21 are described as follows by the Commissioner in the Land Revenue Administration Report:—

“The combination of a very low outturn of all the principal crops with general high prices was bound to have its effect, and some deterioration, though not sufficient to cause alarm, is noticeable in the condition of agriculturists. The slump in the price of cotton aggravated the situation, and credit in general was restricted. The upper classes of agriculturists got through the year fairly well by economising in private expenditure, but previous savings had to be largely drawn upon. The lower classes were hard hit, but liberal suspensions of rents and revenue, generous distribution of takavi loans, the opening of Government forests for the free extraction of head-loads of grass and fuel and of edible products all helped to alleviate distress. Relief works, started where necessary in the affected tracts of the districts in the division, provided employment for the labouring classes. Gratuitous relief was found necessary in the most affected portions of the Ramtek tahsil in the Nagpur district, in the Arvi tahsil of the Wardha district, the Sironcha tahsil of the Chanda district and in the Balaghat district. The absence of marriages consequent on the year being Singhasht rapidly reduced the demand for koshti cloth, prices fell seriously and weaver relief had to be opened at Nagpur, Chanda and Bhandara. This relief was closed at Chanda on 1st August 1921 and at Bhandara on 31st August 1921. The operations in Chanda resulted in a profit of Rs. 826. The cloth purchased at Bhandara has not yet been disposed of. The shop at Nagpur is still open and relieves over 2,000 families, but it is hoped to close it shortly.

“The year was free from epidemics, with the exception of cholera, and the progress for agricultural operations was not impeded.”

24. Describing the condition of the cultivating classes in the Chhattisgarh Division during 1920-21 the Commissioner remarked as follows:—

“The Condition of the cultivating classes was worse than that in the scarcity year of 1918-19 as only one good year had intervened between the two scarcities. The loss of large areas of double-cropping and of rabi crops and the heavy repayments made during the previous year taxed the resources of the tenantry. There was a considerable rise in the price of cloth. Relief measures were promptly taken and large suspensions of revenue and rent granted. Takavi also was distributed on a large scale. The Public Works programme of works was expanded and ample employment provided for labourers. In the early part of the year large numbers from Bilaspur and Drug districts migrated to Bengal. There was no plague, but cholera caused great distress during the last four or five months of the year.”

25. Describing the condition in Berar during 1920-21 the Government of the Central Provinces and Berar made the following observations in their Resolution No. 2039-1520-XII, dated the 8th August 1922:—

“The year 1920-21 was remarkable in several respects. It witnessed one of the worst crop failures ever known in Berar and the successful mitigation of the effects of that calamity by measures which afford clear proof of a great improvement in economic conditions—an improvement which made it possible to prevent by the expenditure of Rs. 5½ lakhs the loss of life and property which a hundred years ago would have been inevitable and which 23 years ago was in similar circumstances only avoided by the expenditure of Rs. 115 lakhs.”

26. Describing the conditions of the agriculturists during the difficult period of 1920-21 the Commissioner made the following observations in the Land Revenue Administration Report of Berar:—

“Last year's report dwelt on the high level of prosperity of Berar. This received a rude shock by the failure of harvest in 1920-21. Such cotton as there was fetched comparatively poor prices. The usual money-lenders, partly from timidity at the scarcity and the Political situation, partly from having large sums locked up in cotton, were willing to advance money only on most exacting terms, and frequently refused all credit to their usual customers. Scarcity was declared early in December in the districts of Amraoti, Buldana and in the plain taluqs of Akola, Akot, Balapur and Murtizapur of the Akola district. In July 1920 the price of jwar prevailing in Amraoti had been 7½ seers and at the commencement of our relief 5½ seers in September 1920. Such calculations as we could make made the prospect of sufficiency of food at most anxious one. But fortunately there was comparative plenty elsewhere and imports kept prices fairly steady until the Punjab wheat gave out in the rains of 1921 when jwar went up to 4½ seers in Amraoti. In the famine of 1899-1900 the highest district headquarters price of jwar was 7 seers per rupee in June 1900. Throughout the year imports were most carefully watched in co-operation with the railway authorities and in the three scarcity districts they were roughly three times the imports in 1899-1900 for the whole division. There were also imports in Yeotmal and some exports from Wun and Kelapur taluqs of that district. A separate report on the scarcity operations has been submitted and there is no need to repeat in detail here the various measures of relief adopted. Amongst them:—

- (1) Very generous suspensions of land revenue,
- (2) Very liberal distribution of taccavi,
- (3) Postponement of collection of grazing dues from July 1920 to December 1921.

on such an extensive scale were new to Berar.

Fodder was very short, but the loss of fodder was not so great as the loss of grain—nothing approximate and cattle mortality was not very remarkable. Thousands of carts from September to December 1920 brought grass from the Melghat. No grass remained in accessible tracts. Notices were issued to villagers informing them of more inaccessible places in the Melghat where water and grazing were available. Many herds of cattle went but did not do well as in the famine year of 1899. Duty on grass was reduced to Re. 0-4-0 per cart-load. Head-loads were given free, also Anjan leaves (much availed of in Buldana). Famine concession freight on fodder from Nagpur and Chanda districts and from Nimar were granted and arrangements made through the

Conservator of Forests for grass baling in Nimar. "A" class forests were thrown open to grazing except coupes which had been cut within a year past. In one Revenue circle at least in Buldana some general use was made of cactus leaves as fodder.

In consequence of the short rainfall for three years in succession the sub-soil water level fell to a depth unheard of before and even hitherto unailing sources of water-supply failed. The scarcity of water during the summer months was from all accounts worse than in 1899-1900. But the difficulty was met largely by the people themselves. Land Improvement loans were freely given for digging and deepening wells and the District Boards made considerable grants through their members in aid of private expenditure (with preference to low caste and poor people) for the same purpose. Private charity was organised for poor relief and the Berari responded with his usual generosity."

27. The year 1927-28 again witnessed bad scarcity in the northern districts. The Commissioner, Jabalpur Division, gives the following account of the prevailing conditions :—

"The year under report was decidedly unfavourable. With the failure of the September rain, and consequent damage to the kharif crops, the resources of the agricultural classes were affected to a certain extent, but the general condition was not unsatisfactory. There was worse to come. The fate of the rabi crop has already been described. It was a complete failure in Damoh, over the greater part of Saugor, and in the North of Jubbulpore. In the rest of Saugor and Jubbulpore the outturn was bad. In Mandla and Seoni only a comparatively small area was affected. Scarcity was declared in the Jubbulpore, Saugor and Damoh districts, and measures were taken to combat the distress in every direction. Rs. 13,78,754 out of a total rabi kist of Rs. 16,00,852, was suspended in the three districts worst hit, and the recovery of taccavi instalments was postponed. Rs. 18,39,776 was allotted as taccavi for the purchase of seed and bullocks and for the improvement of land. Government forests were thrown open to the free extraction of edible fruits and roots and headloads of grass and fuel; and the recovery of grazing dues was suspended. Relief works were opened, throughout the affected tracts, the numbers employed at one time reaching a total of 23,671. Gratuitous relief was given to those unable to work, the maximum number relieved being 5,992. Doles were given to 2,838 kotwars. Private relief was organised through district and tahsil committees who distributed cash doles and cloth to many paupers."

28. The Northern districts again suffered heavily on account of frost during the year 1928-29. In their Resolution No. 2958-71-XII, dated the 15th September 1930, the Government of the Central Provinces pointed out that coming on the type of the scarcity of the previous year the frost of 1929 was little short of a calamity. They further made the following observations :—

"The rabi crops also started well, and bumper harvest was anticipated in the north of the province, when, on the night of January 31st and February 1st, the severest frost on record virtually destroyed the crops in several districts and damaged them in the remainder. This frost was part of the anti-cyclonic cold wave that held all Asia and Europe in its grip, and its effect on the crops was felt even in the Nagpur and Chhattisgarh divisions. The districts of Jubbulpore, Saugor, Damoh and Narsinghpur were now threatened with scarcity if not famine."

29. The crop year 1929-30 was again bad for the Northern districts. In their Revenue Department Resolution No. 3186-80-XII, dated the 14th October 1931, the Government of the Central Provinces made the following observations :—

"The abrupt cessation of the monsoon after the first week of September, followed by the rainless months of October and November, was most unfavourable to the rabi crops in the Jubbulpore and Nerbudda divisions, causing restricted sowings and bad germination. The outturn was poorest in the Saugor and Damoh districts, but it was below normal everywhere. Conditions were, however, more favourable to the rabi crops in the Nagpur and Chhattisgarh divisions, where the outturn was on the whole satisfactory."

30. Proceeding further the Resolution describes the condition of the agricultural classes as follows :—

"Except in the Chhattisgarh division, which reaped a bumper rice crop, the conditions of the year were not favourable to the agricultural classes. The failure of the crops in the districts of Saugor and Damoh and in parts of the Jubbulpore district involved the continuance of the relief measures of the previous year, though on a smaller scale. Out of the land revenue due, Rs. 20,47,000 were suspended and Rs. 9,16,000 remitted in these three districts. Taccavi loans to the extent of Rs. 8,35,000 were distributed and taccavi instalments amounting to Rs. 16,58,000 were suspended. Out of grazing dues Rs. 81,000 were suspended and Rs. 6,000 remitted. Rs. 3,42,000 were spent on relief works and Rs. 1,52,000 on gratuitous relief, including doles to kotwars. The number receiving gratuitous relief was 12,544 in October 1929, but it fell to 8,656 by September 1930. Government forests were also thrown open for the free extraction of head-loads of grass and fuel and of edible minor produce, and produce of the estimated value of Rs. 32,000 was removed. Relief in the way of suspensions and taccavi had also to be given in the Narsinghpur district. The period for execution of civil court degrees in the Jubbulpore division and the Narsinghpur district and the period for the exemption of agricultural produce necessary for cultivation of land, were further extended till the 31st March 1931. With these measures of relief the agriculturists in this area were able to carry on till the next harvest. Elsewhere agriculturists would have been well enough off, if it had not been for the fall in prices. Food was however sufficient and cheap, and the condition of labourers was generally satisfactory, as they found ample labour and wages fell less quickly than the cost of living. But for outbreaks of cholera and small-pox in some districts the health of the people was generally good. It is gratifying to note that the experiment in rural uplift undertaken in the Piparia revenue inspector's circle in the Hoshangabad district and in some villages in the Drug district made a successful start in inculcating ideas of better living and better farming amongst the agriculturists."

31. Between 1930 and 1939 although there was no serious scarcity the following years were unsatisfactory harvests in the Central Provinces :—

1931-32; 1932-33; 1933-34; 1934-35; 1935-36 and 1938-39.

32. The years 1937-38 and 1938-39 as well as 1925-26 and 1926-27 were similarly poor for Berar.

33. In the year 1935-36 which has been described as an indifferent year from the point of view of the agriculturists, the outturn of rice was adversely affected for the first time since 1931-32. Describing the conditions of the year the Government of the Central Provinces and Berar Revenue Department Resolution No. 3865-710-XII contains the following observations :—

"The revenue year 1935-36, like its predecessor, was another disappointing year. The distribution of the monsoon of 1935 was unsuited to agriculture. Persistent and excessive rainfall of the early monsoon prevented the normal growth of kharif crops such as cotton and juar, while its abrupt cessation after the last week of September was unfavourable to rice, and inadequate winter showers combined with frost, hail and cloudy weather during the cold weather adversely affected the rabi crops. For the 1st time since 1931-32 the outturn of rice was less than normal and was returned at 11.7 (13.5) annas. The average outturn of juar fell from 10.5 to 9.2 annas and that of wheat from 11.5 to 10.13 annas. Cotton was returned at 8.6 (5.5) annas. The total outturn of

crops was 77 (88) per cent of the average yield. The wholesale prices of juar and wheat rose by 6 and 12 per cent, respectively, but this slight improvement in price did not compensate for the low outturn. The price of rice remained stationary but that of cotton fell by 23 per cent. In these circumstances any general recovery from the effects of the economic depression was not to be expected."

33-A. Between 1941-42 to 1945-46 no formal declaration of scarcity was made in any part of the State, but relief operations were undertaken in certain parts in 1941-42 and 1942-43. Describing the condition of the agricultural population the Season and Crop Reports of the Central Provinces and Berar for the years ending the 31st May 1941 and 1942 contain the following observations :—

"1941.—In the year under report, the condition of the agricultural population, except in the cotton tract, was not satisfactory owing to partial failure of the paddy crop and the low yields of rabi. The cotton grower had a better outturn but this advantage was more than lost owing to low prices. Relief works to provide employment for agricultural labourers were found necessary in parts of the Chhattisgarh districts and in the Jubbulpore and Mandla districts. To mitigate the hardships of the agriculturists in the affected tracts, out of the total land revenue demand, Rs. 2,66,317 including arrears, were remitted and Rs. 23,21,626 were suspended. Land Mortgage Banks and Debt Conciliation Boards also continued to render assistance to the agriculturists. The Central Provinces Tenancy (Amendment) Act, 1939, was brought into force with effect from 1st May 1941."

1942.—"Despite the failure of paddy crop and the low yield of rabi crops, the economic condition of the agriculturists remained unchanged all over the province on account of the high prices fetched by foodgrains. In the cotton tracts also, although the outturn of the cotton crop was better this year, this advantage was to some extent vitiated by the low prices of short-staple cotton. To ameliorate the condition of the poor agriculturists and agricultural labourers, test works were opened in parts of the Saugor, Jubbulpore, Mandla, Balaghat, Drug, Raipur and Bilaspur districts, where the principal crops had partially failed. Land revenue was suspended and remitted on a liberal scale amounting to Rs. 3,848,228 and Rs. 633,323, respectively. Taccavi was also distributed freely."

34. During the year 1946-47 rust caused considerable damage to rabi crop, specially wheat, masur and linseed in the Jabalpur Division. The condition of the agricultural classes in the Division is described as follows in the Land Revenue Administration Report :—

"The economic condition of the agricultural classes improved since the outbreak of the last World War due to high prices of agricultural commodities; but this was counterbalanced by the equally high prices of other necessities of life which the agriculturists had to purchase. Their condition further deteriorated during the year under report due to the extensive damage caused to food crops, especially wheat and juar. Considerable anxiety was felt on account of scarcity of foodgrains throughout the Division though it was alleviated to some extent in predominantly kharif-producing areas where the outturn of paddy was comparatively better.

To overcome the situation created by the failure of crops, the following reliefs were granted by the Provincial Government in the affected areas :—

- (i) Remission of land revenue.
- (ii) Suspension and postponement of the recovery of taccavi loans.
- (iii) Remission of kotwari dues and reimbursement of kotwars to the extent of remission in those tracts where wheat was the predominantly rabi crop.
- (iv) Distribution of wheat seed on taccavi.
- (v) Grant of taccavi loans for purchase of bullocks, etc.
- (vi) Exemption from attachment of agricultural produce under section 61 of the Civil Procedure Code.
- (vii) Free removal of head-loads of fuel and grass from Government forests.
- (viii) Introduction of food rationing in rural areas.
- (ix) Opening of test camps at Besra and Andela in Khurai tahsil.

The above timely help and availability of employment in the bidi and other factories in the Jubbulpore and Saugor districts enabled the agriculturists somehow to tide over the difficulties created by the failure of crops."

35. The conditions in the Nagpur Division during the year 1946-47 have been reviewed as follows in the Land Revenue Administration Report :—

"Due to the unprecedented failure of rabi crops and wheat in particular, the general economic condition of the agricultural classes was far from satisfactory. Even with the heavy rise in the prices of foodgrains, the lower strata of agriculturists were not benefitted owing to the correspondingly heavy rise in expenditure, which they had to incur on the purchase of cattle and agricultural implements. It was only the bigger cultivators who actually derived substantial advantage from the high prices. The timely help given by Government by granting remissions of land revenue throughout the Division afforded a great relief to the cultivators who appreciated the sympathetic attitude of the popular Government. Further relief was granted by Government by remission of kotwari dues in the villages in which land revenue remission was granted. In short, the year under report was an unfortunate one due to the complete failure of rabi crops."

36. The following note of the Revenue Department contains a brief review of the crop failure in certain parts of the State from 1948-49 to 1950-51 :—

"Due to the failure of juar and cotton crops of 1948-49 due to excessive rains in the cotton-juar tract of the State, reports began to reach Government regarding unrest amongst the agricultural labourers as early as in the month of May 1950. Relief works were accordingly ordered to be opened in the Amraoti, Akola, Buldana, Yeotmal and Wardha districts of the State. With the failure of kharif crops in general and paddy crop of 1949-50 in particular due to prolonged drought, the unrest amongst the agricultural labourers spread out to other parts of the State and during the period from November 1950 to January 1951 relief works were ordered to be opened in Nagpur, Chanda, Chhindwara, Bhandara, Bilaspur, Durg, Jubbulpore, Saugor, Mandla in addition to the districts of cotton-juar tract mentioned above in which the works were already continuing. During the financial year 1950-51, an expenditure of Rs. 10,18,875 was actually incurred in connection with these relief works as per districtwise statement enclosed. For the current financial year a provision of Rs. 10,00,000 has been made in the budget and it is anticipated that a sum of Rs. 7,50,000 will probably be spent out of this grant. With the easing down of the situation, the works are at present continuing in Jubbulpore and Bhandara districts only and these are also likely to be closed down by the end of this month.

Government have also sanctioned an allotment of Rs. 2,000 for distribution of 'gratuitous relief' to the infirm and the disabled persons in tracts severely affected by scarcity in the Mandla district during the current financial year.

An allotment of Rs. 50,000 has been placed at the disposal of Deputy Commissioner, Durg, for the distribution of cash doles to the kotwars of the Durg district who have not been able to recover the minimum of their dues, *viz.*, Rs. 8 per month on account of the failure of kharif crops, the rate of payment of doles per month being equal to the total minimum dues for the period at the rate of Rs. 8 per month *minus* the amount actually recovered divided by the number of months included in the period."

APPENDIX J

Grain production Capacity Per Capita

(Method of Calculation adopted)

In Subsidiary Table 4-15 given in part I-B of the Census Report, 1951 the yield factors representing the weight in lbs. of the net yield (less seed) on one cent of land for the different crops are given. Assuming that the weight in pounds of the net yield (less seed) per acre for all the important foodgrain in each Natural Division is roughly represented by the yield factor of the principal foodgrain of the Division, the grain production capacity of cultivation per capita is calculated by the formula—

$$W1 (USC+UDC) + W3 (ISC+IDC).$$

W1 and W3 are the yield factors for the unirrigated and irrigated crops including the production from the corresponding double-cropped areas. The method of calculating these yield factors is explained in the fly-leaf to Subsidiary Table 4-15 given in part I-B of the Census Report. Subsidiary Table 4-8 also given in part I-B gives the values of USC, UDC, ISC and IDC and the fly-leaf to the table explains how these areas of unirrigated single-cropped, unirrigated double-cropped, irrigated single-cropped and irrigated double-cropped are arrived at. On the basis of the above formula, the grain production capacity of cultivation per capita is worked out below for the decennium ending 1921, 1931, 1941 and 1951 for each Natural Division. From the Subsidiary Table 4-15, it will be observed that the yield factors W1 and W3 show significant variations during the different decades. Therefore, the value of these factors for the decade ending 1940 is adopted for purpose of calculating the grain production capacity of cultivation per capita for all the decenniums. Wheat is taken as the principal foodgrain in the North-West Madhya Pradesh Division, rice in the East and juar in the South-West Madhya Pradesh, Division.

Grain production capacity of cultivation per capita in the North-West Madhya Pradesh Division—

The yield factors adopted are—

$$W1 = 3.55 \text{ and}$$

$$W3 = 6.84.$$

The grain production capacity of cultivation per capita in 1921 is, therefore :—

$$= 3.55 \times (173.7 + 9.0) + 6.84 (1.7 + 0.3) = 662.$$

The grain production capacity of cultivation per capita in 1931 is—

$$= 3.55 (160.0 + 9.1) + 6.84 (1.9 + 0.2) = 615.$$

The grain production capacity of cultivation per capita in 1941 is—

$$= 3.55 (144.9 + 9.5) + 6.84 (2.4 + 0.3) = 567.$$

The grain production capacity of cultivation per capita in 1951 is—

$$= 3.55 (129.4 + 10.5) + 6.84 (2.4 + 0.2) = 514.$$

Grain production capacity of cultivation per capita in the East Madhya Pradesh Division—

The yield factors adopted are—

$$W1 = 5.47 \text{ and } W3 = 8.5.$$

The grain production capacity of cultivation per capita in 1921 is, therefore, :—

$$= 5.47 (93.5 + 32.6) + 8.5 (11.7 + 0.0) = 789.$$

The grain production capacity of cultivation per capita in 1931 is—

$$= 5.47 (80.7 + 31.6) + 8.5 (15.7 + 0.1) = 749.$$

The grain production capacity of cultivation per capita in 1941 is—

$$= 5.47 (64.7 + 35.7) + 8.5 (15.3 + 0.0) = 679.$$

The grain production capacity of cultivation per capita in 1951 is—

$$= 5.47 (59.9 + 33.2) + 8.5 (19.6 + 0.0) = 676$$

Grain production capacity of cultivation per capita in the South-West Madhya Pradesh Division—

In this Natural Division the irrigated area is negligible and the yield factor $W1 = 5.12$.

The grain production capacity of cultivation per capita during 1921 is, therefore :—
 $=5.12 (208.0+1.1)=1073.$

The grain production capacity of cultivation per capita during 1931 is—
 $=5.12 (1888.1+0.8)=967.$

The grain production capacity of cultivation per capita during 1941 is—
 $=5.12 (167.2+1.2)=862.$

The grain production capacity of cultivation per capita during 1951 is—
 $=5.12 (152.3+1.6)=788$

Grain production capacity of cultivation per capita in Madhya Pradesh—

For purposes of calculating the grain production capacity of cultivation per capita for the State as a whole, the mean value of the yield factor W1 for wheat, rice and juar for the decade ending 1940 is taken to represent the net average annual yield (less seed) of the foodgrains grown in the State on one cent of unirrigated land and, similarly, the mean value of the yield factor W3 is taken to represent the net average annual yield (less seed) of the food grains grown in the State on one cent of irrigated land. The mean value of W1 for the State is 4.6 and that for W3 is 7.73. Therefore, the grain production capacity of cultivation per capita in 1921 is—

$$=4.6 (154.2+15.5)+7.73 (5.5+0.1)=824.$$

The grain production capacity of the cultivation per capita in 1931 is—
 $=4.6 (138.8+15.0)+7.73 (6.9+0.1)=762.$

The grain production capacity of cultivation per capita in 1941 is—
 $=4.6 (120.9+17.0)+7.73 (7.1+0.1)=690.$

The grain production capacity of cultivation per capita during 1951 is—
 $=4.6 (109.4+16.6)+7.73 (9.0+0.1)=649.$

APPENDIX 'K'

**A Note on Dairy Units in big towns by Shri M. Y. Mangrulkar, M.Sc., M. R.C.V.S., D. T.V.M.,
Director of Veterinary Services, Madhya Pradesh.**

Despite the fact that we have in our State 24 cows and buffaloes per 100 population, the estimated milk consumption per capita per diem, is hardly 2 ozs., as against the figure of 1 lb. prescribed by the modern health standards. This means that to meet the full requirement of milk per capita per diem, the supply of fluid milk has to be increased to 8 (eight times) the present supply of milk. This is possible to achieve if only (i) the present milk yielding capacity of the milch cattle is improved by better breeding and feeding and (ii) the unorganised nature of milk trade is properly organised and suitable facilities for transport and storage are made.

To remedy these defects and improve quality and quantity of milk supplied in all towns in the State, Government sanctioned a scheme for establishment of 20 dairy units in big towns. The scheme envisages establishment of Government and co-operative dairy units in suburban areas and linking these with rural milk producing units. It further envisages establishment of cattle food depots for the supply of necessary fodder and concentrates for the milch cattle at reasonable rates and also good transport and storage facilities for milk and its products.

Seven dairy units have so far been established at Borgaon (Akola), Chandkhuri (Raipur), Ratona (Sagar), Bilaspur, Chanda, Yeotmal and Pohara (Amravati). The total quantity of milk produced at these centres since time of their inception was 1,518,660 lbs. which was supplied to the nearby towns. Proposals to link co-operative dairy concerns with the Government Dairy Units are under consideration of the Government. Pending the decision of Government 3 small scale Co-operative Dairy Societies have been organised at the 3 dairy units at Chandkhuri (Raipur), Borgaon (Akola) and Ratona (Sagar) and have contributed 358,885 lbs. milk.

Apart from supplying milk to the towns, these dairies work as "Mixed farms" and produce both grain and better breed live-stock for further multiplication in the rural areas. Over and above this, these units serve as important centres of demonstration and propaganda for the improved methods of animal husbandry, dairying and mixed farming.

The achievement of the dairy units since the time of their inception are given under :—

	1946-47	1947-48	1948-49	1949-50	1950-51
Number of dairy farms under establishment.	2	3	4	7	7
Number of dairy farms producing	1	3	6	6
Milk target aimed at	100,000 lbs.	300,000 lbs.	600,000 lbs.	600,000 lbs.
Actual milk production	42,000 lbs.	300,400 lbs.	477,405 lbs.	698,000 lbs.
Number of milch animals stocked	71 lbs.	278 lbs.	312 lbs.	447 lbs.
Total grain produced	148,100 lbs.
Total fodder produced	3,397,580 lbs.

Dairy Development work in the State

With a view to organise the dairy industry in this State, as indicated in the preamble of the dairy units in big towns, Dairy Development Scheme was formulated and initiated by the State Government since 1945.

2. Besides establishments of dairy units as stated above efforts were done to organise two co-operative dairy colonies, *viz.*, Gopal Co-operative Dairy Society, at Ooty and Nanda Sahakari Co-operative Dairy Society, at Bori near Nagpur. These societies could not make headway in absence of Government financial aid. Members of both the societies are still keen on establishing colonies at suitable centres within reasonable limits from Nagpur, provided facilities for grazing, watering and handling milk come forth from Government.

To reduce the cost of production of milk, Government forests grass birs are usually secured at concessional rent and allotted to producers' societies for silage and hay making. The producers are also helped in improving the keeping quality of their milk by carrying out various tests at the dairy laboratory.

3. Establishment of rural dairies on co-operative basis present serious difficulties mainly due to the fact that the local milch stock is not economic milk yielder. It was, therefore, planned to establish key village centres by placing 6 to 8 bulls of milch or dual purpose breed in contiguous areas with a population of about 500 to 600 milch animals. The object being to set up pockets of milk producing centres as well as nuclei of wellbred stock. From the working of such centres, it is hoped that in 3 to 4 years we will have sufficient number of graded heifers capable of yielding daily overall average of 4 to 5 lbs. of milk. This scheme is being worked under the Live-stock Section headed by the Honorary Live-stock Officer.

4. In order to improve the Ghee Industry both qualitatively and quantitatively and its marketing, a scheme for enhancing Ghee production in rural areas was planned. After the termination of this scheme due to the acute financial stringency of the State, the work is being pushed up conjointly under the guidance of the Co-operative Department and Dairy Development Section.

5. The scheme envisaging complete reorientation of existing Goshalas of the State was also planned. As a result of this, Regional Federation of Goshalas has been organised. Further progress could not be made due to the termination of the scheme on the grounds of financial stringency.

6. To summarise the programme of work envisaged in the scheme is as under :—

- (1) Preparation of suitable dairy schemes with the primary object of increasing the output and improving the quality of milk and milk products.
- (2) Stimulation of Co-operative dairy enterprise on scientific lines.
- (3) Encouraging Goshalas and similar other concerns to contribute effectively to the clean and wholesome supply of milk and milk products to their respective cities.
- (4) Setting up of organisations in suburban and rural areas for milk and milk products and linking these with city Co-operative organisation.
- (5) Study of technical problems connected with the production, handling carriage, transport and keeping quality of milk and
- (6) Study of similar problems stated above in connection with better and economic production of Ghee and other indigenous products and economic utilisation of by-products.

Original plan for dairy development in this State was ambitious but due to lack of sufficient funds, the activities have to be restricted to the limited sphere and therefore much headway could not be made towards dairy development. Within the limited finance every effort is being made to organise the dairy industry progressively in this state.

APPENDIX L

**Note on Poultry Development by Shri M. Y. Mangrulkar, M.Sc., M.R.C.V.S., D.T.V.M.,
Director of Veterinary Services, Madhya Pradesh.**

Madhya Pradesh is fairly rich in poultry, estimated to be about 2762·8 thousands. The indigenous breed of our State known as "Red Jungle Fowl" (*Gallus gallus*) or Bankava which is still found in its pure-state in the foot-hills of Satpura hills, is acclaimed to be the progenitor of all the domestic breeds of poultry existing in the world today. Yet the size and egg laying capacity is abnormally low, the latter being about 53 per layer per year as against 130 to 160 in United Kingdom and U. S. A.

Poultry Industry in the State is mainly carried out in the old primitive way by individuals as a back-yard poultry farming to supplement their meagre income and also the low nutritive food available to them. There is a tremendous future ahead for the poultry development work in the State and if proper attention, direction and supervision is given to this important cottage industry it will not only help solving the food scarcity problem but will also help development of export trade.

In order to develop poultry industry of the State, both qualitatively and quantitatively, a small experimental Poultry Farm, as detached unit of the Government Dairy Farm, Telankheri, Nagpur, was initiated in February 1935 with a flock of 100 White Leg Horn birds mostly chickens. In subsequent years, *i.e.*, 1935-36, 1936-37 and 1938-39, birds of other improved breeds, *viz.*, Rhode Island Red, Black Minorca, Australorps, Wel-Summer, Bugg-orpington, Light Sussez, Chittagong and White Wyandotts were introduced in order to find out which of the above introduced breeds would thrive and do well under the varying climatic conditions of the State.

After a rigid trial of their performances and adaptability, only two breeds, *viz.*, White Leg Horn and Rhode Island Red, which were found to be the most suitable and economical, were retained and other eliminated. Work at this experimental station continued unhampered till the year 1943, when on the 1st April 1944, the entire poultry farm along with its fixtures and establishments was handed over to the Defence Department for meeting the requirements of the Army for supply of eggs and birds.

The achievements of this station during its experimental period of 8 years for the development of poultry in the State are tabulated as under :—

Year	Total flock • including chickens	Number of eggs produced	Number of eggs and birds produced	
			Number of eggs issued	Number of birds issued
1936-37	400	8,056	7,610	82
1937-38	475	13,888	13,109	83
1938-39	708	14,867	13,323	222
1939-40	613	13,501	12,357	152
1940-41	793	10,352	9,092	212
1941-42	480	8,962	7,614	107
1942-43	765	13,261	11,727	459
1943-44	1,135	19,600	17,126	245
Total issued			91,958	1,562

Central Poultry Farm, Telankheri, Nagpur.—After relinquishment of the poultry farm by the Defence Department, the farm with all its equipments and flock was taken over by the Civil Veterinary Department of Madhya Pradesh on the 12th August 1946. From a small poultry farm it had developed into a big poultry farm under the Military Department with electric incubator of 4,224 egg capacity, 32 electric brooding rooms for rearing about 3,200 chickens and sufficient poultry houses and runs for 1,200 laying birds and 5,000 chickens. The total accommodating capacity of the farm for adults and chickens is ten thousand.

The object of taking over the farm is to provide greater facilities for large scale production of birds and eggs and their distribution for poultry development work in the State and also to cater the needs of the public, which was not otherwise possible to achieve with a small poultry farm, as originally started. Apart from the purely developmental work, the farm also undertakes experimental work and imparts training to the public and departmental staff engaged in the extensive work in the State.

The contributions made by the Central Poultry Farm, Telankheri, Nagpur, for the last 5 years are given in tabulated form given below :—

Year	Sale of birds	Eggs issued for hatching	Eggs sold for table	Total strength of
1946-47	1,513	3,717	24,750	7,099
1947-48	7,396	3,073	35,770	7,107
1948-49	6,765	4,654	31,612	3,990
1949-50	5,240	3,809	24,505	3,312
1950-51	2,899	2,250	16,693	3,563
Total	23,813	17,503	1,33,330	25,071

N.B.—Out of the total issue of 23,813 birds, 2,516 cocks were issued under the scheme "Exchange with Deshi Cock".

Apart from the establishment of the Central Poultry Farm, 24 small poultry units have been set up at the Veterinary Dispensaries and Cattle-Breeding Farms. The Central farm serves as a nuclei for the supply of pure-breed birds to the small units while the units supply birds and eggs into the villages. The contribution of the poultry units towards poultry development work in the rural areas were as under :—

Year	Number of poultry units	Number of birds kept	Number of eggs produced	Number of eggs issued for hatching	Number of birds sold for breeding
1942-43	1	7	3	..	..
1943-44	10	245	1,777	504	7
1944-45	14	242	4,577	796	112
1945-46	17	436	6,475	882	161
1946-47	19	480	9,215	1,173	170
1947-48	22	796	9,612	1,383	214
1948-49	23	638	10,207	1,107	237
1949-50	23	1,388	9,184	1,341	145
1950-51	24	1,229	8,578	991	102

Concessions and facilities given by the State for Poultry Developmental work.—In view of the backwardness of the tract and the people not being poultry minded, the Government, in order to give incentive for the poultry industry have offered the following concession for the development of poultry industry in the State :—

- (i) Sale of eggs and improved birds at concession rates to the *bona fide* agriculturists of the State.
- (ii) Issue of improved cocks in exchange with the deshi ones.
- (iii) Free supply of a trio (2 hens and 1 cock) to the Poultry keepers under the condition that for every trio received, he will issue two such trios free of cost to another poultry fancier.

Thus the scheme envisages regular chain of distribution of improved birds and eggs for the poultry developmental work throughout the State.

APPENDIX M

PART I

Industrial Development of Madhya Pradesh, 1940—50

(This article is very kindly contributed by the Secretary to the Government of Madhya Pradesh in the Commerce and Industry Department.)

Madhya Pradesh is endowed with raw materials essential for the development of several key industries. It has rich deposits of iron, coal, manganese, limestone, bauxite, etc., its geographical position gives it transport and strategic advantages for the establishment of large industries. The State Government have been endeavouring to encourage the development of new industries even by financing the more deserving projects to a large extent. In spite of these favourable conditions, the development of new industries in the State, has by no means, been quick and spectacular as the State is deficient in capital resources and lacks in *entrepreneurial* experience. The post-war period was found difficult for starting and developing new industries in the country due to the precipitous fall in share and security markets, high levels of post-war taxation, inflation in costs of plant, labour and raw materials, transport bottle-necks and general uncertainty which is obscuring long term views. Rise in prices vitiated all estimated project costs at a time when funds for industrial enterprises were becoming increasingly difficult to obtain and even well conceived projects suffered by being in the hands of persons without the technical or financial resources.

Despite such circumstances, the State is making steady progress. According to the latest available data there are now 1,702 industrial establishments in this State, both perennial and seasonal, registered under the Indian Factories Act, of which 1,227 are working employing on an average of about 104,294 persons per day.

Cotton Ginning and Pressing Factories.—The number of cotton ginning and pressing factories which was 381 in the year 1940, employing 25,222 persons, declined to 249 in the year 1950, employing 16,948 persons. After the cotton boom and the consequent over-investment of capital and establishment of a large number of factories during the first triennium following the year 1921, the industry has continued to work under a system of pools under which many factories remained idle. The peak year for the cotton crop during the decade was 1941-42 when 1,137,143 bales of cotton were ginned and 1,110,491 bales pressed. But even in this peak year the area under cotton, according to the fourth forecast of the crop, was less than the preceding 10 years' average by 9 per cent. There has since been practically steady decline in the area under cotton as a result of which the estimated area in Madhya Pradesh, excluding merged territories, dwindled to less than the decennial average by 12.3 per cent.

Cotton Mills.—The number of cotton spinning and weaving mills at the beginning of the year 1940 and 1950 was 11, each with 6,573 looms and 362,394 spindles and 7,207 looms and 371,560 spindles, respectively. Owing to the outbreak of the Second World War, the industry got impetus in the form of large demands by Government for cloth from the year 1940 onwards. The period prior to May 1943 was more or less uneventful. Considerable difficulties were experienced by them in maintaining production and in the absence of control, the speculative rise in price of cotton cloth and yarn continued unchecked. The notable feature after this time was the comprehensive control by the Government of India by the promulgation of the Cotton Cloth and Yarn Control Order, 1943, and similar other legislation in co-operation with the interests of the industry, of prices, production and everything needed by the cotton textile industry. The peak year for yarn production during the decade was 1941-42 when 64,045,000 lbs. of yarn were produced by the textile mills in this State but the production of woven goods during the year was only 30,850 lbs. or 95,236,000 yards which were much less than the average of the preceding triennium. The peak year in respect of woven goods was, however, 1943-44 when the production reached 32,340,000 lbs. or 109,662,000 yards. There has since been a gradual decline in the production of the textile mills due to the continuous overworking of the machinery during the war period and the non-replacement of worn out machinery and high prices of new textile machinery. After the partition of the country the position regarding the supply of raw cotton became difficult. Recurring strikes and labour troubles also retarded production.

The State has a very large acreage of land under cotton but imports a sizeable portion of its requirements of cotton textiles and yarn from the neighbouring States. There is thus a scope for further expansion of the industry. The Government of India sanctioned the establishment of six new textile mills in the State in the post-war period, involving an increase of 120,000 spindles and over 2,000 looms in different parts of the State. But owing to the great difficulties involved in the establishment of the new ones in the post-war years, none of these, have so far been successfully started. The construction of a mill was started at Jabalpur during the year 1948-49 but as the company failed to collect necessary capital it had to postpone the project to better times.

Oil Mills.—The number of oil mills in the State registered under the Factories Act which was 47, employing 1,805 persons in 1940 increased to 68, employing 3,283 persons in the year 1950. Besides these, there are about 17,000 indigenous oil ghanis in the State. Due to large increase in oil mills competition from the vanaspati oil industry, the industry is finding difficulty in obtaining sufficient supply of groundnut seeds for crushing.

Two vegetable ghee factories, *viz.*, Berar Oil Industries, Akola and Sudha Industries Ltd., Shegaon, with capacity of 40 and 20 tons of hydrogenated oil per day, respectively, have started production recently. The main raw material for the industry is groundnut oil, which is available in this State. Cotton seed oil which is very suitable can also be produced.

Rice Mills.—The number of registered rice mills which was 133 employing 3,480 persons in 1940 increased to 243 employing 4,922 persons in the year 1950.

Cement Factories.—There are three Cement Manufacturing Factories in this State prior to the merger of the various cement manufacturing concerns in the year 1936, *viz.*, the factories at Kymore, Katni and Mehagaon, all situated within a few miles of each other and having the same area of supply. After the formation of the Associated Cement Co. Ltd., into which the abovementioned factories were merged, the Mehagaon factory was closed, the Katni factory devotes itself entirely to the manufacture of fire-bricks required by the various factories of the Associated Cement Company and the only operating unit manufacturing cement in Madhya Pradesh, since 1939 is the Kymore Cement Works at Jukehi, belonging to the Associated Cement Company. This followed a project of rationalisation by which uneconomic units were shut down to concentrate production in an economic unit. The manufacturing capacity of this unit was thus extended over and over again with the result that it is now the largest cement factory in this sub-continent; if not in Asia, capable of turning out 3.5 lakh tons of Cement annually, against the combined production capacity of only 3.3 lakh tons of the 3 factories prior to the merger. This factory has four rotary kilns in operation and employs a total labour force of about 3,500. During the decade the production has increased from 208,804 tons in 1939-40 to 325,772 tons in 1949-50. Owing to the steadily increasing demand for cement in the country, the Government of India allowed a manufacturing capacity of 100,000 tons per annum for a new cement factory to this State in the post-war years.

Saw-Mills.—Due to the outbreak of war and the consequent stoppage of imports of Burmese Teak into India there was a phenomenal increase in the number of registered saw-mills in the State, which increased from 7 in the year 1940 employing 193 persons to 106 in 1950, employing 2,344 persons.

The number of Ordnance Factories similarly increased from 1 in the year 1940 employing 3,973 persons to 7 in the year 1950 employing 10,818 persons.

Engineering Establishments.—The number of registered engineering (general) establishments, increased from 10 employing 501 persons in the year 1940 to 36 employing 1,316 persons in the year 1950. Besides these, a large number of smaller workshops were also started in recent years by refugees and others in the State. Of the bigger factories are the Government Central Workshop, Nagpur, started by the Department of Industries, Madhya Pradesh, about the year 1947-48 the Simplex Engineering and Foundry Works, Jabalpur, and Messrs C. P. Industries Limited, Khandwa. The Government Central Workshop specialises in repairs to the mechanical equipment belonging to the various Government departments while the two other workshops manufacture rahats and other agricultural implements.

Soap Factories.—A large number of small soap factories were started in the State during the period under review but in the latter part the industry was faced with the problems of raw materials without a corresponding increase in the prices of the finished product, *viz.*, soap. The majority of the factories make semi-boiled soaps and have to work on marginal profits, while the larger factories are not so favourably placed in business as the factories in Bombay, and could not make any appreciable progress. A new concern known as Messrs Sadar Gani Oil Products Co., Ltd., Yeotmal (Factory at Kamptee) having an authorised capital of Rs. 25 lakhs and an issued capital of Rs. 10 lakhs, registered in the year 1947, planned the production of 7 tons of toilet and washing soaps per day by modern methods. The State Government have invested Rs. 50,000 in its shares.

Glass Factories.—The number of registered glass factories increased from three in 1940 to six in 1950 with a rated production capacity of 30½ tons per day of 9 hours based on working furnaces. Some of these glass factories have expanded considerably and they are now equipped with gas fired furnaces of the latest design which promotes economy in fuel and operating efficiency. One important feature in the development of the glass industry in this State during the decade is that glass melting crucibles

which were hitherto being imported mainly from Japan are being prepared by two of the glass factories, one each at Nagpur and Jabalpur, in their own crucible sections. One of the glass factories has developed a sheet metal department equipped with about 70 stamping presses where bed lamp burners are produced. This company is new one of the biggest of its kind specialising in the products and is well equipped, efficiently run and the works are housed in modern structures.

The number of registered printing and book binding establishments increased from 20 employing 1,042 persons in the year 1940 to 49 employing 2,402 persons in the year 1950. Of these, there are now 6 Litho Works, employing 767 persons against 3 such works in 1940.

Pottery Works.—There are about half a dozen pottery works in the State producing stoneware pipes and fittings, jars (including acid resisting stoneware) and refractories, three of which are located in Jabalpur district due to the availability of suitable clay for the purpose in that district. There has been a considerable expansion of some of these works and their products have a very good market, both within and outside the State. Some of the potteries are also venturing on the manufacture of crockery.

Match Factories.—The number of registered match factories has increased from 2 in the year 1940 employing 69 persons to 3 in the year 1950 employing 140 persons. The factories are now finding increasing difficulty in securing adequate supply of semal wood.

Chemical Works.—There are now two Chemical Works in the State registered under the Factories Act employing 23 persons both of which are in the Nagpur District. One of these produces heavy chemicals like Acid Hydrochloric, Acid Nitric and Acid Sulphuric.

Bone Crushing Factories.—The bone crushing industry in this State is of recent origin. There are at present three bone crushing factories, one each at Kamptee, Khumari (Near Raipur) and Amravati, with a crushing capacity of 3,000 tons of bones per annum each. Among these the factory at Kamptee was started in the year 1944, while the other two have been started only in the year 1950.

Iron and Steel Industry.—The Government of India, on the advice of their Technical Experts and Consultants, have already selected Bhilai in the Durg district of this State for establishing the first of their two new half million ton iron and steel plants. The step was taken in view of the availability of raw material required for the establishment of the industry in close proximity. The site is on the main Durg-Raipur Road accessible by rail and road and enjoys greater advantage than any other part of the country, even on the ground of strategy and defence. The project is expected to be taken up by the Government of India as soon as arrangements for financing it are made.

Newsprint and Paper.—Government have sponsored the establishment of two paper factories in the State :—

- (1) One is the National Newsprint and Paper Mills Ltd., which is the first factory of its kind in the country and is expected to produce about 100 tons of newsprint per day. Salai wood and bamboo, which are essential for the industry are available in sufficient quantities in the forest. The State Government have given the Company substantial financial aid and various other facilities. Considerable progress has been made and the factory is being established at Chandani in the Nimar district.
- (2) The second is the Ballarpur Paper and Straw Board Mills Ltd., a factory having a capacity of about 20-25 tons per day, to be located near Chanda, where bamboo is available in large quantities. The State Government have given substantial financial aid and other facilities.

Orange and Cold Storage.—In view of the importance of the orange crop in this State, the Provincial Industries Committee, in paragraph 113 of its report published in 1946, recommended amongst other things the development of the industry connected with the preservation of the fruit and the manufacture of its various by-products. Besides the oranges, the State produces large quantities of potatoes in the Chhindwara district and also other vegetables such as Cauli flowers, peas, guavas, etc., etc., thus providing excellent scope for the cold storage industry as well. A beginning was, therefore, made with the formation of the Central Hindusthan Orange and Cold Storage Co., Ltd., Nagpur, registered with an authorised capital of Rs. 20 lakhs and a paid up capital of about Rs. 12 lakhs at present, which started regular production in 1949. It has a cold storage capacity of 1,400 tons and is carrying on bottling of orange juice, canning of peas, oranges and other vegetables, cold storage of potatoes, etc., and manufacture of ice. The State Government have helped the industry by advancing to it a loan of Rs. 10 lakhs under the C. P. and Berar State Aid to Industries Act, 1933. The company received large orders from the Defence Department

of the Government of India during the year 1950. There are two other companies, *viz.*, Messrs. India Cold Storage Co., Ltd., and Messrs. Krishak Cold Storage Co. Ltd., Nagpur (Works at Chhindwara) which are specializing in cold storage only. The former has already been erected and is functioning while the latter is in course of erection.

Paints and Varnishes.—The rich forests of the State produce large quantities of the basic materials for paints and varnishes, *viz.*, shellac, resins, oils, etc. Government have, therefore, assisted both financially and otherwise the Gondwana Paints and Minerals Ltd., in establishing a Paints and Varnishes Factory at Kamptee.

Besides this there are two other factories at Katni, *viz.*, Messrs Olpherts Ltd., and Messrs Jaushar Paints and Varnishes Ltd., of which the first one specialises in the manufactures of dry paints only.

Another company which was started in the post-war period is the National Industrial Alcohols Ltd. manufacturing spirits from Mahua flowers at Kamptee. During the year 1949-50 it manufactured about 3 lakh proof gallons of country spirits.

A Jute Mill at Raigarh was also started during the post-war period which has 1,500 looms and 3,326 spindles with a production capacity of 4,500 tons of jute products per annum employing about 850 workers. The total production of the mill for the years 1947, 1948 and 1949 was 3,339; 3,527 and 3,778 tons, respectively.

Other Industries.—Besides these, there are a number of Bidi, Lac and Shellac and numerous Cottage and Small Industry Establishments, namely Handloom Weaving, Hand Spinning, Blanket Weaving, Dyeing and Printing, Oil Pressing by Ghani, Carpentry, Blacksmithy, Silver and Gold-Smithy, Brick-Laying, Pottery, Soap-making, Lime-Making, Basketry, Brass-Copper and Bell Metal Industry, Boot and Shoe-making, Tailoring, etc. of which handloom weaving is the most important.

Handloom Weaving.—The handloom weaving which is by far the oldest and the most extensive of the cottage industries in the State, benefitted considerably during the first half of the period under review due to large demands for textiles during the War Period. As the demand increased, there developed an acute shortage of yarn, the prices and distribution of which were ultimately brought under control by the Government of India. In post-war years, the Industry has been feeling the after-effects of the War time prosperity and has been faced with periods of slackness in demand alternating with periods of shortages of yarn whenever textile mill production declined or scarcity of mill-made cloth was experienced. With a view to giving encouragement to the industry, the Government of India have recently reserved certain varieties of cotton cloth exclusively for the handloom industry to the exclusion of the textile mills and powerloom factories registered under the Factories Act, since July 1950.

Till the year 1945, the efforts to organise Weavers' Co-operative Societies did not meet with much success. The control on prices and distribution of yarn by the Government of India, however, gave an impetus to the formation of Weavers' Co-operative Societies and a number of them were registered in the course of the next year. Today there are 232 Primary Co-operative Societies affiliated to the Provincial Weavers' Co-operative Society, Limited, which is the mother institution, started during the year 1934-35 with the help of a grant from the Government of India for the development of the handloom industry. Nearly 50 per cent of the weavers in the State are now within the co-operative fold.

Bidi-Making.—Bidi manufacture is one of the largest small-scale industries in the State, which has made considerable progress from year to year during the period under review. According to the Report of the Bidi Enquiry Committee, 1941, the number of bidi manufacturing establishments in the State in the year 1940 was 1,100, employing 50,000 persons, with an average daily output of 5¼ crores of bidies. In the year 1950, the number of labourers engaged in the industry was estimated at 200,000 with an average daily output of 18—20 crores of bidis, consuming 4 lakh maunds of tobacco per year. Great difficulty was experienced in securing the supply of adequate labour for agricultural purposes in bidi manufacturing areas in the State during the latter part of the period under review. To minimise this scarcity of labour required for agricultural operations, the C. P. & Berar Regulation of Manufacture of Bidis (Agricultural Purposes) Act, 1948, was promulgated by the State Government. This Act, however, has recently been held as *ultra vires* by the Supreme Court of India. The question of mechanisation of bidi-making has been engaging the attention of the Department of Industries, Madhya Pradesh, for sometime past with a view to relieve the scarcity of agricultural labour in bidi-making areas.

Departmental Activities.—Government Department of Industries.—The most outstanding feature in the earlier part of the decade was the separation of the post of Director of Industries which was hitherto combined with that of the Registrar, Co-operative Societies and the appointment of a whole-time Director

with the requisite technical qualifications with effect from the 1st May 1940. Unfortunately, the appointment of the wholtime Director, synchronized with the beginning of the World War II and a good deal of miscellaneous work had to be taken up by him. A scheme for the mobilization of the small-scale industries of the State for the production of war supplies with a working capital of Rs. 2 lakhs was also started under the administrative control of the Director of Industries. Under this scheme supplies to the extent of Rs. 2,65,000 were made to the Government of India in the late Department of Supply.

A rapid survey of the industrial potentialities of Madhya Pradesh were carried out by the Provincial Industries Committee appointed by Government in Commerce and Industry Department Resolution No. 8414-2880-A-VII, dated the 9th November 1944. The committee published its report in 1945 which had a good reception. A Project Officer was appointed under the Department of Industries to (i) carry out investigation regarding the quality and quantity of raw materials available for the various industries suggested for establishment in Madhya Pradesh by the Provincial Industries Committee in its report, (ii) to indicate in broad outline the localities likely to be suitable for further detailed investigations for the establishment of these industries and (iii) to make preliminary scrutiny of applications and proposals received for establishment of industries. Investigations for the establishment of steel, cement, paper, rayon and oil industries and the improvement of glass and ceramic industries in the State were carried out by this officer.

Help and advice were given to promote the establishment of small-scale and cottage industries. The textile Branch of the Department of Industries gave, as usual, demonstrations in improved methods of dyeing, printing and weaving. Experiments to evolve new designs in weaving of artistic varieties were continued in the Government Weaving Shed. The departmental scheme for the development of cottage and small-scale woollen industry progressed quite satisfactorily. Blankets are manufactured under this scheme through local wool-weavers for supply to different departments of Government including the Indian Stores Department and to the public. A Central Wool Emporium has also been set up under this scheme, with a view to purchasing and stocking raw wool for sale to Dhangars at cheaper rates and undertaking grading of wool and marketing of finished products. A Government Weaving Factory and a Workshop for the manufacture of textile accessories, on modest scales, were established during the year 1948-49 from the unspent balance of the Government of India grant for the development of handloom industry. The weaving factory run on semi-commercial lines manufactures different types of furnishing fabrics experimented upon in the Government Weaving Shed, while the weaving appliances required for supply to the weavers in this State are manufactured in the workshop. Experiments in the manufacture of labour saving devices were also conducted in this workshop. A notable feature of the departmental activities was the Establishment of a Government Central Workshop and Stores at Nagpur, under the development scheme during the year 1947-48. This workshop is expected (a) to undertake repairs of the mechanical equipment including automobiles owned by the various Government Departments and if possible, those of the public also, (b) to manufacture special equipment and machinery required by small-scale and cottage industries and (c) to afford facilities for the training of skilled and semi-skilled artisans.

PART II

Development of Electricity in Madhya Pradesh by Lt.-Col. E. G. Mackie, M.A., I.E.E., M.I.M.E., A.I.E.E., Chief Engineer and General Manager, Electricity Department.

The State of Madhya Pradesh is endowed with rich natural resources. It has large deposits of iron, bauxite, manganese and coal. The State has large forest areas growing timber and many other forest products such as gum, barra, katha, etc. In agriculture, the State grows rice, wheat, jawar and dals and is rich in cotton. The Nagpur oranges are famous all over the country. In short, the State has plenty of raw materials. In spite of the fact that raw materials are in plenty, it is surprising that the inhabitants of this State are poor. Perhaps the easy way nature supplies the primary wants of the people here may be the cause of self contentment tending to industrial backwardness. Agriculture is the main stay of the people. Even in this sphere people had not to work hard to get food for living. The other resources of nature remained untapped till occasional individual efforts were made to work an industry here or a colliery there. In the mining side manganese ore mining and coal mining took root early as it was so easy to work the large deposits within easy reach. The rich cotton area attracted textile industry and is now a fairly big industry of the State. There are hardly any other industries worth the name. Since the raw materials and vast natural resources of the State remained untapped, it had an adverse aspect on the economic level of the people. Amongst various factors that contributed to industrial backwardness of this State the greatest single factor was the want of electric power. The supply of economic and abundant electric power, it may be noted, can transform the face of any land but unfortunately this received very scant attention in the past in this State.

The history of electricity in this State does not date back to many years. The first electric licence for electric supply was granted in 1905 to Messrs. Crompton and Company Ltd., London, to supply power to capital town of Nagpur. The present Nagpur Electric Light and Power Company is the successor of the original licensee. Gradually, other Electric Supply Companies sprang up in important towns of the province mostly in the district headquarters. These operated within the municipal limits of the towns. There had been no attempt of large scale electrification in the State until 1937-38 when the first popular Ministry considered the proposals of Messrs C. P. I. Syndicate for a grant of licence for electrification of the Nagpur, Wardha and Chanda districts. The Provincial Government sought the expert advice of Sir William Stamps who recommended the grant of the licence to the Syndicate. The outbreak of Second World War impeded the progress of the scheme. It is interesting to observe that though the first licence was given in 1905, and the second followed after a gap of twenty years while 23 licences were given in thirteen years. Once the ground was made the development was fast. By 1938 twenty-five licensees for electricity supply were working in the province. By then, electricity under private enterprise had assumed urban nature. The development and activities were such that electricity was associated with district places and as more a luxury than a need. Villager could see it in town only. Industrial use did not spread beyond flour mills, saw-mills or some small factories. Even in towns large mills had their own plant. It appeared as though supplying power to large factories or mills was none of the business of the licensees. This can perhaps be best visualised from the comparative graph showing the installed generating capacity of private factory plants shown against the licensees installed capacity in the State. The total capacity of private generating plant was slightly more than that of all the licensees in the province. The war period imposed considerable restrictions on the electricity supply industry. But the war effort activities were very opportune for developing the electricity industry but dependance on foreign plant and equipment and electrical wiring material curbed the development. It however showed rising tendencies and electrical generation in the State grew fast in spite of controls (Fig. 2). In this machine age electrical consumption is a pointer to development and it is gratifying to note that during the past ten years, it had nearly doubled. Want of cheap and abundant electric power to build up industries was very badly felt by the people and peoples' Government. In 1944 interest in development of electrical power as a prerequisite to industrial planning was keenly taken when the Post-War Development Plans were formulated in the State. The State Government invited Sir Hency Howard to advise them on the co-ordinated planning of electricity.

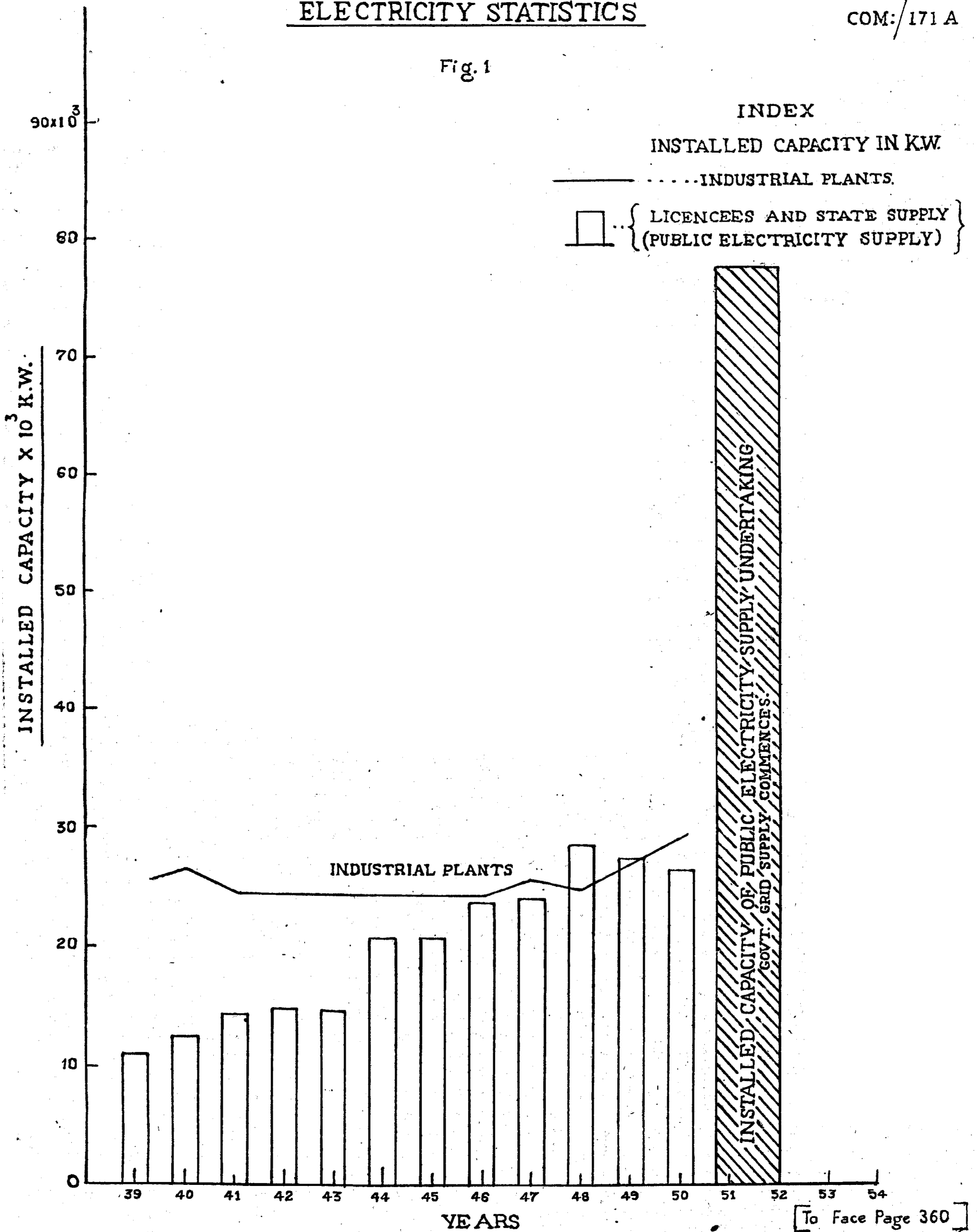
The Assessment of electricity requirement was undertaken of most of the promising areas of the State. A Five-Year Development plan was chalked out for providing the nucleus of State Electricity Supply System to supply power to as wide an area as possible. River valley schemes, which are essentially a long term planning, involving huge capital expenditure, will get their place when Thermal Schemes build a load. The recent load survey of the State indicates a load potential of 240,000 K. W. prospective and 129,000 K. W. firm by 1955 and 346,000 K. W. prospective by 1960 and 161,700 K. W. firm. When this forecast is compared to the development of the State during past ten years it brings out the tremendous task ahead and the bright future this State has. Fig. 1 and Fig. 2 shows the supply position immediately after the Grid power commences. Details such as installed capacity, consumers, units generated etc., during last ten years in the State have been tabulated in Tables I and II.

To achieve this objective beginning has been made by establishing a Central Thermal Station at Khaparkheda near Nagpur. The State has been divided into three Grid areas namely (i) the Southern (ii) the Northern and (iii) the Eastern. Each of these areas will have an independent electric Grid system fed initially from one or more suitably located thermal stations. In course of time these will be linked to water power stations in the area, will obtain inter connection amongst themselves through a system of State trunk lines, with neighbouring State systems at State borders and to an all-India net work at appropriate location when it develops. Due to geographical position and proximity of coal we believe that some of the Madhya Pradesh Stations of which Khaperkheda is one will develop into a regional station. This station of the Southern Grid planned for 60,000 K. W. capacity will be in operation early in 1951. At first $2 \times 10,000$ K. W. sets will commence supply and third will follow soon. Other stations of the Southern Grid are (i) one at Chandni near Burhanpur and (ii) Ballarshah. The station at Chandni is under erection. It will have a total capacity of 17,000 K. W. Practically all the power will be used at site in the first Newsprint paper Factory of the State. The Station at Ballarshah is under project stage. Machinery however is available. The station will have an installed capacity of 24,000 K. W. will work in parallel with the Nagpur Station. In Eastern Grid Area, pilot station of 4,000 K. W. capacity will be completed soon at Raipur and in the Northern Grid area surplus capacity of the Jabalpur Electricity Power Company's Power House will be utilised to develop the area. Places beyond the economic reach of the Grid will be developed by nursery and pilot generating stations and as load builds up will be linked to the Grid. Thus, during 1951-52 plant capacity of the State will have increased by nearly 60,000 K. W. and to 84,000 K. W. by 1952-53 (including

ELECTRICITY STATISTICS

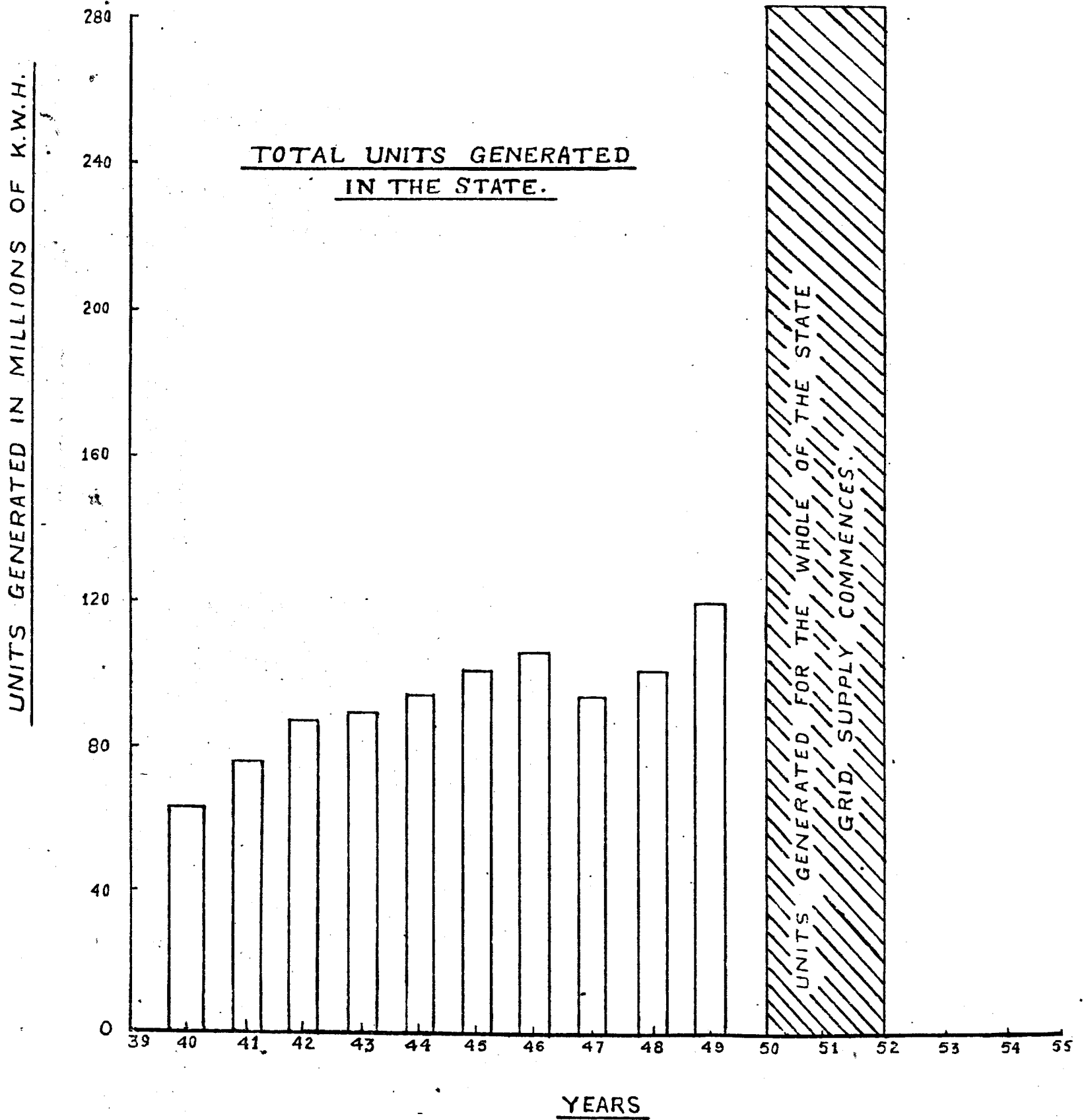
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Fig. 1



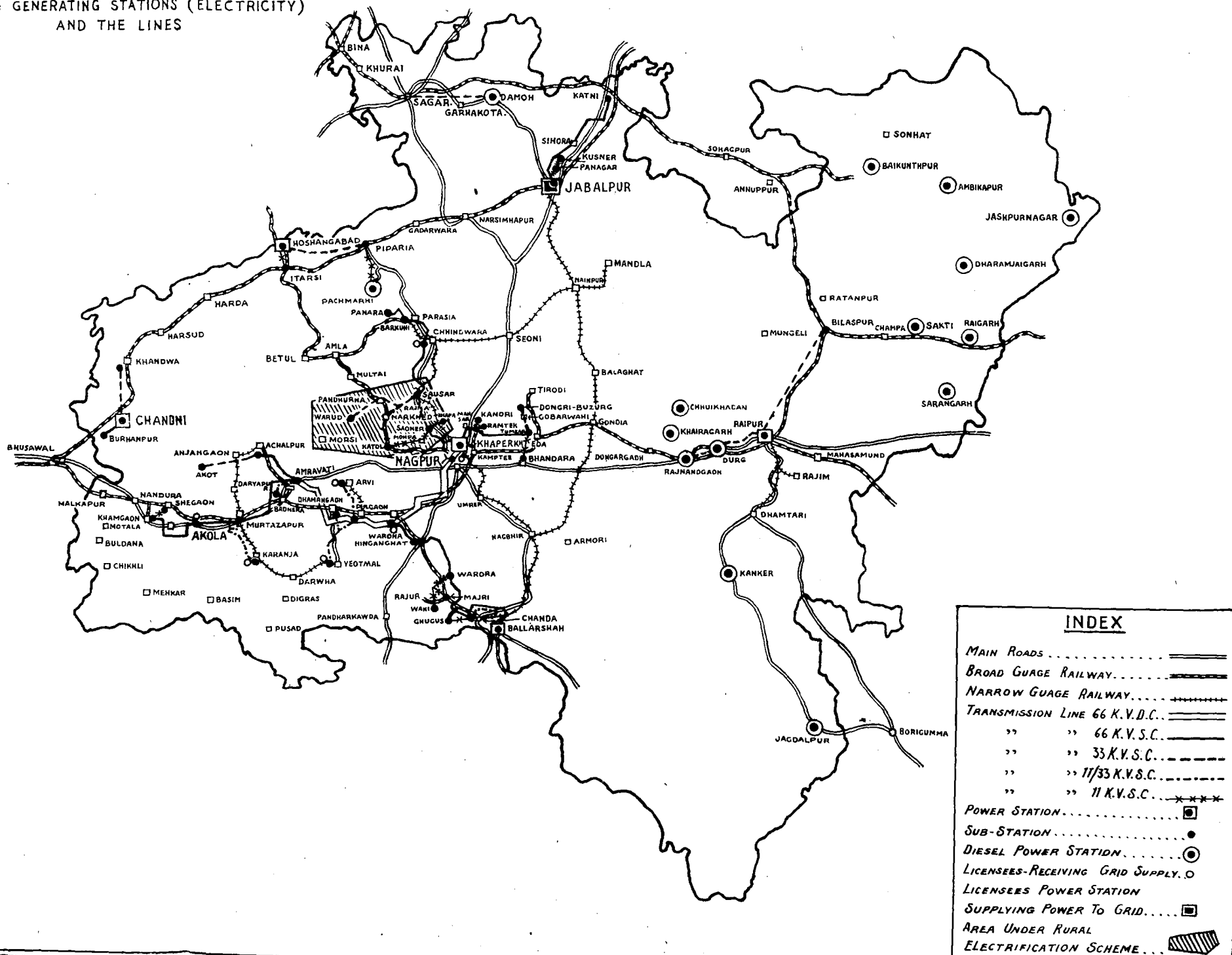
ELECTRICITY STATISTICS

Fig. 2



MAP OF MADHYA PRADESH

SHOWING GENERATING STATIONS (ELECTRICITY)
AND THE LINES



8,000 K. W. of Jabalpur Supply Co., already available). A glance at figure 1 showing the installed plant availability of the public utility undertaking during last ten years and now in 1951-52 when State Electricity becomes available is worth noting—in 1949-50 it was 26,485 K. W. only while in 1951-52 it will be nearly 80,000 K. W., *i.e.*, nearly trebled.

The State Government have declared their policy in respect of electricity development which clearly states—

“Lest prospective customers particularly bulk consumers like mills and factories should feel uncertain as regards Government’s intentions in the matter of power supply to the public, and with a view to helping them to draw up their own post-war plans, the State Government would take this opportunity of stating that it hopes to ensure that the rate for electric power offered to the public will not exceed the actual cost of electricity that can be generated by the consumer’s existing plant or the hypothetical cost of electricity that can be generated by a new plant of adequate capacity required to be erected to replace the former or for a newly established enterprise”.

This had a very salutary effect on the industrial development of the province. They have been assured of economic power, at least not costlier than what they can generate, has relieved the burden of finding out capital for private generating plant and thus enabling them to utilise the same for the betterment or an establishment of industry. The result of such a progressive policy has been to book up all the available capacity at Khaperkheda even before it could commence supply necessitating the extension very soon. The industries which will be taking power from Grid are Textile Mills, Ginning and Pressing, Oil Mills, Saw Mills, Rice Mills, Flour Mills, Paper Mills, Aluminium Industry, Steel Industry, Cement Mills, News Print Factory, Manganese Mines, Collieries and in rural areas pumping, etc., and many others. This has all been possible by the bold policy of supplying power at economic rates to industry.

To carry electricity from the source of generation to extensive areas in the State nearly 1,200 miles of high voltage lines will have been laid as a first stage. These will be progressively increasing till every hut has supply. A map showing the generating stations of the State Electricity Supply industries and the lines is enclosed.

In the past electricity had mostly served urban areas and the needs of rural areas remained neglected. In the development schemes today rural areas have been given special emphasis. Comprehensive rural electrification scheme for the province has been planned. The transmission lines radiating all over the State are the arteries of supply which will feed the main centres of rural development.

State electricity industry has taken its birth now and it is hoped that with this healthy outlook it will have made well rapid progress by the time next census has its operation.

TABLE I

Electricity statistics for the State of Madhya Pradesh

Year					Total installed capacity in K. W.	Units generated
(1)					(2)	(3)
1938-39	..	..	..	..	36,494	..
1939-40	..	..	..	..	39,124	..
1940-41	..	..	..	..	39,325	62,436,328
1941-42	..	..	..	..	39,815	75,028,947
1942-43	..	..	..	..	39,574	86,473,176
1943-44	..	..	..	..	45,374	87,184,335
1944-45	..	..	..	..	45,372	93,888,377
1945-46	..	..	..	..	48,485	101,595,055
1946-47	..	..	..	..	50,133	104,547,989
1947-48	..	..	..	..	53,582	91,150,238
1948-49	..	..	..	..	55,118	99,283,221
1949-50	..	..	..	..	55,979	118,174,774

TABLE II

Electricity Statistics—Private Industrial Supply and Supply by Licensees

Year	Licensees				Industrial private plants	
	Number of licensees	Total installed capacity in K. W.	Units generated	Number of consumers	Total installed capacity in K. W.	Units generated
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1938-39	24	11,030	..	10,400	25,464	..
1939-40	25	12,413	1,46,88,479	12,392	26,711	..
1940-41	26	14,352	1,79,20,775	15,744	24,973	4,45,15,553
1941-42	26	14,915	2,19,70,776	17,288	24,900	5,30,58,171
1942-43	26	14,701	2,82,71,792	18,291	24,873	5,82,01,384
1943-44	26	20,640	2,95,40,291	18,648	24,734	5,76,44,044
1944-45	26	20,691	3,88,64,384	18,723	24,681	5,50,23,993
1945-46	26	23,915	4,08,41,409	19,188	24,570	6,07,53,646
1946-47	26	24,181	3,98,27,117	21,158	25,952	6,47,20,872
1947-48	26	28,617	448,60,350	23,526	24,965	4,62,89,888
1948-49	24	27,662	5,05,75,386	26,232	27,456	4,37,07,635
1949-50	24	25,485	5,78,59,391	29,331	29,494	6,03,15,383

APPENDIX N

A brief note showing the notable activities of the Public Health Engineering Department during the last five years by Shri Purtej Singh, Public Health Engineer, Madhya Pradesh

This department is dealing with the following Post-War Development Schemes :—

- (1) Scheme No. 228.—Water Supply and Drainage to important towns of the State.
- (2) Scheme No. 229.—Water Supply to Rural Areas—Sinking of Wells.
- (3) Scheme No. 230.—Protected Water Supply for Fairs.

Urban Water Supply.—(1) Out of 130 towns in the State only 21 towns have piped water supply. These works serve 5.73 per cent of the total population in the State. None of these water works can be called satisfactory from either qualitative or quantitative points of view. This department prepared preliminary schemes for protected water supply to 32 towns in the state which included remodelling of the existing water works and also providing new water works in the towns having a population of above 20,000. Preliminary sewerage schemes for these 32 towns were also prepared.

(2) In pursuance of these objects in view, this department carried out detailed survey and investigation and prepared stage I water supply schemes for 18 towns in the State. Of this, the improvements to Raipur water supply scheme came up for execution at a cost of 9.21 lakhs financed by the Municipal Committee. The water works was formally opened on the 15th August 1951 and will be handed over complete in all respects to the Municipality by March 1952. The Pachmarhi Water supply scheme financed by the State Government is also under execution by this department. This scheme is expected to be completed by the next summer. For the last two years the maintenance of the existing water works at Raipur is also being carried out by this department. The water supply schemes for Durg and Warora have been approved by the Public Health Board. The Durg water supply scheme is being taken in hand very shortly. Orders for pumps, pipes and plant are being placed. The Warora water supply scheme is also likely to be taken up for execution within about two months' time. The execution of other schemes is dependent on the availability of funds at the disposal of the Municipal Committees. As the State Government is not in a position to sanction loans to the Municipal Committees to undertake these schemes the Municipal Committees are finding difficulty in financing them.

(3) This department investigated and prepared a tentative scheme for the water supply to Nepa Mills. The scheme is now under execution by the mill authorities. A scheme for water supply to PENCH Valley Coal Field area had also been formulated by this department. The Government of India, Labour Department, placed a sum of Rs. 50,000 at the disposal of this department for constructing an experimental well at Datla as a preliminary step towards implementation of the scheme. This scheme was, however, subsequently dropped.

Rural Water Supply.—This department undertook survey and investigations regarding rural water supply conditions in 5,606 villages in the State and submitted proposals for sinking of wells as may be required in villages according to priority. It was, however, subsequently decided by Government that the execution of the scheme should be entrusted to the Janapada Sabhas. Accordingly this department is exercising technical control over this scheme which is being executed by the Janapada Sabhas. The control of grant-in-aid payable to the Janapada Sabhas to meet half the expenditure of the construction of wells in rural areas is also vested with this department. So far five wells have been constructed and 173 wells are under construction.

Water Supply at Places of Fairs and Festivals.—(1) Due to poor sanitation, places of Fairs were always the centres of outbreak of Cholera and Dysentery epidemics. Preventive measures were only in the nature of Mass Inoculation of Pilgrims. The Public Health Engineering Department has since March 1948, started making arrangements for supply of protected water for drinking purposes at all important fairs in the State.

(2) For this purpose, the Department is equipped with twelve water supply units. Each Unit consists of a Truck, a Mobile Filtration Plant and a Portable Pump. The Filtration Plant is capable of pumping water at the rate of 3,000 gallons per hour, and after proper filtration and disinfection water is pumped into Canvas Tanks of 500 gallons capacity, to which twelve taps are connected, from which pilgrims draw water.

(3) The number of fairs where arrangements were made for protected Water Supply are as under :—

During 1948-49	..	..	27 fairs.
During 1949-50	..	..	35 fairs.
During 1950-51	..	..	33 fairs.
During 1951-52 (to date)	..	..	18 fairs.

The daily attendance at these fairs ranged from 10,000 to a lakh of pilgrims. The duration of the fairs varied from three days to a month.

(4) From reports received from the Medical Officers, posted to these fairs, from Janapada Sabha Presidents, and from Press Reports, it is seen that there has been a complete stoppage of Cholera, Dysentery etc., at all these places of fairs.

(5) Four Filter Units were sent to Raipur at the request of the Director of Health Services in December 1950, to combat the Cholera epidemic, as a result of large number of people returning from Angul. With the help of these units, filtered and chlorinated water was supplied at all the camps and the epidemic was quickly brought under control. The District Authorities at Raipur and the Director of Health Services expressed their appreciation of the work done.

(6) In addition to the achievements reported above in connection with the 3 developments schemes under operation, this department executed improvements to Samanvaya Rugnalaya at Nagpur with water supply and sanitary arrangements.

(7) The designs and specifications for water supply and sanitary works for Medical college buildings, Ministerial staff quarters at Nagpur, Leper Asylum at Amravati, Dufferin Hospital, Sagar, Irwin Hospital, Amravati, Victoria Hospital, Jabalpur, Police Lines Takli were prepared by this department.

(8) The local bodies were supplied with suitable designs and specifications for all sanitary works proposed by them. Number of type designs for all sanitary installations were prepared by this department and distributed to the local bodies and other Government departments for adoption. Sanitary requirements in the mills and factories constructed in the State are also scrutinised by this department and necessary advice rendered before granting permission for such constructions. This department undertook training Gram Panchayat Supervisors in elementary principles of Public Health Engineering, particularly in methods of collection and disposal of human excreta, cattle dung and waste fodder and provision of safe water supply in rural areas.

(9) Detailed drainage schemes for five towns have also been prepared and will shortly be finalised. As the execution of a drainage scheme is more or less dependent on water supply scheme, this will obviously materialise after the water schemes are undertaken.

(10) This department is carrying out inspection of the existing water works in the State and suggests ways and means to improve the existing conditions as far as possible.

APPENDIX O

Vital Statistics

1. In Madhya Pradesh the Vital Statistics figures are received from all the districts in the office of the Director of Health Services where they are compiled. The method of collecting the data in the urban and rural areas of the State and the opinion of the Director of Health Services on the system as a whole are contained in the note very kindly prepared by him and included in Annexure I.

2. In the previous Census Reports of the State the validity and accuracy of the Vital Statistics have been commented upon and in the 1931 Report the following observations were made :

“ The opinion expressed at past Censuses was that whereas reporting of actual occurrences is fairly accurate, the classification under the diseases which caused death is very unsatisfactory. The figures (relating to excess of births over deaths and growth of population) prove that for purposes of demography the vital statistics must be treated with care. In certain places, as will be indicated in the more detailed discussion hereafter, registration is tolerably efficient. In others, specially in the backward tracts and in some of the States, it is quite unreliable.”

3. With regard to the standard of maintaining vital statistics during the period 1931 to 1940 and 1941 to 1950, it might be pointed out that while the general trend towards improvement continued fairly uniformly during the first decade, it was probably affected during the second decade in the Chhattisgarh sub-division of the East Madhya Pradesh Division on account of the pre-occupation of the District Officers and their staff in activities connected with food procurement and distribution.

4. Although the present system of collecting vital statistics is not free from defects, it has been in vogue from a very long time and not only have many of the Watchmen in actual practice become expert in handling this type of work, but in some cases, particularly in the villages the people have also come to regard it as one of their duties to inform the Watchmen of the vital events. In fact the method has almost acquired the sanctity of a village custom and has become as it were a part of the usual village life. This is an advantage which has a very considerable effect on the accuracy of the data collected from these places. Besides, the check by superior officers, with all its faults and inadequacy, has had the effect of giving the whole work a formal outlook which has not been without its influence on the innocent villagers to a certain extent. The number of errors found and the occasional disciplinary action taken by the Tahsildar against the Village Headman or the Kotwar have all helped, though in a limited manner, to improve matters. In fact in certain parts of the State such as the South-West Madhya Pradesh Division the registration is comparatively very accurate. In other parts such as those of the Integrated States, where the system of recording births and deaths was hardly in existence and where an attempt is now being made to introduce it, the available figures are unreliable and are, therefore, not taken into consideration in reviewing the problem for the State as a whole and the Natural Divisions. In the East Madhya Pradesh Division and in the Integrated States in particular, there are in fact serious physical obstacles in the way of the vital statistics organisation including those connected with the topography, extreme distances, lack of communications and almost universal illiteracy.

5. The standard of maintaining the vital statistics in the South-West Madhya Pradesh Division may be considered to be the best in the State followed by that in the North-West Madhya Pradesh Division and the East Madhya Pradesh Division. In fact as early as 1911 the Census Superintendent mentioned in his report (page 33) that reporting in Berar was found to be specially accurate.

ANNEXURE I

Note on the Registration and Compilation of Statistics in Madhya Pradesh including the Integrated States with particular reference to the views as regards the accuracy and working of Vital Statistics, by the Director of Health Services, Madhya Pradesh, Health Section

A.—REGISTRATION OF VITAL STATISTICS

(i) In Municipal towns, Notified areas and Cantonments

1. In all Municipal towns, Notified areas and Cantonments where there are byelaws or other orders under the law to this effect, it is compulsory on the head of the family to report every case of birth, death or still-birth occurring in his house, at the nearest police station-house or outpost. A definite period is allowed for making these reports and the failure on the part of persons responsible to report such occurrences are dealt with by the Municipal Committee, Notified area Committee or Cantonment authority by means of prosecution in selected cases.

2. Deaths from epidemic diseases, such as plague, cholera, smallpox, influenza, relapsing fever, acute poliomyelitis, anthrax, epidemic pneumonia, encephalitis, lethargica, diphtheria, measles, scarlet fever, typhus, typhoid, mumps, dysentery, whooping cough, tuberculosis of the lungs, chickenpox, puerperal fever, leprosy, yellow fever and cerebrospinal meningitis or any case of sudden death are to be reported at once and the period allowed for such reports, when these are necessitated by byelaws or other orders under the law, does not ordinarily exceed 24 hours.

3. In order to provide a check on the figures entered in the police registers, the Conservancy staff are required to collect information regarding births, deaths and still-births occurring in their respective circles from the inhabitants. In the byelaws of certain Municipalities it is compulsory to furnish such information on requisition by any member or paid servant of the Municipal Committee. The Conservancy staff will report these occurrences to the Health Officer, if any, or to the Secretary of the Municipality or, where there is no paid secretary, to the Honorary Secretary or to some paid servant of the Municipality or Cantonment, selected with the approval of the Deputy Commissioner.

4. The police registers as prescribed in paragraph 14 will be compared weekly, *i.e.*, on the 1st, 8th, 15th and 22nd of each month at the police station-house with the Municipal or Cantonment registers, by the Municipal Secretary or Health Officer or any other approved Official entrusted with the duty, who should ensure that all corrections are entered in red ink in the police registers and should submit a list of any persons who have failed to report to the police (see paragraph 1), to the Municipal Committee or the Cantonment authority for legal action against them. The weekly return sent by the police to the Civil Surgeon's office on the dates and for the periods specified in paragraph 14 will contain the corrected figures *i.e.*, those embodying both items reported to them and items taken from the Municipal or Cantonment registers.

*NOTES 1.—In order to facilitate check, the entries in Police registers should be made by mohallas or other well defined areas.

2.—The weekly return from Police outposts too will be submitted to the Civil Surgeon through the town or Cantonment Police Station.

5. In addition to the weekly returns referred to in paragraph 4, the police in all District headquarter towns, Cantonments, and other towns, the population of which is 30,000 and upwards, should submit to the Civil Surgeon a weekly return in Form No. 11 (at page 346 of the C. P. Public Health Manual of 1934 Print) showing:—

Births and total deaths registered from all causes and also deaths from cholera, smallpox, plague, fever, respiratory diseases, dysentery and diarrhoea.

These returns should be prepared for weeks commencing on Sunday and ending on Saturday and submitted so as to reach the Civil Surgeon's office every Monday.

The Civil Surgeon should compile a district return in the same form and submit it so as to reach the Office of the Director of Health Services (Health Section) on every Wednesday for publication in the local gazette.

6. Where the ward member or members may be found willing to help, the Statistics obtained by the conservancy staff should be sent to the ward members concerned who should enquire into the completeness of the information for their wards.

7. If any other local methods of obtaining correct vital statistics suggest themselves and are approved by the Deputy Commissioner, they may be tried and an account of them and of the result may be given in the Annual Public Health Report.

8. In places where arrangements have been made by the Municipal Committee to register deaths of still-births at burning ghats or burial grounds, and to record births through dais, the inhabitants of such places will not in any way be exempted from the essential duty of reporting at police-station-houses or out-posts; the municipality should utilize the information in verifying the Statistics collected by the Conservancy staff.

(ii) In Rural Areas

9. In the rural areas the registration of births, deaths and still-births is not legally obligatory on the head of the house hold, and the duty of making such reports is in the Central Provinces laid on the Mukaddam of the village by section 193 (i) of the Land Revenue Act, II of 1917, and on the village Kotwar by rule 5 (vii) of the rules framed under section 227 (2) (q) (iii) of the Act, and in Berar on the Police Patel by rule 25 of the schedule of duties of Police Patels contained in Appendix A to the rules framed under section 21 of the Berar Patels and Patwaris Law.

10. All births, deaths and still-births are reported at fixed intervals at the police station-house of the circle in which the village is situated.

11. It is the duty of village Watchmen to report all births and deaths occurring within their villages at the police-station to which they make their periodical reports. Report books for village Watchmen (of one uniform pattern) should be obtained on an indent from the Superintendent, Central Jail Press, Nagpur and issued free to Mukaddams in the Central Provinces and to Patels in Berar.

12. The state Government have delegated to the Director of Public Health, Madhya Pradesh, the powers to sanction the grant of recurring honoraria to Police Station writers, who record the Vital Statistics and submit the weekly returns, at the rates mentioned below:—

- | | |
|--|------------------|
| (a) In towns of 5,000 inhabitants or more | Rs. 2 per mensem |
| (b) In charge of a rural circle of 75 populated villages or more | Do. |
| (c) In smaller towns or rural circles | Re. 1 per mensem |
| (d) If a station-house includes two rural ranges for which separate returns of vital statistics are submitted two allowances can be given. .. | |
| (e) If a station-house circle includes both a rural circle and a town which counts as a town or urban circle (<i>i.e.</i> for which a separate return of vital statistics is submitted), then the allowance will be Re. 1 or Rs. 2, as the case may be, for the rural circle. The fact that a village containing 5,000 people is included in the rural circle does not entitle the station writer to two allowances. .. | |

13. The report books should be written by the Mukaddam, Malguzar, Patel, or by any literate person in the village under the direction of the Mukaddam or Patel.

14. The Officer-in-charge of each police-station will enter, village by village, each birth or death reported to him in a register in Form No. 6, (at Page 333 to 336 of the C. P. Public Health Manual of 1934 Print.) and he will send to the Civil Surgeon's office, on the dates and for the periods specified below, a copy of the totals of khalsa and zamindari figures separately recorded:—

On the 3rd of each month, for the period intervening between the 22nd and last day of the preceding month;

On the 10th of each month, for the week ending on the 7th of the current month;

On the 17th of each month, for the week ending on the 14th and on the 24th of each month, for the week ending on the 21st.

15. The mere reporting of Vital Statistics is of little use for purposes of scientific deduction, unless—

(a) as large a number of entries as possible is actually checked in the villages,

(b) the accuracy with which the entries in the Kotwar's book are transcribed into the police register is checked at the station-house, and

- (c) information is furnished as to the extent to which the above two checks have been performed, and the proportion of errors which was detected.

When this information has been furnished, it is possible to form a judgment as to the reliability of the statistics, as a whole, and to gauge their usefulness for scientific purposes. The following instructions should therefore be followed by Officers of the Revenue, Medical and Police Departments in checking statistics :—

- (a) The entries in the Kotwar's books should be checked in the village by all Revenue and Medical Officers including the vaccination staff, the method being to assemble the villagers and question them as to the births and deaths which have occurred in the village and as to the correctness of the entries made in the book.
- (b) The vaccination staff should also make enquiries at all houses which they visit in the course of their vaccination work, in order to ascertain that all births and deaths have been correctly reported.
- (c) Enquiries in the villages should not be made by Police Officers, this work not being part of their legitimate duties.
- (d) The entries in the police register should be checked by —
- (i) All Revenue Officers not below the rank of Naib-Tahsildar.
 - (ii) All Medical Officers not below the rank of Assistant Medical Officer.
 - (iii) Superintendents and Assistant Superintendents of vaccination.
 - (iv) All Police Officers not below the rank of Circle Inspector.

Any Kotwar, who is present at the station-house, should first be questioned in order to test the accuracy of the entries made in his book and these entries should then be compared with the entries made in the police register.

- (e) On the first day of every quarter, every revenue officer should send to the Deputy Commissioner and every Medical Officer should send to the Civil Surgeon a report in Form No. 12 (at page 347 of the C. P. Public Health Manual—1934 Print) showing the results of the checking done by him (i) in the villages, and (ii) at police stations during the preceding quarter. Only those entries should be entered in the form which have actually been checked, *i. e.*, if the Kotwar's book contains 50 entries, and 15 of them are chosen at random for verification the number to be recorded in the form is 15, and not 50.

Similarly, only those entries in the police register should be considered as checked which have actually been verified in detail from the Kotwar's book.

- (f) A similar return should be submitted on the first day of every quarter by the Police Officer, specified above, to the District Superintendent of Police, only those columns which relate to the police registers being filled up. The District Superintendent of police should take early action to deal with those police officers who are responsible for mistakes in their registers.
- (g) The above return should be tabulated each quarter as received, and a consolidated statement in the same form should be forwarded by the Deputy Commissioner and the District Superintendent of police respectively to the Civil Surgeon before the 10th of the first month of the quarter. In this statement checks made by the Deputy Commissioner and the District Superintendent of police personally should be included. Details of checking officers, villages checked and so on, should be omitted, and totals only should be given under each column. These statements will be used by the Civil Surgeon for compiling the information required for the Annual Public Health Report.

(iii) In Railway Limits and Forest Areas

16. Births and deaths occurring within railway limits are reported to the nearest police-station by certain Officers of the Railway Administration concerned, in accordance with arrangements made with them by the local Government.

17. In forest villages the Kotwars who are appointed by the Forest Department will report the vital occurrences in forest areas to the Range Officers and the Range Officers will send the monthly statistics to the Civil Surgeon, before the 10th of the month following that to which they relate.

B.—COMPILATION OF VITAL STATISTICS

18. From the materials furnished to the Civil Surgeon in accordance with paragraphs 4 and 14 there will be compiled in his office two monthly statements in Forms Nos. 7 (at pages 337 to 340 of the C. P. Public Health Manual—1934 Print) and 8 (at page 341 of the C. P. Public Health Manual—1934 Print). In the former will be entered the account of all births, deaths and still-births registered in rural circles (showing khalsa and zamindari separately) of the district, and in the latter all births, deaths and still-births registered in towns. The term 'town' includes (1) all Municipalities, (2) all Notified Areas, (3) all Headquarters of Districts, (4) all Cantonments and (5) places with a population of 5,000 or more. The totals of statement Form No. 8 (at page 341 of the C. P. Public Health Manual—1934 Print) will be entered in statement Form No. 7 (at pages 337 to 340 of the C. P. Public Health Manual—1934 Print) after the totals of that statement, and a grand total made up for the whole district.

NOTE.—In form No. 7 the registration circle will be entered in geographical, not alphabetical order.

19. The Civil Surgeon will, as soon after the close of the month as possible, send a copy of the statements, referred to in the preceding paragraph direct to the Director of Public Health, and another copy thereof to the Deputy Commissioner of the district, who will transmit it with any observations he may wish to add to the Director of Public Health. The Civil Surgeon will carefully scrutinize the figures contained in the statements, and address the Deputy Commissioner on such points as may call for remarks. These remarks, with the Deputy Commissioner's orders thereon, will be forwarded to the District Superintendent of Police and a copy of the same will be sent to the Director of Health Services (Health Section), Madhya Pradesh, by the 15th of the month following that to which the statistics relate.

Omissions and corrections when discovered by the Checking Officers (Revenue, Medical, Public Health, Police and Vaccination staff) should be entered in the Kotwar's books which will be copied periodically in the Police Register. The Station House Officer should submit every month a statement of corrections and additions so made to the Civil Surgeon of the district who in turn should forward the same to the Director of Health Services (Health Section), Madhya Pradesh, through the Deputy Commissioner, in the prescribed form.

20. On receipt of the monthly statements in Forms No. 7 and 8 from all districts, the Director of Health Services will have two statements in Forms Nos. 9 (at pages 342—343 of the C. P. Public Health Manual—1934 Print) and 10 (at pages 344—345 of the C. P. Public Health Manual—1934 Print) compiled in his office and published in the Supplement to the *Madhya Pradesh Gazette*.

21. All deaths from the following diseases or deaths from any other disease of an unusual nature or in unusual numbers shall be reported to the Civil Surgeon by the Station House Officer on the same day :—

English	Hindi (हिंदी)	Marathi (मराठी)
Cholera	हैजा	पटकीचा आजार.
Plague	प्लेग	प्लेग.
Small-Pox	चेचक	देवी.
Cerebrospinal	गर्दनतोड बुखार	मानमोडी ज्वर.
Dysentery	पेचीश	हगवण किंवा आंवरक्त.
Measles	गोवरी	गोवर.
Typhoid	मोतीझिरा	विषम ज्वर.
T. B. of Lungs	फेफडे का क्षय	कफक्षय.
Mumps	गलसुवा	गालफुगी.
Malaria	जाडे का बुखार	हीवताप.
Influenza	तीवे का बुखार	तिव्याचा ज्वर.

22. (a) In municipal towns and notified area committee, the Medical Officer of Health or Secretary, Municipal or Notified Area Committee, where there is no Medical Officer of Health shall submit to the Civil Surgeon daily returns of infectious diseases enumerated in Rule 2, Chapter II of the Public Health Manual.

(b) Mukaddams and Kotwars in the Madhya Pradesh except Berar and Police Patels in Berar shall, under section 193 (i) of the Land Revenue Act II of 1917, Rule 5 (vii) of the rules framed under section 227 (2) (q) (ii) of the Act and under Rule 25 of the Schedule of duties of police patels contained in Appendix A of the Rules framed under section 21 of the Berar Patels and Patwaris Law, respectively report deaths from the diseases mentioned in paragraph 21 or deaths of an unusual nature or in unusual numbers to the nearest police station or outpost the same day.

23. The Civil Surgeon shall submit daily returns of these diseases, as indicated in Rule 53, Chapter I of the Public Health Manual.

VIEWS AS REGARDS THE ACCURACY AND WORKING OF VITAL STATISTICS

24. The existing system is unsatisfactory for the following reasons :—

- (1) There is no satisfactory machinery for counter-checking the accuracy and completeness of the registration. In Madras Presidency, the District Health Officers through their Health Inspectors and Vaccinators constantly check the accuracy and completeness of the registration by the village headman. This is not possible in Madhya Pradesh because we don't have these staff excepting the vaccinators.
- (2) Delay in collection and compilation of statistics.—The existing procedure is that the village watchman reports the occurrence of births and deaths to the Police Station House, who in their turn report to Civil Surgeons of the districts. The Civil Surgeons consolidate the figures for the whole district and forward them to the office of the Director of Health Services (Health Section), Madhya Pradesh; whereas in the Madras system the village headman reports to the Tahsildar who reports the figures of births and deaths directly to the Director of Public Health. This considerably shortens the period of compilation.
- (3) Inadequacy of the staff at State headquarters to analyse the statistical information received, collect useful data and communicate to the executive authorities for necessary action. In the office of the Director of Health Services there are two Upper Division clerks and two Lower Division clerks for this work. There is no officer to supervise and guide this work.

Registration of births and deaths in rural areas is not compulsory.

APPENDIX P

Articles on the Census Economic Enquiry by Shri V. S. Krishnan, Deputy Secretary to the Government of Madhya Pradesh in the Publicity Department

I.—SCOPE OF THE ENQUIRY

The census operations involving the writing out of approximately 350 million individual enumeration slips, each recording certain important data regarding every man, woman and child living in India, is a stupendous undertaking. But the value and usefulness of the information so collected are so immense that this is worth doing; indeed, it is obligatory on every State to do. Such a census enumeration has been done once in every 10 years in the past, the last census having been taken in 1941. But the enquiry that has now to be made, from the 9th February to the 28th February 1951, is different and unique in many ways. Apart from the fact that this is the first census after the partition of the country and the inauguration of the Indian Republic, it is also the first census in which the fundamental principle of classification will be the economic role that each individual plays in the country.

In the past the basic data according to which the census slips were sorted out was the "religion" of the individual. In every district and every village the population was first of all separated into religious groups, and these divisions were maintained throughout the sorting operation, and all data regarding literacy, livelihood, distribution of age groups, etc., were cross-tabulated according to religion. Such a procedure was not only unhelpful but was capable of being misused; though, no doubt, it is necessary to record the religion of every individual as one of the facts of information.

The main purpose, therefore, of the present census enquiry is to group every individual in respect of his share in the economic activity of the whole community. In this sense an individual may be economically active, passive or partially active. It is this that determines his place in the economic structure of society. Is a person economically active? Does he either produce goods or render services? Or is he inactive and, therefore, dependant? Or alternately is he active in a small measure, but not sufficiently active to get a living for himself? The answers to these questions will indicate the person's position in the community *vis-a-vis* its economic life.

In regard to the active and semi-active people there are other enquiries regarding the kind of occupations they pursue, whether they are engaged in agriculture, commerce, trade, non-agricultural production or other services. These will again raise other questions as to whether the person is employed by some one, or whether he himself employs others, or whether his activity is independant of both employees and employers. All these facts will be collected during the present census. But the foundation of the whole enquiry is the placing of the individual as an economically active or non-active person, because it is this that will enable us to judge the actual and the potential man-power in the country, and the degree of economic productivity that has been attained.

In order to get at this knowledge what is the test that we may apply to each individual to see if he is economically active? The simplest test is to ascertain whether by means of this activity he is able to sustain himself, or whether he has to depend on somebody to sustain him. In other words, is he a "self-supporting" person or is he a dependant? In our country there is usually also another category of persons in most households who are economically active in a limited way but not sufficient to earn a sustenance independent of the household. A younger brother or a son may do manual labour or engage in some cottage industry, but the income would go to the common pool and will have to be supplemented by the head of the family for supporting him. Such persons are reckoned as economically semi-active and classified as "earning dependants".

The term "self-supporting person" as used in the enumeration has led to some misunderstanding in certain quarters who fear that by the use of this term in the census operation, hundreds of semi-starving persons will be classified as self-supporting just because they are the bread-winners of their households. The result, they fear, would be to give a false picture of the condition of life in the country. But there is really no ground for this fear, because the enumerators who use the term, the census officials who tabulate the results, and the Government who will publish the report, are all fully aware of the precise and technical sense in which this common and non-technical phrase is used in the census operation. It has been made very clear to every one that this phrase has no reference to the standard of living, but where a person was in receipt of an income—though it might be a pittance—and that income was sufficient for his maintenance, though at a miserable level, he was to be described for the purpose of the census as "self-supporting person". This has been made abundantly clear to everyone concerned, and will be amply brought out in the census reports.

For, there is no attempt made in the present census enquiry to ascertain the standard of living at which the individual is able to sustain himself. All that is attempted is to find out whether a person is sufficiently active economically to maintain himself at the *de facto* level—deplorable and low as it may be,—at which he actually does live. A labourer, for instance, who breaks stones for the railway tract may earn twelve annas a day and with that he may be able to feed and maintain himself in howsoever poor a condition. Nevertheless, he is a bread-winner and is economically active and, therefore, he is counted as such in the census enquiry.

It would, no doubt, be very valuable, and highly instructive to social studies, if it were possible to ascertain the actual earnings of each active individual, and classify the standard of living of the different groups of the population. Then we shall get a picture of the pattern of life with all its dark shadows and grim bleakness. But during the present census enquiry this is not possible. It will not be desirable to mix up too many investigations in an operation where 350 million people have to be questioned and answers recorded by enumerators not all of whom are technically expert, and who undertake this task voluntarily during their leisure hours. If questions regarding the actual income, family budgets, cost of living, etc., were to be asked to every individual, there is bound to be suspicion and reticence on the part of people and even a feeling of opposition. It may be feared by ignorant folks that all this is a subtle device for increasing taxation and adding to their burden in other ways. This will result in an absence of that co-operation between the individual citizen and the enumerator without which this enquiry cannot be fruitful. Thus the entire census operation would have defeated its purpose by attempting to do more than what was practicable.

For these reasons, the scope of the present enquiry has been restricted to the limited and attainable object of ascertaining the broad divisions of the economically active and the economically passive persons in the country. At the same time, the important question of the standard of living is not altogether ignored. Wherever it was feasible, samples are studied in a more thorough manner in respect of family incomes and cost of living, and it is hoped that the information made available by the present census will help in pursuing the investigation more thoroughly in future. Under expert guidance and patient scientific enquiry it may be possible later on to unfold the economic map of the people in all its revealing details.

II.—THE ECONOMIC STATUS

Every individual, whatever his social status may be, must necessarily enjoy one or the other of three kinds of economic status. He may be a self-supporting person, or he may be a non-earning dependant, or thirdly he may be an earning dependant. To determine which of these three categories is the economic status of each person, the Census Enumerator addresses to every individual Part I of question No. 9, namely, "Are you a self-supporting person, a non-earning dependant, or an earning dependant".

SELF-SUPPORTING PERSONS

The phrase "self-supporting" must not be taken to have any reference to the person's standard of living. As explained in an earlier article, it is only meant to indicate the actual fact whether a person is able to maintain himself, at whatsoever standard of living he actually does live, by means of the income he earns. If for his one meal or half a meal a day, he does not depend on anyone but earns it by his own work, if he can clothe himself and shelter himself in howsoever poor a fashion by his own earnings, he is classified as a self-supporting person without any implication of the manner or level at which he supports himself.

It is necessary to understand this significance of the phrase. The Enumerators do understand it in this sense, and the tabulators and officers connected with the census will interpret it so. But the common people also must know it, otherwise they may be misled by interested persons and may get a wrong idea of Government's intention behind this question.

NON-EARNING DEPENDANTS

It is easy to understand the category of persons called "Non-earning dependants". These are persons in a household who do not get an income but are maintained by the earnings of the person on whom they depend. Young children, aged and disabled persons and other dependants in a household who have no earnings will come under this description. It may be pointed out that a person may do work and yet be a non-earning dependant. A house-wife who cooks for the family, washes and cleans the house, looks after children, does very important work but since she does not earn any income by this work, she is not classified as a "Self-supporting person" but as a "Non-earning dependant".

EARNING DEPENDANTS

In other words, anyone who is not a self-supporting person is a dependant. But we have to remember that in many cases a dependant may also earn a small regular income which may, however, be insufficient to support him. For instance, a young boy may be working in a shop for part of the day and earning petty wages. Or again, the woman in a household may do part-time work elsewhere for daily wages. All these earnings may not be able to support the wage-earners unless helped by the bread-winner of the household. In our country where the system of joint family is widely prevalent, this category of person is found in many households. Hence, we have the third type of economic status called "Earning Dependants".

We have to remember that Part I of question No. 9 will be put to each member of the family household separately and not to the entire household collectively. For, in the collective sense every household must be considered to be self-supporting. It cannot exist otherwise. The surplus earnings of the self-supporting person within the household would, in every case, be enough to meet the deficit of the earning and non-earning dependants. That is how the family household balances itself. The question is to be put to individual members of the households so that we may know at the completion of the census how many persons in our country are able to maintain themselves without another's support, and how many persons are dependants.

Having got these three classes of economic status clearly ascertained, a further question has to be pursued with those persons only who are self-supporting, in order to determine whether in their economic activities they are employers, employees or independent workers. This is the object of Part II of question No. 9 which asks "Are you ordinarily an employer, an employee, or an independent worker?"

EMPLOYER

When one has to employ the services of one or more persons for performing the duties by which one secures one's income, that person is classified as an "Employer". A doctor who must employ a compounder, a lawyer who must have a clerk, or a cultivator who employs labour for working in the fields are all employers. What is important to notice is that in all cases the person or persons so employed must have regular employment. They should not be casual employees. Their principal means of livelihood must be derived from such employment. Secondly, the assistance of such employees must be utilised by the employer to perform that business or activity from which the employer earns his living. A person who employs a cook in his house, for example, is not to be regarded as an employer, because though the cook may receive regular wages and may perform very useful service, he does not help the employer in the performance of the latter's business or occupation.

EMPLOYEE

The term "Employee" is simple enough to understand. He is one who works under another person institution, or establishment, receiving a salary or wages in cash or kind as the means of his livelihood. Thus Government servants will be classified as employees. If a land owner employs a manager or a superintendent to look after his estate, the latter would be an employee though he in his turn may employ labourers and other subordinate workers. It will be seen that a large portion of the people will thus find themselves properly grouped under this category.

INDEPENDENT WORKERS

The persons who will be described as "Independent Workers" are those who are able to earn their living without either being employed by someone else, or employing other workers under them. A handicrafts man who out of materials collected by himself makes toys with his hands and sells them is an independent worker. A petty shopkeeper who does not employ a servant for running his shop will be an independent worker. The independence here implied is not necessarily financial independence, but reliance upon oneself without assistance of human labour for the performance of the work which provides the means of livelihood.

These three broad divisions help us to classify those persons who are self-supporting and who are engaged in gainful occupation. It is necessary to remember that this classification of employer, employee and independent worker does not concern persons who support themselves through dividends, rents, or interest on their capital. Such persons are supposed to have no economic activity and, therefore, cannot fall into any one of these three classes. Thus while Part I of question No. 9 gives us *the primary economic status*, covering all persons, part II of the questions furnishes us with the information regarding the secondary economic status of those persons who are engaged in gainful economic activity.

III.—MEANS OF LIVELIHOOD

Two questions will be asked by the enumerators to elicit information regarding the means of livelihood. But first it is necessary to know what is meant by "Means of Livelihood". Generally, it is defined as that gainful occupation which forms the source of the income which is utilised by an individual for his maintenance. But it is common knowledge that there are certain incomes which may be obtained without engaging oneself in a gainful occupation. For instance, the landlord who lives on the rent received from houses, or the investor who lives on the dividends accruing from his investment cannot be said to be engaged in a gainful occupation. Therefore, for the purpose of the census enquiry, the term "Means of Livelihood" has to be taken in a more comprehensive sense to include all these classes of persons. Again, there are certain dependants in a household, such as, the child, wife and aged or disabled persons who have no source of income themselves but are maintained out of the means of livelihood of the bread-winner of the family. All such persons will not be shown as not having a means of livelihood, but their means of livelihood will be recorded as the same as that of the person on whom they depend. Thus, if the head of the family is a cultivator and he supports his children, a wife and a sister, then in the census record all these dependants will be shown as having cultivation as their means of livelihood. This is done with a view to ascertain the pressure of the population which each class of occupation supports.

2. It will thus be seen that there is not a single individual living who has no means of livelihood. The means may be anything from begging to the highest intellectual labour; or, it may be dependence on one who is pursuing any of these occupations. Thus the means of livelihood is a universal data which helps us to place a man in the economic system of society. It determines his share in the economic life of the country and his role in the various categories of occupations.

3. Therefore one question is addressed to every individual, namely, question No. 10.—"What is your principal means of livelihood?" After this has been answered, another question is addressed to only those persons who are "self-supporting" persons; and that is question No. 11. "What is your secondary means of livelihood?" These two questions draw an important distinction between two kinds of livelihood means. This is necessary in order to understand the actual and available manpower in the different economic activities in the country. A person may keep a shop and also have a small piece of agricultural land which he cultivates. Or again, one may be clerk and also work as an agent for selling a newspaper or an agent of an insurance company. In such cases, that occupation which brings him the greatest part of his income should be treated as the major or the principal means of livelihood, and that which gives him the next most important part of his income should be taken as the minor or secondary means of livelihood. It is possible that a person may have more than two sources of income, but it has been decided that the ends of the present enquiry will be served if only the first two important means of livelihood are recorded. Therefore, the enumerators have been instructed not to take down more than two occupations in each case.

It has already been explained that the principal means of livelihood of a dependant—whether earning or non-earning—is the same as that of the person on whom he depends. But the "earning dependant" has a source of income. This will be recorded as his secondary means of livelihood. For the "non-earning dependant" there will naturally be no secondary means of livelihood.

4. Of all the economic activities in the country the most important is the cultivation of land and the production of field crops. In our country this may be said to account for nearly 80 per cent of the entire population directly or indirectly. These may be called the agricultural classes and the other activities may be grouped together under the head "non-agricultural classes". Thus when once the "means of livelihood" data has been recorded for every individual, the entire people of the country can be divided into the two broad categories, namely, the agricultural classes and the non-agricultural classes. Every person must fall under one or the other of these two groups.

5. Taking the agricultural classes first, those who are supported by this occupation can be further classified under four distinct groups:—

- (i) Cultivators of land, wholly or mainly owned; and their dependants;
- (ii) Cultivators of land, wholly or mainly unowned; and their dependants;
- (iii) Cultivating labourers; and their dependants; and
- (iv) Non-cultivating owners of land; agricultural rent receivers; and their dependants.

6. It will be noticed that in this classification three distinct types of relationship to the land are indicated. There is first *the cultivator*, who is different and distinguishable from a cultivating labourer. The cultivator is the person who is responsible for, and takes decisions regarding the entire process of

cultivating a piece of land, such as, when and where to plough, when to sow, when and where to reap and so on. He need not necessarily perform the actual manual labour of cultivation, though many cultivators do in fact perform. The cultivator may himself own the land which he cultivates in which case he comes under the category (i), or he may hold a lease or he may be an agent or manager, in which case he comes under category (ii). In either case what distinguishes the cultivator is that he is the person who directs and controls the agricultural operations on the particular piece of land. By the use of the word "owned" in this connection it is only indicated that the rights on the land involve the right of permanent occupancy for purpose of cultivation. Such right should be heritable; it may be, but need not necessarily be also transferable.

7. The second type of relationship with the land is that of the cultivating labourers who plough, sow, reap and perform all the manual labour under the direction of another in return for wages, in cash or kind. These people are not to be referred to as cultivators. They are employees of the cultivator and have no right on the land, but seek their means of livelihood by doing labour under either piece-work or time-work basis.

8. Then there is the third type of person who owns land but does not cultivate it himself, but gives it out on lease or employs an agent or manager who actually cultivates it. The owner only receives a rent either in cash or kind. Such persons will come within the fourth category mentioned above, of non-cultivating owners of land.

9. These are the four principal categories of agricultural classes within which every one who derives his livelihood either directly from land or is dependent on one who so derives it, must necessarily fall. If each person belonging to the agricultural classes will only analyse within his own mind his relationship to the land he will find that he comes within one of these classifications.

10. As regards the non-agricultural classes, the activities covered are classified with reference to the nature of the commodity produced or services performed. For this purpose, this group of persons is also divided into four categories comprising of all persons (including their dependants) who derive their principal means of livelihood from—

- I. Production (other than cultivation);
- II. Commerce;
- III. Transport, and
- IV. Other services and miscellaneous sources.

11. These four categories are further divided on the basis of the previous Census classification adapted to suit the inter-national usage. According to this principle the first category called Production (other than cultivation) is divided into (1) Primary Industries; (2) Mining and quarrying; (3) Processing and manufacture of food-stuffs, textile, leather and products thereof; (4) Processing and manufacture of metals, chemicals and their products; and (5) processing and manufacture of other unclassified products. The second category called "Commerce" forms a major division by itself; so also does "Transport", combined with "Storage and Communications". Under "Other Services" are included three major divisions; (1) Construction and Utilities, (2) Health, Education and Public Administration, and (3) Miscellaneous Services not elsewhere specified. There are thus ten divisions of non-agricultural classes, each having several sub-divisions, forming altogether 88 identifiable classes, in which are comprehended every possible service or industrial occupation.

12. If the entries under these varied heads are to be accurate and reliable, it is most essential that the answers given by the public when describing their means of livelihood should be clear and precise. A trader, for example, must say not merely that he is a trader, but also what kind of articles he sells, and whether he is a retail trader or a wholesale trader. A factory hand must say not only that he works in a factory, but whether he works in a cotton mill, glass factory or coal mine. The success of this enquiry, in this respect as well as in others, depends upon the fullness and clearness of all replies to the enumerator's questions.

13. In the tabulation of the 1951 Census, it is the Means of Livelihood that will be the basic data for all sorting of enumeration slips. The slips will at the very outset be sorted into two large groups, the agricultural classes and the non-agricultural classes; and this separation will be maintained throughout the sorting operations. All the other information regarding the economic status and literacy will be cross-tabulated according to this basic division.

14. It may be mentioned here that the system of occupational classification attempted in the Census is broadly in conformity with the schemes suggested by the United Nations Organisation. The Economic and Social Council of the United Nations has recommended a system of classification of economic activities known as the International Standard Industrial Classification Scheme, and has suggested that all Member-Governments should either adopt this system or rearrange their statistical data in accordance with this system. The purpose behind this suggestion is that International comparability must be possible between corresponding census data of different countries. The scheme accepted for the next Census follows the latter of the two courses suggested by the Economic and Social Council, while at the same time suiting the classification to the special needs of our country. Hence in the next Census, a degree of comparability with other nations in regard to comparable items has been achieved without sacrificing the peculiar needs of a general population Census.

IV.—WHAT THE CENSUS DATA WILL REVEAL

In regard to the Census, particularly those aspects of it which deal with economic questions, there has always been a lurking suspicion, even in the minds of quite educated people, that all this elaborate enquiry is a subtle prelude to new taxation. But it has to be emphasized and repeatedly made clear that the object of collecting this complex variety of data is quite different. The object is to provide a clear and graphic picture of the condition, composition and the economic life of the people of the country. The Census enquiry will provide, by means of millions of recorded facts the material for the research scholar, the social reformer and the legislator with the material necessary for social reform and legislation.

2. During the 10 years that have elapsed since the last Census was taken in 1941, what great changes have swept over our country. The world-war has left its mark on every aspect of life. The pattern of economic life has been transformed. The partition of India has totally changed the limits of the country and the composition of its people. The influx of displaced persons has swelled hundreds of towns and villages. How has the shifting population distributed itself? How many people live in towns and how many in villages? What do they do for a living? How have the industries and occupations of the people changed? How many are employed and how many unemployed? The answers to these and many more such questions can be supplied by the census figures.

3. The Indian Census has to deal with one of the largest populations in the world. It involves the counting of nearly 350 million people. And yet this operation is being conducted administratively in the most economical manner. The cost is not expected to be more than Rs. 43 per thousand population. In America the cost in 1950 was 600 dollars per thousand population. The cost has been kept so low because the enumerators are all honorary workers drawn from Government servants, employees of local bodies and most of all from school teachers. This voluntary help is not only valuable but significant; because though the census is the responsibility of the Government, it is equally the duty of every citizen to help in this operation. A modern democratic State strives to be welfare State. How can the welfare of the people be planned without those basic data which are essential for all planning? It is, therefore, in the interest of the people that the material facts required for their welfare are accurately and efficiently collected. For these reasons, the Census is a matter as much of the people's concern as of the Government's.

4. What then are these facts? A study of the 14 questions which will be put by the enumerators shows that in respect of each citizen about 20 facts will be collected. Some of those are very simple and clear. Facts, such as the name, the nationality and religion, age, place of birth, the marital status, *i.e.*, whether one is married, unmarried, widowed or divorced—all these are comparatively simple and straightforward and should cause little difficulty in answering. The aftermath of the partition has left its mark on one question enquiring whether one is a displaced person, and if so, when did he arrive in India and which part of Pakistan he hailed from. By means of these questions it will be possible to assess accurately for the first time the magnitude of the problem of resettlement which is still far from a satisfactory solution. It will also reveal where and in what density the displaced persons are now dispersed.

5. Equally simple to answer and equally important from the national point of view are the questions regarding the language or languages spoken by each citizen. The large majority of the people in our country is bi-lingual and a good number is multi-lingual. The questions, therefore, are directed to ascertain not only what the mother-tongue of each citizen is, but also what other Indian language the person commonly uses. Only one other subsidiary language most commonly used by each person will be recorded. It should be obvious to every one how very valuable the facts so collected will be in planning for a common language in the country as a whole.

6. The three vital questions pertaining to the economic life of the community have been explained at length in the previous articles. It has also been pointed out how these mark of a new feature of the present Census. By means of these facts, the entire population will be divided into agricultural and non-agricultural classes. It will be ascertained how many persons are economically active, semi-active and passive, and to what kinds of occupations they belong. The last three questions deal with the literacy, the sex, and the fertility, *i.e.*, the number of children born to each woman, how many surviving, and the age of the women at her first child-birth.

7. All these questions, it will be noticed, are not only comprehensive but are modelled on the U. N. O. classification, and will provide a ready comparison between our country and other member-countries in regard to comparable data. The question regarding fertility which has been included by the State Government is a part of the international standard of Census questions. By including this data, the Census information collected in our State will come closer to the standard of international Census enquiry.

8. It is not necessary to repeat that no Government can undertake any measure of social reform or legislation, nor can it function as a welfare State unless it knows correctly how many people live in its territory, what they do for earning a living, what is the structure of their household and how many are able to read and write. On the foundation of these vital and material facts, a Government is able to plan for the future and to estimate the magnitude of its responsibilities, its requirements for the present, and the planning necessary for the future to promote the welfare of the people. The Census facts are thus the bricks out of which the vast structure of national progress can be built.

9. As soon as the enumerations are over, the Census slips are all sent to the tabulation centres in each State where these slips will be sorted out first into the two great divisions of agricultural and non-agricultural classes, and then into the sub-divisions under each head. This will be done for each village and each district so that the Census data will be available separately for every village and ward in the country. Every district will also prepare a Census Handbook containing all the information within the district properly tabulated. There will also be published a Primary Census Abstract for each village, town and city giving details of number of houses and household population, divided into the two classes—agricultural and non-agricultural.

10. It is expected that provisional totals of population will be ready within a month after the enumeration is over. The classification tables will, however, take sometime and may be ready by the end of 1951. Altogether 20 different Census tables will be prepared grouped under three main heads :—

- I. General Population Tables.
- II. Economic Tables.
- III. Social and Cultural Tables.

Under the first head there will be 5 tables, one of them giving area, houses and population, both rural and urban, for each State ; another showing towns and villages of each State classified according to population ; and another with towns arranged territorially according to the livelihood classes of their population.

11. The economic tables will show the population of each State divided into the 16 livelihood classes (agricultural and non-agricultural) explained earlier, and each class further divided into the three economic status groups, namely, self-supporting, earning dependants and non-earning dependants. Other tables will give the secondary means of livelihood, and also the non-agricultural classes divided into employers, employees and independent workers. The social and cultural tables will provide the figures, State by State, of languages, religion, displaced persons and the livelihood classes arranged according to educational standards. Besides these, some important facts will be cross-tabulated such as marital status according to age group, literacy related to age and livelihood classes arranged according to age groups.

12. When it is remembered that all these tabulated facts will be made available village by village, tahsil by tahsil, and district by district in every State of this country, the immense value of this huge work can be easily imagined. How many persons are employed on land, persons of what age follow certain professions, how is literacy distributed among various age groups, how many persons of certain ages are widows, how many are married, what is the extent of infant mortality—all these and many more similar questions can be readily answered and used with advantage for the good of the country. Plans of food and other production, supply of food grains to the people, promoting cottage industries, improving social conditions, opening of schools and organising rural uplift, indeed every aspect of State administration and reform will be possible on the basis of known and exact facts instead of on the gamble of conjecture. It is, therefore, the solemn duty of every citizen to render all assistance and actively co-operate in collecting the exact figures during the Census operations which are now in progress.

APPENDIX Q

Instructions regarding Sorting by Livelihood Classes

Sorting for livelihood classes is the most important operation to be undertaken by each Sorter and you must have very clear ideas about it before you begin the work, because mistakes committed during this sorting will have very bad effects on the entire tabulation work.

2. There are eight livelihood classes. They are—

- I. **Cultivation of owned land** for which the contraction '1' would appear in answer to question 10 in the enumeration slip.
- II. **Cultivation of unowned land** for which the contraction '2' would appear in answer to question 10 in the enumeration slip.
- III. **Cultivating labourers** for whom the contraction '3' is used in answer to question 10 in the enumeration slip.
- IV. **People who give out their land to others on rent, etc.,** and for whom the contraction '4' is used in answer to question 10 in the enumeration slip.
- V. **Production other than cultivation.**
- VI. **Commerce.**
- VII. **Transport.**
- VIII. **Other services and miscellaneous sources.**

3. When you proceed to sort for livelihood classes, you have to mark eight pigeon-holes—I, II, III, IV, V, VI, VII and VIII and to deal your slips into them according to the answer you find in question 10 in the enumeration slip.

4. With regard to the first four livelihood classes dealing with agriculture, you will have no trouble because you will merely deal the slips into the pigeon-holes I to IV according to the contractions 1 to 4 appearing in column (10) of the slip.

5. With regard to the non-agricultural classes V to VIII, you have to carefully study the answer recorded in the slip in column (10) and have to decide to which of the four classes the particular slip belongs. While doing so, you should remember the following points :—

- (1) The general rule in respect of classifying employees is that every employee is to be classified with reference to the commodity produced or service rendered by his employer—
 - (a) There are, however, the following exceptions to this rule, in which you must classify the employees with reference to their own activity and without reference to that of their employer—
 - (i) persons actually engaged in production.
 - (ii) persons actually engaged in commerce.
 - (iii) persons actually engaged in transport.
 - (b) Thus, suppose a man is engaged as a truck-driver in the Empress Mills, Nagpur, for transporting textile material manufactured there. In such a case, you must classify the driver under the head "Transport" and not under the head "Production". But a clerk engaged in the same Mill must be classified under "Production", because he is to be classified "with reference to the commodity produced or service rendered by his employer". Similarly, a grazier appointed by a person, who rears cattle will be classified under "Production" and not under "Miscellaneous services", because the work he actually does has to be determined in his case by the "commodity produced or service rendered by his employer". A person, who is engaged to sell milk by another who is a carting contractor, will be classified under "Commerce" and not under "Transport", because his actual activity is with reference to "Commerce" and, therefore, he will not be classified "with reference to the commodity produced or service rendered" by his employer.
 - (c) Another important exception to the general rule is about domestic servants. These servants must be classified under livelihood class VIII "Other services and miscellaneous sources" without reference to the nature of their work. Even drivers of private cars will, therefore, be classed under this head and not under "Transport".

- (2) The second rule of classification is that all employers who engage others and all independent workers, like petty shop-keepers, etc., who do not employ any one else in their small business or other work must be classified with reference to the commodity produced or service rendered by them individually.
- (3) There are certain independent workers, who produce certain articles and sell them and the question arises whether they are to be classed under "Production" or "Commerce". Thus, for example, a Cobbler, who prepares shoes and sells them himself, should be classed under "Production" because according to the rule mentioned under (2) above he is to be classed with reference to the "commodity he produces".

6. Appendix B of the 'Tabulation Office Guide' gives the divisions and sub-divisions of Industries and Services. (Annexure II to the Indian Census Economic Classification Scheme, given in Part II-B of the Census Report, shows the divisions and sub-divisions of Industries and Services.) It will be noticed that there are ten divisions and each division is divided into sub-divisions and the sub-divisions are further divided into groups. The simple decimal method is adopted in giving a specific number to each group instead of giving a single lengthy series of numbers in a serial order. Thus, if you wish to refer to the 3rd group of the 1st sub-division of division 2, you will merely say 2.13. These are called the code numbers of the groups. Again 1.7 will mean that it is the code number of the 7th sub-division of division 1. Similarly, 3.84 will be the code number of the 4th group of the 8th sub-division of division 3.

7. As the sorting for livelihood classes is the first and the most important step in the tabulation work, you must fully acquaint yourself with the Appendix B in the Tabulation Office Guide. First of all, you should mark the eight livelihood classes in the margin of the Appendix B as follows:—

- (i) Divisions 1 to 4 fall under Livelihood Class V, namely, "Production other than cultivation."
- (ii) Division 5 falls under Livelihood Class VIII—Other services and miscellaneous sources.
- (iii) Division 6 falls under Livelihood Class VI—Commerce.
- (iv) The first 4 sub-divisions of division 7, namely, up to 7.4 fall under Livelihood Class VII—Transport.
- (v) The last 5 sub-divisions of division 7, namely, from 7.5 to 7.9 as well as divisions 8 and 9 fall under Livelihood Class VIII—Other services and miscellaneous sources.

8. Whenever there is any difficulty about deciding whether a particular occupation should be regarded as falling under one or the other of the 4 non-agricultural livelihood classes, immediately consult the marked Appendix B of the Tabulation Guide and remove your doubt before dealing the slip into a particular pigeon-hole.

9. In the following paragraphs, we will deal with some of the questions which were asked during the trial sorting.

10. Graziers appointed by breeders and keepers of cattle are required to be classed under V—Production, while a gardener is ordered to be classed under VIII—Other services and miscellaneous sources. What is the explanation? It is simple. Under the rule explained in paragraph 5 above, the grazier has to be classified according to the "commodity produced or service rendered by his employer" and, therefore, he is classed under "Production", because his employer falls under this head. In the case of the "gardener", he is a "domestic" servant and, therefore, under the exception mentioned in paragraph 5 (1) (c) above, he has to be classified under Class VIII.

11. How will you classify—(a) a weaver in a textile mill? (b) a waterman in the same mill? (c) a man described as "doing textile mill service"?

The answers will be as follows:—(a) "Production", because the man is himself engaged in production and the rule described in paragraph 5 (1) (a) applies. (b) The waterman will also be classed under "Production", because he is to be classified with reference to the commodity produced by his employer as explained in paragraph 5 (1) above. (c) Same as (b) above.

12. A man catches and sells fish. How do you classify him? Under Production or Commerce?

As he is an independent person, his classification will be based on the rule mentioned in paragraph 5 (2) above and he will be classified with reference to the commodity produced by him and, therefore, under "Production".

13. A person repairs gunny bags in a rice mill, how do you classify him? [The answer is on the same lines as that in 11 (a) above].

14. Why is construction of building not regarded as Production ?

Because no commodity is produced and, therefore, the entire division 5 of Appendix B at page 38 of the Tabulation Guide dealing with "construction and utilities" is taken under Livelihood Class VIII—Other services and miscellaneous sources.

15. Production of motion pictures is clearly an occupation which should fall under V.—Production. Why is it included under VIII.—Other services and miscellaneous sources ?

Because this occupation is held to be clearly a "Recreation Service".

16. An artist produces pictures, a sculptor produces statues, the authors produce books. Why are these apparently productive activities not classified under "Production" ?

Because "Arts, letters and journalism" are held to be useful services only for the people.

17. How will you classify—(a) A milkman who produces milk and sells it ? (b) A clerk or an employee appointed in a commercial, transport or productive concern ?

Answer.—(a) A milkman has an independent work and as the commodity produced by him is milk, he would be classed under "Production" (See 12 above).

(b) The clerk will be classed under "Commerce", "Transport" or "Production", because he is to be classified according to the services rendered or commodity produced by his employer as explained in paragraph 5 (1) above.

18. How will you classify—(a) A mason (Kadiya) ? (b) One who manufactures rubber balloons ? (c) A person who sells rubber balloons ?

Answer.—(a) A mason and bricklayer go under "Construction and utility" and have to be classified under VIII—Other services and miscellaneous sources. (b) Production of rubber products will go under V.—Production. (c) He will be classified under Commerce. "Commerce" includes every type of trade and it also includes a few more items as mentioned in Appendix B at pages 38-39 of the Tabulation Office Guide.

19. How will you classify a slip, in which the principal means of livelihood is described as— (a) "Tonga Hakalna" (Tonga driver), ? (b) "Motor Chalana" (Motor driver) ?

Answer.—(a) VII—Transport. In fact, it is transport by road and comes under division 7.1, unless the person is a private tonga driver in which case he will be classed as a domestic servant. (b) If the person has a private motor driver, he will have to be classified under VIII.—Other services and miscellaneous sources, as explained in paragraph 5 (1) (c) above. If the person is a driver in a transport service, he would be classified under VII—Transport.

20. Why construction and maintenance of road, bridges and other transport works is not included under the head "Transport" ?

Answer.—Transport really means the actual movement of freight, etc., whereas construction and maintenance of roads, bridges and other transport works are rightly classified under "Construction and utilities", because they relate to construction and maintenance of the means of communication and, therefore, persons engaged in such works are classified as those doing work of construction and utility. Therefore, while actual movement of freight, etc., comes under VII—Transport, persons engaged in construction and maintenance of the roads and bridges fall under VIII.—Other services and miscellaneous sources.

21. How will you classify a slip in which the Principal means of occupation is described as follows :—

"Works as carpenter and Sells furniture".

Answers.—As the commodity produced by the carpenter is furniture, he will be classified under "V—Production",. See 12 above. It may be noted that a carpenter, who does not prepare furniture, falls under division and sub-division 4.6, while a carpenter who manufactures furniture falls under division and sub-division 4.7.

22. How will you classify a slip, in which the principal means of livelihood is given as "pahalwani karna" (wrestling) ?

Answer.—The slip would fall under VIII—Other services and miscellaneous sources. The detailed classification would be 9.5—Recreation services.

23. How will you classify a slip if the occupation is described as dealer in "pan-bidi and cigarettes" and "keeper of hotel" ?

Answer.—This is actually an improperly written slip. There are two distinct means of livelihood of the person, namely, (a) dealer in pan-bidi and cigarettes, and (b) keeper of hotel. The Enumerator should have ascertained from this particular person the source, which gave him more income. If the man got more income from keeping a hotel, this fact should only have been written in answer to question 10 and his side-business of being a dealer in pan-bidi should have been noted in question 11. Such a slip should be given to the Supervisor, who would consult the Deputy Superintendent of Census Operations. If, after referring to the National Register of Citizens, it is found that the principal means of livelihood is in fact 'keeping a hotel', the slip should be classified under VIII—Other services and miscellaneous sources. On the other hand, if the principal income is derived from the 'Pan-bidi' and cigarettes shop, the slip would be classified under VI—Commerce.

24. How will you classify slips, in which the principal means of livelihood is described as "household work"?

Such a person is a domestic servant and would be classified under VIII—Other services and miscellaneous sources.

25. How will you classify a person in whose slip the following entry appears—"He is a cooly in the paper mill, which is under construction"?

As the cooly is obviously engaged in the construction of the building of the paper mill, which has not yet gone into production, he is obviously to be classed under "construction and utilities", *i.e.*, under VIII—Other services and miscellaneous sources.

26. How will you classify a railway cooly?

If the cooly is not employed in any actual construction work, then he would fall under division and sub-division 7-4, *i.e.*, under livelihood class VII—Transport. But if the cooly is employed in actual construction work, he would be classified under division 5 construction and utilities, *i.e.*, under livelihood class VIII—Other services and miscellaneous sources.

27. Why is natural gas classified under production and gas supply under construction and utility?

Gas supply is an obvious utility service for the people and is, therefore, grouped under construction and utilities and falls under livelihood class VIII—Other services and miscellaneous sources, whereas natural gas and oil wells, etc., fall under the category "mining and quarrying" and are, therefore, grouped under V—Production.

28. How will you classify a person, whose main source of income is from the rent of building?

He would fall under livelihood class VIII—Other services and miscellaneous sources. His classification will not be found in Appendix B of the Tabulation Office Guide, because it is a non-productive activity. In this connection, you should read the instructions contained in paragraph 4 of Sorter's Ticket 2 as well as paragraph 32 of the Tabulation Office Guide.

29. How will you classify—(a) a fitter or a moulder working in a cotton gin, (b) a person who takes his own bullock-cart on hire, and (c) a person who sends out his bullock-cart with his servant on hire?

Answer.—(a) The fitter as well as the moulder are engaged in actual production work and, therefore they would be classified under V—Production.

(b) and (c) Transport. (See rules given in paragraph 5 above.)

30. How will you classify—(a) a blacksmith, (b) a servant in a coal-mine, (c) a person who grinds flour in a hand-driven chakki (mill), (d) a servant in a bidi factory, (e) a tailor, (f) a photographer, (g) a railway key-man, (h) a proprietor of a bidi factory, (i) a servant in a tailor's shop, (j) a person who has a photography shop, (k) a person who owns a photographic studio, (l) a person who is a fitter in an electric power house and (m) a servant in a sugar factory?

Answer.—(a) A blacksmith is classified under processing and manufacture of metals and is, therefore, classified under V—Production.

(b) Coal-mining is a productive activity and the servant in the coal-mine would be classified under V—Production.

(c) A person engaged in flour grinding falls under division 2-11, as it is an occupation connected with the processing and manufacture of food-stuffs and, therefore, such a person would be classed under V—Production.

(d) and (h) The proprietor of the bidi factory, as well as a servant working there will both be classified under division 2·51 and would, therefore, be classed under V—Production. (The rules explained in paragraph 5 above should please be seen.)

(e) and (i) Tailors, dress-makers, etc., fall under division 2·71 (processing and manufacture of textiles) and, therefore, fall under V—Production. (In this connection, please read the rules in paragraph 5 above.)

(f), (j) and (k) Photographers would come under VIII—Other services and miscellaneous sources. The detailed classification would be 9·5.

(g) Railway key-man—All railway employees fall under division 7·4 and come under VII—Transport as explained above.

(l) The fitter in the electric power house comes under “construction and utilities” and will, therefore, fall under VIII—Other services and miscellaneous sources.

(m) A servant in a sugar factory will fall under V—Production. (The detailed classification will be 2·30. Please read the rule explained in paragraph 5 above.)

31. How will you classify a refugee who repairs sweaters and does other needle work ?

Answer.—Under V—Production. Classification will be 2·7.

32. How do you classify a private cycle repairer ?

Answer.—Under V—Production.

What is really meant by a private cycle repairing is that a particular individual himself works as a cycle repairer. He would naturally fall under classification 3·32 and will go under V—Production.

33. How will you classify a person who is described as owning a “Chai-pan shop” (Cafe) ?

This is a hotel and will be classified under 9·4 and will, therefore, fall under VIII—Other services and miscellaneous sources.

34. How will you classify—(a) a sweeper and a chowkidar in a cotton mill, and (b) a motor mechanic ?

Answer.—(a) According to the rule explained in paragraph 5, they will be classed under V—Production.

(b) Motor mechanics fall under classification 3·32 and will fall under V—Production.

35. How will you classify the following:—(a) A person is described as a servant in a shop where shoes are sold ? (b) A person is described as a servant in an Insurance Company ? (c) A man is described as a “Munim” in a Ginning Factory ? (d) A person described as telegraphman in a Railway Company ? (e) A person employed in the Oil Mill ?

Answer.—(a) A servant in a shoe shop is obviously engaged in commerce and will, therefore, be classed under VI—Commerce. (Please see rules explained under paragraph 5 above.)

(b) A servant of the Insurance Company will be classified under 6·7. Insurance is a commercial activity and will, therefore, fall under VI—Commerce.

(c) The case of a “Munim” or clerk or accountant in a ginning or other manufacturing concern will be covered by the rule about classifying of servants with reference to the commodity produced by their employers and, therefore, the “Munim” would be classified under V—Production. (Please see rule 5 above.)

(d) As the railway servant in this case is engaged in construction and maintenance of telegraph lines he will be classified under 5·3. (Please see the exception under classification 7·4.)

(e) A person employed in the Oil Mill will obviously fall under Production according to the rule explained in paragraph 5 above.

36. How will you classify the following slips ?—(a) A forest contractor ?

(b) A Government pensioner ?

(c) A servant in a hotel ?

Answer.—(a) A forest contractor buys and sells forest produce. His activities, therefore, are obviously of commercial nature and he falls under VI—Commerce.

(b) A Government pensioner would be classified under Livelihood Class VIII. This is a non-productive activity and will not be found in Appendix B as mentioned above. [Please see paragraph 27 (2) above.]

(c) A servant in a hotel will be classified under 9·4 and will fall under VIII—Other services and miscellaneous sources. (Please see rule explained in paragraph 5 above.)

37. How will you classify “Halwai’s shop” ?

Answer.—This is clearly a retail trade in sweetmeat and falls under classification 6·11. It will, therefore, be classified under VI—Commerce.

38. How will you classify the principal means of livelihood of a person if it is described as bringing wood from the forest ?

Answer.—The activity is classified as 0·42 and falls under V—Production.

39. How will you classify the following persons:—(a) A servant in a Kirana shop ?

(b) An oil hawker who sells oil from street to street ?

(c) Labourers working in a forest ?

(d) Motor conductor ?

(e) Grass-cutter ?

(f) Clerks, peons and other servants of the Forest Department ?

(g) Clerks, peons and accountants of general store or shop ?

Answer.—(a) A servant in a Kirana shop is obviously engaged in commercial activity and would be classified under VI—Commerce.

(b) The oil hawker will also be classified under VI—Commerce, because he sells oil to others.

(c) The labourers working in the Forest would fall under clause 0·4—Forestry and wood-cutting, and will, therefore, be classified under V—Production.

(d) The motor conductor would obviously fall under classification 7·1—Transport by road and would be classified under VII—Transport.

(e) If the grass-cutters are employed in a domestic garden, they would fall under the category of domestic servants and would be classified under 9·1 and would fall under VIII—Other services and miscellaneous sources. If the grass-cutters work in the fields they would belong to the agricultural classes and would not be covered by Appendix B. If the grass-cutters are employed in a Forest, they would be classified under 0·4 and would then fall under V—Production.

(f) The clerks, peons and other servants of the Forest Department are mainly engaged for conservation of forest and for works connected with forestry and, therefore, they would be classified under 0·4 and would fall under V—Production. (In this connection, please see classification 8·7 about employees of State Government where a distinct exception is made about the persons classifiable under any other division or subdivision.)

(g) Clerks and Accountants and other servants of store or shop are all engaged in commercial activities of their masters and, therefore, they would be classed under VI—Commerce. (Please see rules explained in paragraph 5 above.)

APPENDIX R.

Verification of the 1951 Census Count

In the light of the recommendations contained in the Review of the Population Census Methods of all countries published by the Secretariat of the United Nations and in view of the great importance attached to statistics in general and basic population data yielded by the Census in particular, the Government of India decided in the middle of April 1951 to make a definite ascertainment of the degree of error which might be present in the Census statistics for being used in the interpretation of the significance of the results of the Census enumeration. The State Government accepted the proposals and the enquiry started in June 1951 and was completed throughout Madhya Pradesh by the middle of August 1951.

2. **Scope of the Enquiry.**—The scope of the enquiry was limited to—

- (a) determining the percentage of error, if any, present in the Census Count, either in the form of under-enumeration or in the form of over-enumeration, and
- (b) to verify whether any occupied houses escaped enumeration.

3. **General description of arrangements made.**—The verification work was entrusted by the State Government to the Additional District Magistrates in charge of each Janapada Sabha area. These Additional District Magistrates, who were also the Chief Executive Officers of the Janapada Sabhas, were appointed Chief Verification Officers and were authorised to appoint the Revenue Officers under them to be the Verification Officers. The Verification Officers actually appointed by the Chief Verification Officers were the Tahsildars and Naib-Tahsildars who exercised magisterial powers also. The duty of the Verification Officer was to visit the selected village or ward personally and to complete the verification form after making personal enquiries in the selected houses and to return it to the Chief Verification Officer for being transmitted to the Deputy Superintendent of the particular Tabulation Office from which it was received.

4. **Instructions issued.**—The sample Census were undertaken throughout the State on the basis of the instructions contained in the Registrar General's letter No. 2-26-51-R. G., dated the 31st March 1951, reproduced in Annexure 1.

5. **Difficulties encountered and manner of carrying out the instructions.**—The original scheme contemplated that the National Registers of Citizens should be sent to the Verification Officers. As the National Registers were constantly required in the Tabulation Offices and as there was also risk of losing them in transit, etc., the verification form was suitably modified to contain all the details in respect of the selected households of the particular blocks. These details and the relevant entries were copied out in the Tabulation Offices from the original registers into the verification forms.

6. For purposes of verifying whether any occupied houses escaped verification, the verification form contained a large column in which the Verification Officer was required to give the house numbers and the names of the heads of the households of three occupied houses adjacent to each of the houses to be verified by him.

7. In carrying out the instructions in respect of the selection of households in the selected villages, a difficulty was experienced when the total number of households in the village was less than ten. According to the instructions, the total number of households in the selected block, which happened to be the village, was to be divided by ten, and the first sample household was to be the household arrived at by adding one to the remainder. As, however, the households were less than ten in some of the selected villages, these were completely left out in the Raipur Tabulation Office, while in the Nagpur Tabulation Office in such cases one of the households at random was taken for the enquiry. Unfortunately, the Deputy Superintendents did not make a reference in this connection and to this extent there was divergence in their complying with the instructions. The total number of households in the State is 4,886,049 while the number actually selected for the sample enquiry was 3,728 or one household in 1,310.

8. **Salient features.**—The salient features of the scheme, as it was actually executed in Madhya Pradesh, were as follows :—

- (a) The sample Census was undertaken early in June and was completed by the second week of August 1951, *i.e.*, within 5½ months of the date of the original Census, namely, the 1st of March 1951.
- (b) The blocks and households in every tract were selected on a random sample basis from the National Registers of Citizens in the Census Tabulation Offices.

- (c) The size of the sample actually verified was one in 1,310.
- (d) The actual work of verification was entrusted to Revenue Officers of the State Government including Tahsildars and Naib-Tahsildars, exercising magisterial powers.

9. **Results of the Sample Verification of the Census Count.**—The table at the end of the Appendix gives the result of the sample Census Count in the State as a whole.

The size of the sample of one in 1,310 was in respect of the households and is obviously fairly adequate. It will be seen from the table mentioned above that the 3,728 sample households selected in the Tabulation Offices on the random sample basis were all duly verified, and similarly, it will be noticed that none of the three houses adjoining the houses of the selected household was found to be missing. The total number of occupied houses in the State is 4,412,403 and during the sample enquiry 14,912 houses were verified or one out of every 300 houses. This sample was also thus adequate. In other words as far as the coverage of houses and households during the main Census is concerned, the sample verification enquiry based on adequate samples shows that this was very satisfactory.

10. The question with regard to the percentage error in the Census Count either in the form of under-enumeration or in the form of over-enumeration is also to be judged taking into consideration the number of people actually counted during the sample enquiry and the total population. In all, 17,131 persons were counted during the sample Census in the whole State out of the total population of 21,247,533, or one person out of 1,240 persons. The sample, therefore, with regard to this aspect of the enquiry was also adequate. We will now proceed to discuss the percentage error in the Census Count either in the form of under-enumeration or in the form of over-enumeration and for this purpose we will take up the discussion for each natural division one by one before considering the figures for the State as a whole.

11. **The North-West Madhya Pradesh Division.**—This division consists of the districts of Sagar, Jabalpur, Hoshangabad, Nimar, Mandla, Betul and Chhindwara, with an area of 37,645 sq. miles and having a population of 5,490,410. In this division, 4,444 persons were actually enumerated during the sample Census, that is, one out of 1,235 persons. Thirty-one cases of omission and 30 cases of fictitious entry were detected during the enquiry, giving a percentage of 0.7 both for omissions and for fictitious entries. The percentage omission for rural and urban areas is as follows :—

(1)	Persons	Males	Females
(1)	(2)	(3)	(4)
Rural	0.6	1.1	0.2
Urban	1.1	1.4	0.8
Total	0.7	1.1	0.3

Similar percentage for the fictitious entries is given below :—

(1)	Persons	Males	Females
(1)	(2)	(3)	(4)
Rural	0.7	0.7	0.7
Urban	0.6	..	1.2
Total	0.7	0.6	0.8

In the North-West Madhya Pradesh Division, errors on account of faulty enumeration of visitors or absentees were not detected during the sample enquiry. The sample enquiry, therefore, shows that the final Census figures in the Natural Division would be fairly accurate.

12. **The East Madhya Pradesh Division.**—This division consists of the districts of Raipur, Bilaspur, Durg, Bastar, Raigarh, Surguja, Chanda, Bhandara and Balaghat, and has an area of 68,550 sq. miles and a population of 10,199,360. The actual number of persons enumerated during the sample enquiry was 8,612 or one person out of 1,184. Two hundred and two cases of

omissions and five cases of fictitious entry were found. The percentage of error on account of the omissions in this division works out at 2·3, whereas the percentage for fictitious entry is only 0·06. The percentage figures in respect of the rural and urban areas are given below :—

							Percentage for omissions		
							Persons	Males	Females
(1)							(2)	(3)	(4)
Rural	..	..	..	..	..	..	2·2	3·4	0·9
Urban	..	..	..	..	..	..	6·0	8·7	3·1
Total	..	..	..	..	..	..	2·3	3·7	1·0

							Percentage for fictitious entries		
							Persons	Males	Females
(1)							(2)	(3)	(4)
Rural	..	..	..	..	..	..	0·06	0·05	0·07
Urban	..	..	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	0·06	0·05	0·07

In this division also no cases of omissions of visitors and absentees are reported during the enquiry. This Natural Division of Madhya Pradesh consists of some of the most backward areas and a careful examination of the districtwise figures given in the table at the end of the Appendix will show that the number of omissions in the backward tracts of the Chhattisgarh districts is comparatively larger than the number of omissions in the districts of the East Maratha Plain. In the East Madhya Pradesh Natural Division, therefore, the enquiry shows that there is a tendency towards under-enumeration to the extent of about 2·3 per cent.

13. South-West Madhya Pradesh Division.—This division consists of the districts of Wardha, Nagpur, Amravati, Akola, Buldana and Yeotmal, with an area of 24,077 sq. miles and a population of 5,557,763. Four thousand and seventy-five persons were actually enumerated during the sample enquiry in this division or one person out of 1,363 persons. Fifty-seven cases of omissions and 18 cases of fictitious entry were found. Eight errors tending to under-enumerate and three errors tending to over-enumerate in respect of the count of visitors were also detected. The percentages, therefore, work out as follows :—

Omissions	..	..	..	..	..	..	..	..	..	1·4
Fictitious entries	..	..	..	..	..	..	..	..	..	0·4
Errors in respect of visitors tending to under-enumeration							..	..	..	0·2
Errors in respect of visitors tending to over-enumeration							..	..	..	0·07

The percentages with respect to the rural and urban areas are given below :—

Percentage in respect of omissions.

							Persons	Males	Females
(1)							(2)	(3)	(4)
Rural	..	..	..	..	..	..	1·1	0·7	1·5
Urban	..	..	..	..	..	..	2·0	2·2	1·7
Total	..	..	..	..	..	..	1·4	1·2	1·6

Percentage in respect of fictitious entries.

(1)							Persons	Males	Females
							(2)	(3)	(4)
Rural	..	..	..	..	..	..	0.1	..	0.2
Urban	..	..	..	..	..	..	1.1	1.0	1.2
Total	..	..	..	..	..	..	0.4	0.3	0.5

Percentage in respect of errors tending to under-enumerate visitors.

(1)							Persons	Males	Females
							(2)	(3)	(4)
Rural	..	..	..	..	..	..	0.2	0.1	0.2
Urban	..	..	..	..	..	..	0.2	0.3	0.3
Total	..	..	..	..	..	..	0.2	0.2	0.2

Percentage in respect of errors tending to over-enumerate visitors.

(1)							Persons	Males	Females
							(2)	(3)	(4)
Rural	..	..	..	..	..	..	..	..	..
Urban	..	..	..	..	..	..	0.2	0.3	0.2
Total	..	..	..	..	..	..	0.07	0.1	0.05

The above analysis shows that in this division under-enumeration to the extent of about one per cent is indicated.

14. **Percentage of errors in Madhya Pradesh.**—The percentage error indicated by the sample enquiry in respect of omissions for the whole of Madhya Pradesh is given in the table below :—

(1)							Persons	Males	Females
							(2)	(3)	(4)
Rural	..	..	..	..	..	..	1.6	2.3	0.8
Urban	..	..	..	..	..	..	2.5	3.1	1.7
Total	..	..	..	..	..	..	1.7	2.4	1.0

The percentage figures in respect of fictitious entry are as follows :—

(1)							Persons	Males	Females
							(2)	(3)	(4)
Rural	..	..	..	..	..	..	0.2	0.2	0.3
Urban	..	..	..	..	..	..	0.8	0.6	1.0
Total	..	..	..	..	..	..	0.3	0.4	0.4

The percentage figures in respect of errors relating to visitors and absentees and tending to under-enumeration are as follows :—

(1)							Persons	Males	Females
							(2)	(3)	(4)
Rural	..	..	..	..	..	..	0.03	0.03	0.04
Urban	..	..	..	..	..	..	0.1	0.2	0.09
Total	..	..	..	..	..	..	0.05	0.05	0.05

The percentage figures in respect of errors relating to visitors and absentees and tending to over-enumeration are as follows :—

(1)	Persons	Males	Females
(2)	(3)	(4)	
Rural	0.02	0.03	0.01
Urban	0.1	0.2	0.09
Total	0.04	0.05	0.02

The figures given above show that the tendency is towards under-enumeration to the extent of about 1.4 per cent in the State as a whole.

15. **Omissions and fictitious entries by age groups.**—On the basis of the enquiry, two tables were prepared showing by age groups :—

(i) Number of cases of clear omissions, and (ii) number of cases of fictitious entry.

They are given at the end of the Appendix. The tables indicate that the omissions are highest in the case of young children—particularly infants and that fictitious entries have been made mostly in respect of those who are above 15 years of age.

16. In considering the percentage error arrived at by the sample Census enquiry, an important fact has to be borne in mind. The sample Census was based on the data furnished in the National Registers of Citizens which were first written on the normal residence basis and during the verification stage account was to be taken of the visitors and absentees. The enumeration procedure adopted at the 1951 census and the method followed in writing the National Registers of Citizens are given in Appendix S and T respectively. With a view to ascertaining the difference between the population figures as ascertained from the National Register and from the Census slips a sample verification of the National Registers of Citizens with the Primary Census Abstracts prepared from the Census enumeration slip was undertaken as explained in Appendix T and it was found that for the State as a whole the figures in the National Registers were about 0.16 per cent less than in the Primary Census Abstracts probably due to the failure in applying the absentee rule properly during the verification stage. The fact to be taken note of is, therefore, that the figure of 1.4 per cent under enumeration for the State as a whole detected in the Sample Census Enquiry includes the inherent under-enumeration on account of adopting the National Register figures during the sample Census and not the figures arrived at from the Census enumeration slips. In other words, the under-enumeration detected in the sample Census would be actually less because the final Census figures are based on the figures of the enumeration slips.

17. Another point to be borne in mind is that the sample Census was taken some five months after the main Census and this perhaps accounts for the low percentage of error detected in the count of absentees and visitors and correspondingly higher figure for under-enumeration.

18. It is suggested that in future the sample Census might be taken immediately after the main Census and the data for the sample Census should be furnished from the actual enumeration slips before the pads are broken-up for tabulation purposes in the Tabulation Offices. The organisation for the sample Census should be kept ready so that time might not be wasted in settling the preliminaries about the selection of the staff, etc., to undertake the important work.

19. In coming to a conclusion with regard to the accuracy of the main Census figures, we have to take into consideration the following facts :—

- (a) The salient points and drawbacks of the Sample Census Enquiry undertaken to verify the figures collected at the Census and the results obtained.
- (b) The fact that the enumeration organisation largely rested on the Land Records Staff and other paid public servants who were trustworthy and mostly capable persons who had an intimate knowledge of the people within their sphere of work.
- (c) Plenty of time was given for the various steps in the organisation of the Census.
- (d) Training of the Census staff was of a real high standard in vast majority of cases.
- (e) Co-operation of the people was of an unprecedented type and they helped in every way to make the Census a success. The leaders of all parties and the press came forward magnificently to educate the people in giving correct replies to the Census questions and to get themselves enumerated considering it to be their national duty to do so, because as they rightly pointed out the future of the country depended upon the administrative and economic policies the success of which rested to no small degree on the accuracy of the data furnished at the Census.
- (f) Actual verification done at spot by the numerous officers during their intensive tours while the main Census was being taken, including that made by the Deputy Superintendents of Census Operations and myself showed that the standard of accuracy was very satisfactory.

20. Taking all the above points into consideration, I am of the opinion that the Census figures give a good picture of the population of Madhya Pradesh.

**TABLE SHOWING RESULTS OF THE SAMPLE VERIFICATION
CENSUS IN MADHYA PRADESH**

Table showing Results of the Sample Veri

Serial No.	State, Natural Divisions, Sub-Divisions and Districts	Number of sample households		Number of persons actually enumerated in verified sample households			Number of cases of clear omission		
		Selected	Verified	Persons	Males	Females	Persons	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	MADHYA PRADESH								
	Rural	3,228	3,228	14,857	7,439	7,418	234	171	63
	Urban	500	500	2,274	1,175	1,099	56	37	19
	Total ..	3,728	3,728	17,131	8,614	8,517	290	208	82
	3-2 NORTH CENTRAL HILLS AND PLATEAU SUB-REGION								
	3-24 North-West Madhya Pradesh Division								
	Rural	891	891	3,901	1,987	1,914	25	21	4
	Urban	124	124	543	285	258	6	4	2
	Total ..	1,015	1,015	4,444	2,272	2,172	31	25	6
	3-241 Nerbudda Valley.								
	Rural	477	477	2,011	1,026	985	14	12	2
	Urban	113	113	490	256	234	6	4	2
	Total ..	590	590	2,501	1,282	1,219	20	16	4
1	Sagar District—								
	Rural	132	132	571	292	279	6	4	2
	Urban	22	22	67	34	33	1	1	..
	Total ..	154	154	638	326	312	7	5	2
2	Jabalpur District—								
	Rural	124	124	533	264	269	1	1	..
	Urban	40	40	161	81	80	1	1	..
	Total ..	164	164	694	345	349	2	2	..
3	Hoshangabad District—								
	Rural	160	160	688	357	331	4	4	..
	Urban	29	29	141	79	62	1	..	1
	Total ..	189	189	829	436	393	5	4	1
4	Nimar District—								
	Rural	61	61	219	113	106	3	3	..
	Urban	22	22	121	62	59	3	2	1
	Total ..	83	83	340	175	165	6	5	1
	3-242 Plateau.								
	Rural	414	414	1,890	961	929	11	9	2
	Urban	11	11	53	29	24	..	..	..
	Total ..	425	425	1,943	990	953	11	9	2
5	Mandla District—								
	Rural	96	96	430	218	212	7	7	..
	Urban .. ..	..	..	..	..	..	..	..	..
	Total ..	96	96	430	218	212	7	7	..
6	Betul District—								
	Rural	37	37	173	91	82	..	..	..
	Urban	3	3	11	8	3	..	..	..
	Total ..	40	40	184	99	85	..	..	..
7	Chhindwara District—								
	Rural	281	281	1,287	652	635	4	2	2
	Urban	8	8	42	21	21	..	..	..
	Total ..	289	289	1,329	673	656	4	2	2

Table showing Results of the Sample Veri

Serial No.	State Natural Divisions, Sub-divisions and Districts	Number of sample households		Number of persons actually enumerated in verified sample households			Number of cases of clear omission		
		Selected	Verified	Persons	Males	Females	Persons	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
3-3 NORTH-EAST PLATEAU SUB-REGION									
3-32 East Madhya Pradesh Division									
	Rural	1,731	1,731	8,209	4,077	4,132	178	140	38
	Urban	86	86	403	208	195	24	18	6
	Total	1,817	1,817	8,612	4,285	4,327	202	158	44
3-321 Chhattisgarh Plain.									
	Rural	1,225	1,225	5,794	2,871	2,923	158	127	31
	Urban	62	62	277	141	136	20	16	4
	Total	1,287	1,287	6,071	3,012	3,059	178	143	35
8	Raipur District—								
	Rural	302	302	1,264	617	647	22	13	9
	Urban	19	19	72	38	34	13	13	..
	Total	321	321	1,336	655	681	35	26	9
9	Bilaspur District—								
	Rural	308	308	1,423	701	722	33	24	9
	Urban	18	18	80	41	39	..	..	..
	Total	326	326	1,503	742	761	33	24	9
10	Durg District—								
	Rural	259	259	1,221	600	621	32	25	7
	Urban	8	8	50	24	26	3	1	2
	Total	267	267	1,271	624	647	35	26	9
11	Bastar District—								
	Rural	103	103	581	291	290	16	16	..
	Urban	..	..	..	..	..	..	..	..
	Total	103	103	581	291	290	16	16	..
12	Raigarh District—								
	Rural	149	149	760	384	376	23	19	4
	Urban	16	16	72	37	35	4	2	2
	Total	165	165	832	421	411	27	21	6
13	Surguja District—								
	Rural	104	104	545	278	267	32	30	2
	Urban	1	1	3	1	2	..	..	..
	Total	105	105	548	279	269	32	30	2
3-322 East Maratha Plain									
	Rural	506	506	2,415	1,206	1,209	20	13	7
	Urban	24	24	126	67	59	4	2	2
	Total	530	530	2,541	1,273	1,268	24	15	9
14	Chanda District—								
	Rural	138	138	709	356	353	14	7	7
	Urban	12	12	74	41	33	3	1	2
	Total	150	150	783	397	386	17	8	9

fication Census in Madhya Pradesh

Number of cases of fictitious entry			Erroneous count of visitors and absentees						Number of cases of omission of occupied houses
Persons	Males	Females	Number of errors tending to under-enumeration			Number of errors tending to over-enumeration			
			Persons	Males	Females	Persons	Males	Females	
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
5	2	3	..	..	..	3	2	1	..
..
<u>5</u>	<u>2</u>	<u>3</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>..</u>
3	2	1	..	..	..	..	..	..	..
..
<u>3</u>	<u>2</u>	<u>1</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>
..
<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>
..
<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>
..
<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>
..
<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>
..
<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>
1	1	..	..	..	..	..	..	..	..
..
<u>1</u>	<u>1</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>
2	1	1	..	..	..	..	..	..	..
..
<u>2</u>	<u>1</u>	<u>1</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>..</u>
2	..	2	..	..	..	3	2	1	..
..
<u>2</u>	<u>..</u>	<u>2</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>..</u>
1	..	1	..	..	..	3	2	1	..
..
<u>1</u>	<u>..</u>	<u>1</u>	<u>..</u>	<u>..</u>	<u>..</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>..</u>

Table showing Results of the Sample Veri

Serial No.	State, Natural Divisions, Sub-divisions and Districts	Number of sample households		Number of persons actually enumerated in verified sample households			Number of cases of clear omission		
		Selected	Verified	Persons	Males	Females	Persons	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
3-322 East Maratha Plain—concl'd.									
15	Bhandara District—								
	Rural	239	239	1,095	549	546	..	..	..
	Urban	8	8	40	20	20	1	1	..
	Total ..	247	247	1,135	569	566	1	1	..
16	Balaghat District—								
	Rural	129	129	611	301	310	6	6	..
	Urban	4	4	12	6	6	..	..	..
	Total ..	133	133	623	307	316	6	6	..
3-4 NORTH DECCAN SUB-REGION									
3-41 South-West Madhya Pradesh Division									
	Rural	606	606	2,747	1,375	1,372	31	10	21
	Urban	290	290	1,328	682	646	26	15	11
	Total ..	896	896	4,075	2,057	2,018	57	25	32
3-411 West Maratha Plain									
	Rural	606	606	2,747	1,375	1,372	31	10	21
	Urban	290	290	1,328	682	646	26	15	11
	Total ..	896	896	4,075	2,057	2,018	57	25	32
17	Wardha District—								
	Rural	64	64	251	128	123	..	..	..
	Urban	17	17	73	39	34	..	..	..
	Total ..	81	81	324	167	157	..	..	..
18	Nagpur District—								
	Rural	134	134	609	321	288	9	4	5
	Urban	21	21	90	48	42	1	..	1
	Nagpur City	86	86	439	212	227	..	..	..
	Total ..	241	241	1,138	581	557	10	4	6
19	Amravati District—								
	Rural	65	65	277	136	141	1	..	1
	Urban	65	65	294	157	137	11	7	4
	Total ..	130	130	571	293	278	12	7	5
20	Akola District—								
	Rural	88	88	404	211	193	7	2	5
	Urban	53	53	236	120	116	13	8	5
	Total ..	141	141	640	331	309	20	10	10
21	Buldana District—								
	Rural	93	93	455	217	238	..	..	..
	Urban	23	23	102	56	46	..	..	..
	Total ..	116	116	557	273	284	..	..	..
22	Yeotmal District—								
	Rural	162	162	751	362	389	14	4	10
	Urban	25	25	94	50	44	1	..	1
	Total ..	187	187	845	412	433	15	4	11

fiction Census in Madhya Pradesh

Number of cases of fictitious entry			Erroneous count of visitors and absentees						Number of cases of omission of occupied houses
Persons	Males	Females	Number of errors tending to under-enumeration			Number of errors tending to over-enumeration			
			Persons	Males	Females	Persons	Males	Females	
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)		(20)
..
..
1	..	1	..	..	..	..	..	..	..
1	..	1	..	..	..	..	..	..	..
3	..	3	5	2	3	..	..	..	..
15	7	8	3	2	1	3	2	1	..
18	7	11	8	4	4	3	2	1	..
3	..	3	5	2	3	..	..	..	..
15	7	8	3	2	1	3	2	1	..
18	7	11	8	4	4	3	2	1	..
..	..	..	2	1	1	..	..	..	..
..	..	..	2	1	1	..	..	..	..
..
..
..
3	..	3	1	1	..	..	..	..	..
3	2	1	2	1	1	3	2	1	..
6	2	4	3	2	1	3	2	1	..
12	..	..	2	..	2	..	..	..	..
12	5	7	1	1	..	..	..	..	..
12	5	7	3	1	2	..	..	..	..
..
..
..
..

Number Of Cases Of Clear Omissions By Age-Groups

State, Natural Divisions, Sub-divisions and District	Age-Groups																			
	Total of all ages		"0"		"1"		"2"		"3"		"4"		"5-14"		"15 and over"		Age not stated			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(19)	
MADHYA PRADESH	208	82	58	12	30	7	15	4	12	6	6	5	46	23	30	22	11	3
3-2 North Central Hills and Plateau Sub-Region.																				
3-24 North-West Division.	Madhya	Pradesh	25	6	7	3	2	..	..	..	1	..	..	1	9	1	5	1	1	..
<i>3-241 Nerbudda Valley</i>	16	4	4	3	..	..	..	1	..	..	1	5	..	5	..	1	..	..
Sagar	5	2	..	2	..	..	..	1	..	..	..	1	..	3	..	..	..	..
Jabalpur	2	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..
Hoshangabad	4	1	1	1	..	..	..	..	..	..	..	2	..	..	..	1	..	..
Nimar	5	1	3	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..
<i>3-242 Plateau</i>	9	2	3	..	2	..	..	..	..	..	..	4	1	..	1	..	..	..
Mandla	7	..	3	..	..	..	..	..	..	..	..	4	..	..	..	..	..	..
Betul
Chhindwara	2	2	..	..	2	..	..	..	..	..	..	..	1	..	1	..	..	..
3-3 North-East Plateau Sub-Region																				
3-32 East Madhya Pradesh Division	158	44	41	5	25	3	15	4	10	2	6	3	32	15	20	9	9	3
<i>3-321 Chhattisgarh Plain</i>	143	35	37	5	23	3	14	2	10	2	5	3	27	12	18	5	9	3
Raipur	26	9	6	1	4	1	3	..	2	1	1	1	2	2	2	3	6	..
Bilaspur	24	9	4	..	2	1	3	2	2	1	2	2	7	3	4	..	..	..
Durg	26	9	8	2	5	..	3	..	2	..	1	..	3	2	1	2	3	3
Bastar	16	..	..	..	2	..	..	..	2	..	..	..	7	..	5	..	..	..
Raigarh	21	6	4	2	2	1	1	..	1	..	1	..	8	3	4	..	..	..
Surguja	30	2	15	..	8	..	4	..	1	..	..	..	2	2	..	..	..	..
<i>3-322 East Maratha Plain</i>	15	9	4	..	2	..	1	2	..	..	1	..	5	3	2	4	..	..
Chanda	8	9	2	..	1	..	1	2	..	..	1	..	2	3	1	4	..	..
Bhandara	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Balaghat	6	..	1	..	1	..	..	..	..	..	..	3	..	1	..	..	..	..
3-4 North Deccan Sub-Region																				
3-41 South-West Division.	Madhya	Pradesh	25	32	10	4	3	4	..	..	1	4	..	1	5	7	5	12	1	..
<i>3-411 West Maratha Plain</i>	25	32	10	4	3	4	..	..	1	4	..	1	5	7	5	12	1	..
Wardha
Nagpur	4	6	2	1	..	1	..	..	1	1	..	1	..	1	1	1	..	..
Amravati	7	5	3	..	1	1	..	..	..	..	..	1	1	2	3	..	..	..
Akola	10	10	4	1	1	..	..	..	2	..	..	2	3	2	4	1	..	..
Buldana
Yeotmal	4	11	1	2	1	2	..	..	1	..	..	2	2	..	4	..	..	..

ANNEXURE TO APPENDIX R

No. 2-26-51-RG

GOVERNMENT OF INDIA
 MINISTRY OF HOME AFFAIRS
 Office of the Registrar General, India

NEW DELHI-2,
 The 31st March 1951.

MEMORANDUM

1951 CENSUS COUNT—SAMPLE VERIFICATION

1. **General.**—The 1951 Census Count will be verified throughout India by an enquiry conducted on a random sample basis in the manner explained in this memorandum. The scope of this enquiry will be strictly limited to determining the percentage of error, if any, which is present in the Census Count, either in the form of under-enumeration or in the form of over-enumeration. This enquiry will be limited to the ascertainment of the identity of persons, and will not be concerned with the accuracy or otherwise of answers to any of the Census questions.

2. **Selection of Sample Households.**—(i) In rural tracts, one *village Census block* will be chosen out of every 100 blocks ; and in each of the selected Census blocks, every tenth household will be chosen. In urban tracts, one *town Census block* will be chosen out of every twenty blocks ; and in each of the selected blocks, every fiftieth household will be chosen. Thus, in every tract (whether rural or urban) the sample chosen for verification will represent approximately one in one thousand of the total.

(ii) Selection of blocks on the foregoing basis will be made from lists of Census blocks ; and selection of households from each Census block will be made from that section of the National Register of Citizens which relates to the Census block.

(iii) The Officer-in-Charge of each Census Tabulation Office will be responsible for selecting the sample households for every tract in his region. Detailed instructions for ensuring the random character of the selection are appended (Enclosure I).

3. **Sample Verification Forms.**—The Officers-in-Charge of the Tabulation Office should mark (with his initials) the selected households, as entered in the section of the National Register of Citizens which relates to the Census block. He should prepare a Sample Verification Form (Enclosure II) for each Census block, in accordance with instructions given at the back of the form. As soon as all the forms relating to a Verification Area are completed, he should attach each form to the related section of the National Register, and despatch all the forms and sections to the Chief Verification Officer concerned (*vide* next paragraph).

4. **Verification Area, Chief Verification Officers and Verification Officers.**—Where a district is divided into a number of sub-districts, each constituting the territorial jurisdiction of a Sub-Divisional Magistrate, each sub-district will constitute a Verification Area ; and the Sub-Divisional Magistrate concerned will be the Chief Verification Officer for such area. In other cases, the entire district (or such part thereof, as may be specified by the Head of the District) will constitute the Verification Area and an officer specified by the Head of the District (who should be either a Sub-Divisional Magistrate or a Magistrate of the First Class) will be the Chief Verification Officer of the Area.

The Chief Verification Officer may appoint any officer as the Verification Officer in respect of any part of his Verification Area. Such officer should ordinarily be a Magistrate of the First Class, and may (where this is unavoidably necessary) be a Magistrate of the Second Class.

5. **Duties of Chief Verification Officers and Verification Officers.**—(i) It will be the duty of the Chief Verification Officer to distribute the work among Verification Officers, to instruct them and satisfy himself that the instructions have been correctly carried out and to return the verification forms together with the related sections of the National Register to the Tabulation Office, duly filled up ; and also to submit a brief report on the manner in which the verification was carried out and the significance of the results.

(ii) It will be the duty of each Verification Officer to visit every household as specified in the Sample Verification Form personally, make all enquiries necessary for the purpose of ascertaining whether there are any cases of "clear omissions", "fictitious entry" or "erroneous count of visitors and absentees" in each household, fill up the verification form in accordance with instructions at the back of the form, and return the papers to the Chief Verification Officer together with a brief report. If, on visiting a Sample Household, it is ascertained that the householder has left the house permanently, that fact should be noted against the household in the sample Verification Form. The household in question will be excluded from the Scope of Verification.

(iii) The foregoing will complete the verification of enumeration of individuals in households. It is necessary also to verify whether any occupied houses in the blocks escaped enumeration. For this purpose, the Verification Officer should (as soon as he has completed the verification of a sample household) ascertain the house numbers of three occupied houses which are nearest to the sample house, and make sure that they find a place in the relevant section of the National Register. If he finds any occupied house to be omitted, the fact should be noted in column 18. If all the three houses find a place in the National Register he should note "Nil" in column 18. *The Verification Officer should not concern himself with any house other than the three nearest occupied houses and should not ascertain the number of persons in such houses.*

6. **Tabulation of Results.**—After the figures in the forms have been filled up they should be compiled and tabulated districtwise for each Tabulation Region in the form shown in Enclosure III. Copies of these tables should be submitted to the Superintendent of Census Operations concerned as well as the Registrar General, India, for consolidation for the State and All-India.

R. A. GOPALASWAMI,
Registrar General, India.

ENCLOSURE I

Selection of Sample Households.

Rural Tracts.—One village Census block should be chosen out of every hundred blocks in each rural tract and in each selected block every tenth household should be marked. Take the number of Census blocks in the tract and divide it by hundred. Add one to the remainder after division and this will give the first sample block. The section of the National Register which relates to that block should be taken for marking sample households. Every hundredth block from the first sample block should then be selected for the sample and the relevant sections of the National Register should be taken out for marking sample households.

Every tenth household should be marked for sample in each of the National Registers taken out. Take the number of households in each Register and divide that number by ten and add one to the remainder. The number thus arrived at is the first sample household in each Register. Mark that household for the sample and mark also every tenth household after the first sample household.

Urban Tracts.—One town Census block should be chosen out of every twenty blocks in each urban tract; and in each of the selected blocks every fiftieth household should be chosen. Divide the number of Census blocks in an urban tract by twenty and add one to the remainder. The number thus got will be the first sample block. The section of the National Register which relates to that block should be taken out for marking sample households. Every twentieth block from the first sample block should then be selected for the sample and the relevant sections of the National Register should be taken for marking sample households.

Every fiftieth household should be marked for sample in each section of the Register taken out. Divide the number of households in each section by fifty and add one to the remainder. The number thus got will give the number of the first sample household in the Register. Mark that household for the Sample and mark also every fiftieth household after the first Sample.

ENCLOSURE II

1951 Census Count—Sample Verification Form.

No. of Census Tract No. and name of district

Description of Tract No. and name of tahsil

No. of Census Block No. and name of village/town/ward

Serial No.	House and Household No.	Number of persons actually enumerated in Sample Households			Number of cases of Clear Omission			Number of cases of Fictitious Entry			Erroneous Count of Visitors and Absentees						Omission of Occupied Houses
											Number of Errors tending to Under-enumeration			Number of Errors tending to Over-enumeration			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
		P. M. F.			P. M. F.			P. M. F.			P. M. F.			P. M. F.			

Instructions for filling the Sample Verification Form

The headings of the form and columns (1)—(5) of the form should be filled in by the Officer-in-Charge of the Tabulation Office. The headings should be filled with reference to the details in the National Register of Citizens, delimitation of tract for tabulation purposes and details of the Census block. The serial number of the household should be written in column (1) and the house and household number in column (2); the household numbers being written in order of their appearance in the National Register of Citizens. Columns (3)—(5) should be filled from the details for the household in the National Register of Citizens.

When these columns are filled, the Officer-in-Charge of the Tabulation Office should attest the form.

Columns (6) to (17) of the form should be filled by the Verification Officer.

2. **Columns (6)—(8) (Clear Omissions).**—These columns relate to non-enumeration of persons who are members of the household in question and who were actually present in that household during the enumeration period. [The name (including father's name, sex and age of such persons should be noted in the relevant section of the National Register against the marked household in question), and the new entries attested by the Verification Officer.] The number of such persons (if any) as ascertained by the Verification Officer should be noted in columns (6) to (8) of the Sample Verification Form. If there are no such persons "Nil" should be entered in these columns.

3. **Columns (9)—(11) (Fictitious Entry).**—These columns relate to purported enumeration in the household in question of persons who never existed; or the purported enumeration of real persons who did not normally reside in or visit the household during the enumeration period. [Such names, together with entries relating to them, should be crossed out from the relevant section of the National Register and attested by the Verification Officer.] The number of such persons, if any, as ascertained by the Verification Officer, should be given in columns (9) to (11) of the Sample Verification Form. If there are no such persons "Nil" should be entered in these columns.

4. **Columns (12)—(17) (Erroneous Count of Visitors and Absentees)**—(i) **Correct Count.**—Census Instructions regarding the correct method of enumerating absentees and visitors are extracted below:—

"(ii) . . . enquire whether there is any person who is normally resident in the house but is absent at the time you visit the house. All such persons should be enumerated, unless they left the house before the 9th February 1951 and are not expected to come back to the house until after 1st March 1951."

"(iii) Occasionally, you may find a visitor in a house who does not normally reside there. You should enquire from him when he left his house and when he expects to be back there. Do not enumerate him if he left his house on or after the 9th February or expects to go back there before sunrise on the 1st March. If, however, he is away from his house throughout the enumeration period and has not been enumerated anywhere else, you should enumerate him at the house where you find him."

* * * * *

"Final Check.—You should revisit every house in your block and carry out a final check during the first three days of March. The object of this second visit is to bring your enumeration up to the reference date.

* * * * *

"(iii) If you happen to find any visitor who has not been enumerated anywhere also during the period of enumeration, you should enumerate him also."

(ii) **Erroneous Count tending to Under-enumeration.**—Non-enumeration of persons who were moving about during the period of enumeration and who should have been enumerated in the household in question according to the instructions is, *prima facie an erroneous count tending to under-enumeration*. If the Verification Officer finds such a case, it should be noted as an erroneous count in columns (12) to (14), unless he is satisfied that the person in question was actually enumerated elsewhere. In the absence of an erroneous count, "Nil" should be written against columns (12) to (14).

(iii) **Erroneous Count tending to Over-enumeration.**—Enumeration in the household in question of persons who were moving about during the period of enumeration and who should not have been enumerated in that household according to the instructions is, *prima facie an erroneous count tending to over-enumeration*. If the Verification Officer finds such a case, it should be noted as an erroneous count in columns (15) to (17), unless he is satisfied that the person in question was not enumerated anywhere else. In the absence of an erroneous count, "Nil" should be written against columns (15) to (17).

5. **Column (18) (Omission of Occupied Houses).**—The Verification Officer should (as soon as he has completed the verification of a Sample Household) ascertain in respect of three occupied houses which are nearest to the sample house, whether they were numbered for Census enumeration and find a place in the relevant section of the National Register. If he finds any such occupied house to have been omitted, the fact should be noted in column (18). If all the three houses find a place in the National Register, he should note "Nil" in column (18). *The Verification Officer should not concern himself with any house other than the three nearest occupied houses and should not ascertain the number of persons in such houses.*

ENCLOSURE III

1951 Census Count—Sample Verification—District Returns.

Tabulation Region —————

Serial No.	District	Number of Sample Households		Number of persons actually enumerated in verified Sample Households	Number of cases of Clear Omission	Number of cases of Fictitious Entry	Erroneous Count of Visitors and Absentees						Number of cases of Omission of Occupied Houses						
		Sel-ected	Veri-fied				Number of Errors tending to under-enumeration			Number of Errors tending to over-enumeration									
(1)	(2)	(3)	(4)	P. (5)	M. (6)	F. (7)	P. (8)	M. (9)	F. (10)	P. (11)	M. (12)	F. (13)	P. (14)	M. (15)	F. (16)	P. (17)	M. (18)	F. (19)	(20)
1	District A—																		
	General	..																	
	Rural	..																	
	Urban	..																	
2	District B—																		
	General	..																	
	Rural	..																	
	Urban	..																	

APPENDIX S

THE ENUMERATION PROCEDURE

The object of all Census enumeration is the determination of the total population in a country and its geographical distribution. There are two ways of referring to the population of an area—one depending upon the actual location of the persons and the other upon their habitual residence. The former is known as the *de facto* population, according to which people are counted at the place at which they are found on the date of the Census, regardless of their usual residence. The latter is called the *de jure* population in which people are counted at their usual residence on the date of the Census.

2. Up to the year 1931, the population in Madhya Pradesh was taken on a purely *de facto* basis, which aimed at obtaining a photographic impression of the population as it stood distributed all over the State on the Census night. Although, for purposes of international comparability, the *de facto* system of enumeration is recommended, it had to be modified to a certain extent on account of practical difficulties since 1941. The simultaneous count of about twenty million people within a few hours on the Census night was an almost impossible task and actually during the Censuses prior to 1941 the schedules were prepared by the Patwaris and other Enumerators long before the date of Census, and an attempt was made to simultaneously correct them on the Census night. The difficulties of finding the large number of suitable Enumerators required was always felt, and the problem of covering all the distant villages and habitations in the interior in one night was even more difficult with poor means of communications and dearth of literate persons in the interior. In fact even in those days of *de facto* Census, there used to be certain officially recognised areas described as “non-synchronous tracts”. In actual practice, many more places had to be under this category for the simple reason that simultaneous enumeration was impracticable. In his Administration Report for the 1941 Census, the Superintendent has remarked :

“I have found in fact that in 1931 and almost certainly at previous Censuses enumeration was simultaneous at many places only in name, and the Census was really a count performed over a period of several weeks, starting nearly two months before the Census.”

3. The 1941 Administration Report further shows that in that year an attempt was made “to make the enumeration present a more ‘normal’ picture of the population, *i.e.*, show it according to place of usual residence and to eliminate the unwieldy organisation required to take a simultaneous Census and thereby (1) reduce the difficulties of getting and training Enumerators, (2) increase the efficiency of the Enumerators, and the scope of the Census questionnaire”. The 1941 procedure contemplated that every person was to be enumerated at his usual residence subject to a criterion for the enumeration of casual visitors and absentees. The criterion adopted for the enumeration of a person at a place other than his usual residence was the period of absence exceeding one month on the 1st of March from that residence. The simultaneous counting was confined to only the floating population consisting of beggars, wanderers, foreign tourists, etc. The actual count in 1941 commenced from the 1st of March and was carried out for different number of days at different places according to the volume of work with the Enumerators.

Enclosure II

4. **The extended de facto System of Enumeration.**—In 1951, the question of the method of determination of the total population was very intensively examined at the Census Conference held by the Registrar-General and Census Commissioner of India in February 1950, and the theory underlying the different methods of enumeration as well as the practical difficulties were freely and frankly discussed, and it was decided to adopt the “extended *de facto*” system based on a prescribed enumeration period of twenty days before the reference point of time, namely, the sunrise of the 1st March 1951, followed by three days of final check-up of births and deaths and visitors who might not have been enumerated at their normal places of residence if they stayed there at any time during the enumeration period. They were to be enumerated elsewhere only if they were away from their normal places of residence throughout the period and also if they were houseless persons.

5. **The rule about the absentees and visitors.**—The rule was fairly well understood in most of the urban areas, but in other places and particularly in the interior, where people has no idea of dates, it proved to be a really tough task for the Enumerators to ascertain the dates with reference to Bazar days or Festivals, etc. Many of these Enumerators sometimes made confusion in putting questions to the visitors or about people who were away from their houses. Some of them would come to hurried conclusion after asking the visitors questions such as, “When did you come here ?”. Some others would again ask, “When did you come and when will you leave this place ?”. It was a problem to fix it into their minds that the relevant points were only about the date of leaving one’s own house and the date of his returning there and that the dates of visiting different places were irrelevant.

6. The final instructions issued about the rule for absentees were as follows :—

“The cardinal principle of the Census is that every person must be enumerated and enumerated only once.—Therefore, the rule about absentees must be carefully understood and remembered while filling the enumeration slips between the 9th of February 1951 and the 1st of March 1951 :—

- (i) If a person is to be away from his house from the 9th February 1951 to the 1st March 1951, he must not be enumerated on the slip at his house.
- (ii) If a person remains in his house or is likely to remain in his house even for a day or few hours between the 9th of February 1951 and the 1st March 1951, he must be enumerated on the slip at his house and at no other place in India. If he is absent from his house when the Enumerator goes there, his slip should be filled in after due enquiry is made from other members of the household or from the neighbours. The National Register, which is already written, should be used while writing the slip.
- (iii) The above rule must be known to each Enumerator, and he must intelligently ask questions to the members of a household before deciding whether he would or would not fill in the slip of a member who is absent. If a GUEST is found in a house, he **SHOULD BE FIRST ASKED IF HE HAS BEEN DULY ENUMERATED ELSEWHERE**. If he is not enumerated elsewhere, then he should be asked about the date of his leaving his house and the date of his going back to his house, and if it is found that he was or would be in his house at any time between the 9th February and the 1st March, then you would leave him even if he says that he was not enumerated before he left his house because he would be enumerated at his house in his absence according to the rule.
- (iv) Remember that in the rule about absentees the important points are only two—
 - (a) date of leaving his own house, and
 - (b) date of reaching his own house
 and ask question for finding out these dates and your work will be easy.”

7. During the numerous enumeration training classes and conferences attended by me at different places, I found that the local officers had to spend considerable time in training the Enumerators to enable them to remember the rule and although to the credit of all concerned, it must be stated that the rule was well enforced, it would, nevertheless, be desirable at the next Census to try to simplify it, if possible.

8. **Census of Houseless People.**—The houseless persons, *i.e.*, persons who did not normally reside in houses, *e.g.*, members of wandering tribes, tramps, sadhus, etc., were enumerated at sunrise on the 1st March 1951. Executive Officers made their own arrangements for enumeration of such people. Similarly, inmates of hospitals, jails, hostels, etc., were also enumerated on the 1st March at sunrise, and the instructions to the Enumerators were that only those inmates were to be enumerated who had left their houses before the 9th of February and who were not previously enumerated anywhere else.

9. **The Census Schedule and the Enumeration Slips.**—Up to the year 1931, all Census information was recorded on schedules and was later copied out on slips for purposes of sorting. This procedure was given up in 1941, when answers to the questions were taken down straight on the enumeration slips, and this was done in 1951 also. Enumeration slips were supplied direct by the Government of India Press, Aligarh, to the Deputy Commissioners in books of 100 forms. The supply was not adequate and eventually 500,000 slips had to be printed locally to meet last moment demands.

10. **Contractions.**—The use of contractions in the enumeration slips is a matter which deserves particular mention. The original theory on which the contractions were introduced was based on the “belief that a man who is intelligent enough to understand our questions, put them and record the answers, is intelligent enough to use contractions and to appreciate the convenience they bring”. Unfortunately, the belief about the appreciation of the theory by the average village Enumerator does not seem to be well founded, and actually many Enumerators complained that it was an additional burden for them to remember the contractions. They pointed out that they had to frequently refer to their instruction booklets or charts not for purposes of reading the instructions, but for finding out the contractions to be used for particular answers.

11. I am, therefore, of the opinion that, we should not try to overstress the importance of the use of contractions, and we should use only such contractions as require no real mental effort to remember them. It might be mentioned that although the use of contractions was not much appreciated by the enumerators they responded well in making use of them correctly. In some places, small cardboard charts were given to them giving the contractions which they could see at a glance. In other places, neat folders were supplied ; while some enthusiastic people composed interesting poems, songs or couplets to enable the village Enumerators to “lighten their burden” of remembering the contractions by resorting to popular tunes. The result of all this co-operative effort was that in actual practice the contractions were mostly correctly used, and during my tours I found on verification that even in villages the mistakes in the use of contractions were negligible.

APPENDIX T

The National Register of Citizens

1. At the 1951 Census a National Register of Citizens was for the first time prepared for each village and ward in Madhya Pradesh. The utility and importance of these registers are pointed out by the Registrar-General in his letter No. 290-50-RG., dated the 11th April 1950 which is reproduced in Annexure I to this appendix. In addition to the name of each person the register contains his house number, household number, relationship to the head of the family, sex, religion, special group, civil condition, age, mother tongue, economic status, means of livelihood and particulars about literacy and education.

2. **Agency employed.**—With a view to effecting economy, the National Registers were written in place of the usual house-lists which were always prepared in the previous Censuses, as these Registers contained all the information normally included in the house-lists. They were written in the interior by the Patwaris and in the urban areas by the Municipal and Government staff available who used to write the house-lists in the previous Censuses.

3. **Time of writing the Registers and their check.**—The work of writing the National Register of Citizens was undertaken in Madhya Pradesh from the 1st of November and was completed in December 1950. The additional advantage of getting the Registers written in place of the house-lists fairly early was that the District Officers and their subordinates got plenty of time at their disposal to check them on the spot. In fact, the checking of the National Register of Citizens continued up to the end of the Census period. The Chief Executive Officers of Janapada Sabhas prepared detailed checking programmes for the National Register of Citizens, allotting specific areas to specific Government officers and in many places this system worked very satisfactorily. Apart from the routine tours of officers, even special tours were undertaken wherever these were necessary for checking the National Registers. These tours were allowed as it was felt that the value of the records would be enhanced by getting them reverified by responsible officers on the spot.

4. **Method of writing the Registers.**—The Registers were written on the basis of normal residence of people in their houses and instructions were issued that during the Census period beginning from the 9th of February and ending with the 1st of March, when the enumeration slips were to be filled in by the Enumerators, they were to take the National Registers with them and were required to write "O" in the remarks column against those persons for whom the enumeration slips were not to be written in accordance with the rule for absentees. By this method, the final figures from the National Register and the enumeration slips could be tallied easily and at the same time the National Register of Citizens contained a full record of the citizens on the basis of their normal residence for being used with advantage later for correcting the electoral rolls, as contemplated in the Registrar-General's letter referred to above. The names of houseless persons, persons residing in institutions and visitors, etc., for whom enumeration slips were filled in during the Census period were also ordered to be written in the National Register of Citizens at the end for purposes of tallying the figures. While making entries in respect of visitors at the end of the Register, details about the houses in which they were found were duly entered, while suitable remarks were also made in the remarks column of the register against the original entries pertaining to the particular houses.

5. **Training and Instructions connected with the writing of the National Register of Citizens.**—As most of the columns of the National Register of Citizens were the same as those in the enumeration slips, the training was common for both the purposes, particularly as in the Register also the same contractions were ordered to be used as in the enumeration slips.

6. **Accuracy of the National Register of Citizens.**—As has been pointed out, the National Registers of Citizens in Madhya Pradesh were written on the spot, and are, therefore, documents which contain the information recorded by those persons who actually collected them. It has also been pointed out how these Registers were intensively checked where prepared and they were prepared with as much care as could be exercised in a work of this nature done throughout the State. It is to be remembered that these Registers were actually written by the Patwaris who are paid Government servants and by School masters and Municipal employees who are also paid public servants. During the intensive

tours undertaken by the Deputy Superintendents of Census Operations and by me, we found that the standard of accuracy in the writing of the National Registers of Citizens was very satisfactory. District Officers and their subordinates, who have checked the National Registers have also pointed out the high standard of accuracy which they generally came across in the writing of these Registers. In the Tabulation Offices, no serious defects were noticed in the Registers. In fact, the Registers proved to be very valuable when there was some doubt about the answers recorded in particular enumeration slips.

7. Utility of the National Registers.—The purposes intended to be served by the National Registers of Citizens are—

- (a) local extraction of Census information,
- (b) frame work for social economic surveys based on Random Sampling, and
- (c) maintenance of electoral rolls.

For the local extraction of Census information, the registers actually prepared will be extremely helpful, particularly in the rural areas where the movement of population is negligible. In the urban areas, great care will have to be taken in making use of the information contained in the Registers if they are not properly maintained as the movement of population in these areas is at times very considerable and the statistics based on old entries in the National Registers would not be so accurate.

For the random sample surveys, the National Registers will be most helpful, particularly because by undertaking a scientific sample Census it has been found that occupied houses and households have been fully covered in these Registers. (The account of the sample Census is given in Appendix R).

The National Registers of Citizens would be useful in maintaining the electoral rolls as they contain a fair record of the ascertained ages of the citizens and it would be possible annually to extract from the Registers the age groups which have become newly entitled to be entered in the electoral rolls. If, however, the National Registers are duly maintained, their utility for keeping the electoral rolls up to date would be very much enhanced, and questions of movements of population, etc., will not then affect the comparison and similarly, it would also be possible to remove from the electoral rolls names of such persons as are not entitled to be in the voters' list of the particular constituency.

8. Sample verification of the National Registers of Citizens.—With a view to ascertaining the nature of discrepancy between the National Registers of Citizens and the Primary Census Abstracts prepared in the Tabulation Offices from the enumeration slips, a sample check was undertaken in each Tabulation Office. This check consisted of verifying 5 per cent of the rural tracts and 10 per cent of the urban tracts by finding out the total population, males and females, for each village or ward from the National Register of Citizens and comparing the figures with those given in the Primary Census Abstracts. The statement given below gives the percentage of difference between the two totals. For the State as a whole, the discrepancy works out at about 0.16 per cent between the two sets of figures indicating that there has been this amount of under-enumeration in the National Registers. In considering this difference, it is to be remembered that the National Registers were prepared on normal residence basis, whereas the Primary Census Abstracts prepared from the enumeration slips were based on the "extended *de facto* enumeration" described in Appendix S. Although instructions were issued to take into account the rule in respect of the absentees and visitors at the time of finally checking up the National Registers of Citizens as already pointed out, it is probable that errors in this respect might have crept in. This type of error will, however, not affect the utility of the Registers for the specific purposes for which they are intended. In fact, its preparation on normal residence basis has an advantage of very considerable value in making use of the registers for the different purposes mentioned above.

*Comparison of Population totals, by tracts, between the National Register of
Citizens and Primary Census Abstracts.*

State, Natural Divisions, Sub-Divisions and Districts.	Total population			Males			Females		
	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [i.e., 100 × col. (3) ÷ col. (2)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [i.e., 100 × col. (5) ÷ col. (4)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [i.e., 100 × col. (9) ÷ col. (8)]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
MADHYA PRADESH									
Rural	760,533	759,856	-0.089	379,485	378,734	-0.198	381,049	381,122	+0.019
Urban	275,514	277,874	+0.847	144,280	144,734	+0.314	131,234	133,140	+1.432
Total	1,036,047	1,037,730	+0.162	523,765	523,468	-0.057	512,283	514,262	+0.385
3.2 North Central Hills and Plateau Sub-Region									
3.24 North-West Madhya Pradesh Division									
Rural	214,259	213,195	-0.49	108,115	107,274	-0.78	106,144	105,921	-0.21
Urban	90,765	91,657	+0.97	48,548	49,231	+1.39	42,217	42,423	+0.49
Total	305,024	304,852	-0.06	156,663	156,508	-0.09	148,361	148,344	-0.01
[3.241] Nerbudda Valley									
Rural	123,326	122,747	-0.47	62,727	62,380	-0.56	60,599	60,367	-0.63
Urban	79,581	79,497	-0.11	42,666	42,922	+0.59	36,915	36,575	-0.93
Total	202,907	202,244	-0.33	105,393	105,203	-0.086	97,514	96,942	-0.59
Sagar District—									
Rural	37,581	37,288	-0.78	19,098	19,049	-0.26	18,483	18,239	-1.3
Urban	18,660	18,408	-1.4	9,712	9,468	-2.5	8,948	8,940	-0.09
Total	56,241	55,696	-0.98	28,810	28,517	-1.01	27,431	27,179	-0.92
Jabalpur District—									
Rural	39,364	38,930	-1.1	19,756	19,500	-1.3	19,608	19,430	-0.9
Urban	33,527	32,823	-2.1	18,763	18,825	+0.33	14,764	13,998	-5.2
Total	72,891	71,753	-1.6	38,519	38,325	-0.5	34,372	33,428	-2.7
Hoshangabad District—									
Rural	30,340	30,691	+1.144	15,614	15,687	+0.465	14,726	15,004	+1.853
Urban	16,590	17,340	+4.325	8,665	9,076	+4.528	7,925	8,264	+4.102
Total	46,930	48,031	+2.292	24,279	24,763	+1.955	22,651	23,268	+2.652
Nimar District—									
Rural	16,041	15,838	-1.282	8,259	8,144	-1.412	7,782	7,694	-1.144
Urban	10,804	10,926	+1.117	5,526	5,553	+0.486	5,278	5,373	+1.768
Total	26,845	26,764	-0.303	13,785	13,697	-0.642	13,060	13,067	+0.054
[3.242] Plateau									
Rural	90,933	90,448	-0.54	45,388	44,894	-1.100	45,545	45,554	+0.197
Urban	11,184	12,160	+8.03	5,882	6,312	+6.812	5,302	5,848	+9.34
Total	102,117	102,608	+0.48	51,270	51,206	-0.13	50,847	51,402	+1.08
Mandla District—									
Rural	25,104	24,835	-1.07	12,560	12,209	-2.8	12,544	12,626	+6.55
Urban	948	946	-0.2	536	538	+0.4	412	408	-0.97
Total	26,052	25,781	-1.04	13,096	12,747	-2.7	12,956	13,034	+0.6
Betul District—									
Rural	21,391	21,193	-0.934	10,654	10,533	-1.149	10,737	10,660	-0.722
Urban	3,885	4,622	+15.945	2,120	2,410	+12.033	1,765	2,212	+20.205
Total	25,276	25,815	+2.088	12,774	12,943	+1.306	12,502	12,872	+2.874
Chhindwara District—									
Rural	44,438	44,420	-0.041	22,174	22,152	-0.099	22,264	22,268	+0.018
Urban	6,351	6,592	+3.656	3,226	3,364	+4.102	3,125	3,228	+3.191
Total	50,789	51,012	+0.437	25,400	25,516	+0.455	25,389	25,496	+0.419

*Comparison of Population totals, by tracts, between the National Register of
Citizens and Primary Census Abstracts—cont.*

State, Natural Divisions, Sub-Divisions and Districts.	Total population			Males			Females		
	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [i.e., 100 × col. (3) — col. (2) ÷ col. (3)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [i.e., 100 × col. (3) — col. (5) ÷ col. (6)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [i.e., 100 × col. (9) — col. (8) ÷ col. (9)]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
[3-3] North East Plateau Sub-Region									
[3-32] East Madhya Pradesh Division									
Rural	417,250	416,211	-0.25	206,289	205,672	-0.29	210,961	210,539	-0.208
Urban	62,827	62,500	-0.52	32,715	31,559	-3.66	30,112	30,941	+2.60*
Total	480,077	478,711	-0.29	239,004	237,231	-0.75	241,073	241,480	+0.17
[3-321] Chhattisgarh Plain.									
Rural	339,366	337,006	-0.7	167,411	166,138	-0.77	171,955	170,868	-0.64
Urban	36,368	34,568	-5.207	19,342	17,285	-11.99	17,026	17,283	+1.49
Total	375,734	371,574	-1.12	186,753	183,423	-1.82	188,981	188,151	-0.44
Raipur District—									
Rural	76,621	76,229	-0.51	37,355	37,069	-0.77	39,266	39,160	-0.27
Urban	11,306	11,602	-2.6	6,097	5,440	-10.77	5,209	6,162	+15.46
Total	87,927	87,831	-0.1	43,452	42,509	-2.17	44,475	45,322	+1.86
Bilaspur District—									
Rural	74,570	73,793	-1.04	36,726	36,342	-1.03	37,844	37,451	-1.04
Urban	5,171	5,179	+0.15	2,564	2,572	+0.31	2,607	2,607	..
Total	79,741	78,972	-0.96	39,290	38,914	-0.96	40,451	40,058	-0.97
Durg District—									
Rural	67,204	66,252	-1.4	32,795	32,168	-1.9	34,409	34,084	-0.9
Urban	8,561	7,944	-7.2	4,217	3,901	-7.5	4,344	4,043	-6.9
Total	75,765	74,196	-2.1	37,012	36,069	-2.5	38,753	38,127	-1.6
Bastar District—									
Rural	42,326	42,739	+0.97	21,188	21,293	+0.5	21,138	21,446	+1.4
Urban	4,432	3,653	-17.6	2,337	1,995	-14.6	2,095	1,658	-20.8
Total	46,758	46,392	-0.78	23,525	23,288	-1.0	23,233	23,104	-0.56
Raigarh District—									
Rural	43,065	43,294	+0.5	21,426	21,796	+1.7	21,639	21,498	-0.7
Urban	4,625	3,977	-0.14	2,880	2,160	-0.25	1,745	1,817	+0.4
Total	47,690	47,271	-0.9	24,306	23,956	-1.5	23,384	23,315	-0.3
Surguja District—									
Rural	35,580	34,699	-2.5	17,921	17,470	-2.5	17,659	17,229	-2.4
Urban	2,273	2,213	-2.64	1,247	1,217	-2.4	1,026	996	-2.9
Total	37,853	36,912	-2.5	19,168	18,687	-2.5	18,685	18,225	-2.5
[3-322] East Maratha Plain.									
Rural	77,884	79,205	+1.67	38,878	39,534	+1.66	39,006	39,671	+1.68
Urban	26,459	27,932	+5.27	13,373	14,274	+6.31	13,086	13,658	+4.19
Total	104,343	107,137	+2.6	52,251	53,808	+2.89	52,092	53,329	+2.32
Chanda District—									
Rural	29,618	29,369	-0.848	14,930	14,617	-2.141	14,688	14,752	+0.434
Urban	17,068	17,830	+4.274	8,456	8,856	+4.517	8,612	8,974	+4.034
Total	46,686	47,199	+1.087	23,386	23,473	+0.371	23,300	23,726	+1.795

*Comparison of Population totals, by tracts, between the National Register of
Citizens and Primary Census Abstracts—cont.*

State, Natural Divisions, Sub-Divisions and Districts.	Total population			Males			Females		
	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [i.e., 100 × col. (3) — col. (2) ÷ col. (3)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [i.e., 100 × col. (3) — col. (5) ÷ col. (6)]	Total according to National Register of Citizens	Total according to Primary Census Abstract	Percentage difference [i.e., 100 × col. (9) — col. (8) ÷ col. (9)]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Bhandara District—									
Rural	24,146	24,074	-0.299	11,976	11,913	-0.529	12,170	12,161	-0.074
Urban	6,700	6,758	+0.858	3,385	3,415	+0.878	3,315	3,343	+0.838
Total	30,846	30,832	-0.045	15,361	15,328	-0.215	15,485	15,504	+0.123
Balaghat District—									
Rural	24,120	25,762	+6.5	11,972	13,004	+7.94	12,148	12,758	+4.78
Urban	2,691	3,344	+19.5	1,532	2,003	+23.5	1,159	1,341	+13.6
Total	26,811	29,106	+7.9	13,504	15,007	+10	13,307	14,099	+5.6
[3.4] North Deccan Sub-Region									
[3.41] South West Madhya Pradesh Division									
Rural	129,024	130,450	+1.09	65,081	65,788	+1.07	63,944	64,662	+1.11
Urban	121,922	123,717	+1.45	63,017	63,941	+1.45	58,905	59,776	+1.46
Total	250,946	254,167	+1.28	128,098	129,729	+1.26	122,849	124,438	+1.28
[3.411] West Maratha Plain									
Rural	129,024	130,450	+1.09	65,081	55,788	+1.07	63,944	64,662	+1.1
Urban	121,922	123,717	+1.45	63,017	63,941	+1.45	58,905	59,776	+1.41
Total	250,946	254,167	+1.28	128,098	129,729	+1.26	122,849	124,438	+1.28
Wardha District—									
Rural	19,759	19,538	-1.131	9,942	9,816	-1.284	9,817	9,722	-0.977
Urban	15,818	15,768	-0.317	8,286	8,181	-1.283	7,532	7,587	+0.725
Total	35,577	35,306	-0.768	18,228	17,997	-1.28	17,349	17,309	-0.231
Nagpur District—									
Rural	21,789	22,248	+2.063	10,887	11,213	+2.907	10,902	11,035	+1.205
Urban	47,408	48,995	+3.239	24,240	25,177	+3.722	23,168	23,818	+2.729
Total	69,197	71,243	+2.872	35,127	36,390	+3.471	34,070	34,853	+2.247
Amravati District—									
Rural	12,729	13,068	+2.594	6,475	6,684	+3.127	6,254	6,384	+2.036
Urban	27,386	27,137	-0.918	14,270	14,140	-0.919	13,116	12,997	-0.916
Total	40,115	40,205	+0.224	20,745	20,824	+0.379	19,370	19,381	+0.057
Akola District—									
Rural	34,163	35,285	+3.179	17,401	17,904	+2.809	16,762	17,381	+3.561
Urban	13,659	14,234	+4.039	7,105	7,392	+3.883	6,554	6,842	+4.269
Total	47,822	49,519	+3.427	24,506	25,296	+3.123	23,316	24,223	+3.744
Buldana District—									
Rural	9,973	9,956	-0.171	5,141	5,113	-0.548	4,833	4,843	+0.206
Urban	8,317	8,282	-0.423	4,300	4,272	-0.655	4,017	4,010	-0.175
Total	18,290	18,238	-0.285	9,441	9,385	-0.597	8,850	8,853	+0.034
Yeotmal District—									
Rural	30,611	30,355	-0.777	15,235	15,058	-1.175	15,376	15,297	-0.516
Urban	9,334	9,301	-0.355	4,816	4,779	-0.774	4,518	4,522	+0.088
Total	39,945	39,656	-0.678	20,051	19,837	-1.079	19,894	19,819	-0.378

ANNEXURE I TO APPENDIX T

Copy of Letter No. 290-50-R.G., dated the 11th April 1950, from the Registrar-General of India, to all State Governments

SUBJECT.—*National Register of Citizens.*

1. I am directed by the Government of India to address you on the proposal that a National Register of Citizens should be compiled in 1951 along with the population Census.

The proposal, as formulated in the light of the conclusions reached at the recent All-India Census Conference, is as follows :—

- (i) There should be a National Register of Citizens of the Indian Union. It should be compiled in separate parts, one relating to each village and each ward of every town or city in the Indian Union.
- (ii) The Register should contain the names of all citizens enumerated during the forthcoming 1951 Census arranged by households in the house numbering order in the part relating to the village/ward where enumerated.
- (iii) The Census data relating to each citizen, as ascertained in reply to the more important Census questions, should be transcribed in the Register from the Census enumeration slips. These data should include (in every case) the replies to the following questions, namely, 14 (Sex), 4 (Age), 9 (Economic Status), 10 (Principal Means of Livelihood), and 11 (Subsidiary Means of Livelihood). Any other ascertained data which either the Government of India or the Government of the State concerned might consider necessary should also be included.
- (iv) The preparation of this Register should be undertaken by the Census organisation, either in the course of or immediately after, the enumeration of the population, which will take place between the 9th February and 1st March 1951.
- (v) The parts of the Register relating to village/ward of each district should be kept in the tahsil offices (or other appropriate offices) in that district. They should be unpublished administrative records, available for reference by authorised persons either for administrative purposes or for any social economic enquiries which may be undertaken by or with the assistance of the Government of India or the State Government. Unauthorised persons will have no access to them. Like other Census Records, they will be inadmissible in evidence.

2. The purposes intended to be served by the proposed register are explained below :—

(i) *Local Extraction of Census information.*—

The customary Census tabulation is limited by the need for ensuring that Census Reports are published within a reasonable time after the enumeration. It will be necessary, therefore, to concentrate attention, during the Census tabulation stage, on the purely demographic and economic aspects of Census data. Tabulation in respect of religion, caste, tribes, languages, etc., and cross tabulations will be restricted to the unavoidable minimum. It should, however, be made possible, in later years, to extract and compile further information for various purposes as and when this may be found necessary or convenient by the State Governments (either for themselves or on behalf of the Central Government). This consideration applies with special force to data relating to size, internal structure and composition of family households (which will be collected at the 1951 Census for the first time). Cross tabulation of such data with other Census data is likely to yield very useful information. Similar considerations apply also to data regarding castes and tribes which might in due course be required by the Backward Classes Commission, to be set up under the new Constitution.

The proposed Register will thus be useful for local extraction of Census information after the main Census tabulation is completed.

(ii) *Framework for Social Economic Surveys based on Random Sampling.*—A special committee appointed by the Government of India consisting of experienced administrators, economists and statisticians under the Chairmanship of Sir Theodore Gregory made the following recommendation :—

“ We had the opportunity of consulting Professor R. A. Fisher on the possibilities of the random sampling method in connection with future economic survey in India and we desire to record his opinion with which we are in agreement, that for any such enquiry it is necessary to have a framework to proceed on and that the household is the appropriate starting point for the purpose. We would accordingly recommend that an attempt should be made to have registers of households prepared

and maintained for both urban and rural areas. The urgency of the need for preparing and maintaining a register of households has been stressed by more than one committee, *viz.*, the Population Data Committee and the Health Survey and Development Committee, as such a house-list can provide a basis for Demographic as well as Socio-Economic enquiries. We would, therefore, strongly recommend that the preparation of the register of households should be taken up early by the appropriate department of the Government of India."

The proposed Register is intended to implement this recommendation.

(iii) *Maintenance of Electoral Rolls.*—The electoral rolls which are at present being prepared throughout the country for general elections under the New Constitution will have to be maintained hereafter from year to year. It is expected that every year approximately 6·3 million non-adults will become adults entitled to vote, and should be brought on the electoral rolls, while 3·6 million voters will die and should be removed from them. Since the proposed Register will contain a record of the ascertained age of every citizen, it will be possible annually to extract from it the age-group which has become newly entitled to vote. Thus, whatever may be the procedure eventually decided upon for the maintenance of electoral rolls, the proposed Register will be one of the basic records to be used for the purpose. In the absence of such a record, the maintenance of electoral rolls will be found to be difficult and costly.

(iv) It should also be mentioned, as an incidental consideration, that the prescription of such a Register is likely to improve the standard of efficiency in Census enumeration and supervision.

3. The Government of India have considered the proposal ; and, for the reasons mentioned above accepted it. They invite the co-operation of all State Governments in putting it into effect. With reference to item (iii) of paragraph 1 above, they consider that the answers to Question No. 3 (Civil Condition) and parts (b) and (c) of Question No. 2 (Religion and Special Group) should also be included in the Register.

4. The Register should be written up (as proposed) along with, or immediately after, the Census enumeration. I am accordingly to request that special instructions may be issued to the district authorities (who will be directly controlling the Census Enumerators and Supervisors) in order to impress on them the importance of carrying out this work. It has been suggested that in certain States there might be difficulty in getting this work done on an unpaid basis in the same way as the normal Census enumeration work. The Government of India hope that such difficulties, if any, would be removed by the special instructions referred to above ; and would be glad if the Register can be got written up as part of the Census enumeration operation without any special payment being made for this purpose.

5. If, however, the State Governments are of opinion that (having regard to the volume of work simultaneously thrown upon the staff by the general elections and the Census in addition to their normal duties) this additional scriptory work is likely to be regarded as burdensome and that some honorarium should be offered, the Government of India would accept that opinion. They would, in that case, propose that the expenditure involved should be shared on a 50 : 50 basis by the State Government and the Central Government. I am to express the hope that the State Governments would concur in this proposal in view of the fact that the Register would be useful to the State Government to at least as great extent as to the Central Government, if not more.

Paper required for writing up the Register will be supplied entirely by the Central Government.

6. The Census Conference recommended that arrangements should be made for maintaining this Register after its compilation. The Government of India agree that regular maintenance would be useful and might be necessary for certain purposes though it may be noted that for many of the purposes mentioned above, a Register which is out of date by a few years would not, on that account merely, cease to be useful. They intend that this question should be considered separately sometime next year, in view of the fact that the method of maintenance of this Register is connected with questions relating to the improvement of vital statistics as well as the procedure for the maintenance of electoral rolls.

7. I am to request that the State Government may be moved to issue the instructions referred to in paragraph 4 above, and concur in the proposal made in paragraph 5 above.

APPENDIX U

The Census Questionnaire

SECTION I.—LIST OF QUESTIONS AND INSTRUCTIONS

1. *Name and relationship to head of household.*—After the names write 1 for the head of the household. For near relatives (*viz.*, wife, son, daughter, brother, sister, father, mother) write actual relationship in full. For other relatives write 2. For unrelated persons (if any) living in the household write O.

2. *Nationality, religion and special groups*—

Part (a) Nationality.—Write 1 for all Indian Nationals. For others write nationality in full.

Part (b).—Write H. for Hindu ; M. for Muslim ; C. for Christian ; S. for Sikh ; J. for Jain. For others write the answer as actually returned.

Part (c).—Write A. for Anglo-Indian, write O. for any person who says he is not a member of any caste or tribe. Write 1 for any person who is a member of one of the castes mentioned in the list of non-backward castes supplied to you. In all other cases, write the name of the caste or tribe as returned by the person enumerated.

3. *Civil condition.*—Write 1 for unmarried, 2 for married, 3 for widowed. If divorced, write O.

4. *Age.*—Write age last birthday ; that is, the actual number of completed years. Write O for infants below 1.

5. *Birthplace.*—Write 1 for every person born in your district. For others write the name of the district, State or foreign country where he was born, according to the answer given.

6. *Displaced persons.*—If the person enumerated is not a displaced person write O in both compartments. If he is a displaced person, write the date of arrival in India, in the first compartment ; and the district of origin in Pakistan in the second compartment.

7. *Mother-tongue.*—Write 1 for Hindi ; and 2 for Marathi. In any other case write the mother-tongue fully.

8. *Bilingualism.*—If a person commonly speaks any Indian language other than his mother-tongue, record it. For others write O.

9. *Economic status*—

Part One—Dependency.—Write 1 for a self-supporting person, 2 for a non-earning dependant, and 3 for an earning dependant. Write the answer in the first compartment.

Part Two—Employment.—If a self-supporting person earns his principal means of livelihood as an employer write 1, as an employee write 2, as an independent worker write 3. Write O in other cases. Write the answer in the second compartment.

10. *Principal means of livelihood.*—An answer to this question should be recorded on every slip. If the slip relates to a self-supporting person record his principal means of livelihood. If the slip relates to a dependant (whether earning or non-earning) record here the principal means of livelihood of the self-supporting person on whom he is dependent. The means of livelihood which provides the largest income is the principal means of livelihood for a self-supporting person who has more than one means of livelihood. In the case of other self-supporting persons it is the only means of livelihood.

Use the following contractions.—Write 1 for a person who cultivates land owned by him (read instructions about ownership given under question 10 in Part B of Instructions to Enumerators) ; 2 for a person who cultivates land owned by another person ; 3 for a person who is employed as a labourer by another person who cultivates land ; 4 for a person who receives rent in cash or kind in respect of land which is cultivated by another person.

For all other means of livelihood write fully and clearly what the person does in order to earn his livelihood and where (that is, in which factory, mine, etc.) he does it.

11. *Secondary means of livelihood.*—For a self-supporting person who has more than one means of livelihood write the means of livelihood next in importance to his principal means of livelihood. For an earning dependant write the means of livelihood which provides the earning. Use contractions given in question 10.

For a self-supporting person who has only one means of livelihood write O. In the case of non-earning dependent also write O.

12. *Literacy and education.*—Write O for a person who can neither read nor write; write 1 for a person who can read but cannot write; write 2 for a person who can read and write. If a person who can read and write has also passed any examination note the highest examination passed, instead of writing 2.

13. *Number of children born to a married woman and age at birth of the first child.*—First write the total number of children including dead ones. Put a dash and write in brackets the number of surviving children. Again put a dash and write the age of the woman when she gave birth to the first child. Thus the three entries would be written as “7-(5)-20”. Put O if the slip refers to a married woman, widow or divorced woman who has had no children, and also if the slip relates to a male or an unmarried female.

14. *Sex.*—Write 1 for a male and 2 for a female.

SECTION II.—INSTRUCTIONS TO ENUMERATORS

Part A.—General Instructions regarding Enumeration

1. *Object of Census.*—The object of the Census is in the words of an old village officer, “to catch every man”. Keep this in view as our prime objective. But remember that we have to catch him only once. You must be careful in the case of visitors, absentees, etc., that there is no chance of their being counted in more than one place.

2. *Census dates.*—Our Census count must begin on the 9th February 1951, and end at sunrise on the 1st March 1951. You are thus given 20 days to do the enumeration.

3. *Enumeration of households.*—(i) During this period of 20 days you should visit every house in your block. In each house, enumerate every person whom you find there and *who is also normally resident in that house.*

(ii) Then enquire whether there is any person who is normally resident in the house but is absent at the time you visit the house. All such persons should also be enumerated, *unless they left the house before the 9th February 1951 and are not expected to come back to the house until after the 1st March 1951.*

(iii) Occasionally, you may find a visitor in a house who does not normally reside there. You should enquire from him when he left his house and when he expects to be back there. Do *not* enumerate him if he left his house on or after the 9th February or expects to go back there before sunrise on the 1st March. If, however, he is away from his house throughout the enumeration period *and* has *not* been enumerated anywhere else, you should enumerate him at the house where you find him.

4. *Enumeration of houseless persons.*—Persons who do not normally reside in houses (*e.g.*, members of wandering tribes, tramps, sadhus, etc.) should be enumerated wherever they may be found during the night preceding sunrise of 1st March or at sunrise on the 1st March.

5. *Final check.*—You should revisit every house in your block and carry out a final check during the first *three days* of March. The object of this second visit is to bring your enumeration up to the reference date. This means—

(i) you should enumerate every birth that has taken place in a house since your last visit and before sunrise on 1st March;

(ii) you should cancel the slip for any death that may have taken place in any house since your last visit and before sunrise on 1st March;

(iii) if you happen to find any visitor who has not been enumerated anywhere else during the period of enumeration, you should enumerate him also.

6. *Provisional tables.*—As soon as you have completed a pad, note down the number of males and females, and of literates in that pad and hand the pad over to your Supervisor. After you have completed your enumeration, total up your figures, fill in the columns in the Enumerator’s Abstract and hand it over to your Supervisor.

7. *Legal rights and duties.*—Under the Census Act, every person is legally bound to furnish you with the information you need for recording your answers. You must not ask information on any matters not necessary for the purpose of the Census, for example, the amount of any person’s income.

Nor must you disclose to any unauthorised person any information given to you or the results of the enumeration. All Census entries are confidential and cannot be admitted as evidence in any civil proceeding whatever or in any criminal proceeding other than a prosecution for a Census offence.

Any Enumerator extracting money on any pretext connected with the Census will make himself liable to punishment under the Census Act or the Penal Code.

Part B.—Special Instructions to Enumerators regarding the filling up of slip

1. *Identifying numbers on slips.*—At the top of the enumeration slip you will find a printed number. This number represents your district. Your Supervisor will give you other numbers representing your tahsil and village or town. You should take care to write these numbers on every slip as soon as you receive the pads. Lastly, when you visit each house for enumeration you should write the house number on the slip relating to every person enumerated in that house. In some houses there may be more than one household. In such cases, you should distinguish each household by adding the letter A, B, etc., to the house number. Thus, if there are two households in house number 49, the slips relating to the first should be given number 49-A and those relating to the second, number 49-B.

Your charge, block or circle number must not be written anywhere on the slips.

2. *Census Questionnaire.*—You will observe that against each question the answers you are commonly likely to receive are stated and you are asked to use contractions for recording those answers. The contractions have been introduced in order to save you writing long answers by expressing them in single letters or numbers. You should take care to see that you use the correct contractions. You can make quite sure of this by keeping the questionnaire before you while recording the answers.

You should put clear and simple questions to the person you are enumerating which, in most cases, will elicit the correct answer at once. Explanation of any kind would be necessary only if the person does not understand your question properly. You should record the answers as given to you by the person you are enumerating.

3. *Question 1 (name and relationship to the head of the household).*—For purposes of the Census, a "house" has been defined as a dwelling with a separate main entrance. A "household" means all the persons who live together in the same house and have a common mess. In some houses, there may be more than one group of persons with a common mess. In these cases, each group should be regarded as a separate household for purposes of the Census. The head of the household is the person on whom falls the chief responsibility for the maintenance of the household. You need not, however, make any enquiry about this, and you should treat as the head of the household any person who is actually acknowledged as such. A household may include persons (*e.g.*, domestic servants, lodgers, etc.) who are not related to the head of the household, but live together and have a common mess. You should first enumerate the head of the household and then the other members in the household.

4. *Question 4 (Age).*—This is an important question and many persons are likely to find it difficult to state their age correctly. You should assist them, and try to record, as far as possible, the correct age of the person enumerated. If you are not able to elicit the correct age directly, you should get at it by referring to some event of importance that occurred in the past and is remembered by every one. You should use any local calendars of such events which may have been prepared for the purpose.

5. *Question 5 (Birth place).*—If the person enumerated was born in your State, but not in your district, it is important that the *district* in which he was born should be ascertained and recorded.

6. *Question 6 (Displaced persons).*—The definition of a "displaced person" is as follows:—

"'Displaced person' means any person who has entered India having left or been compelled to leave his home in Western Pakistan on or after the 1st March 1947, or his home in Eastern Pakistan on or after the 15th October 1946, on account of civil disturbances or the fear of such disturbances or on account of the setting up of the two Dominions of India and Pakistan."

7. *Question 7 (Mother-tongue).*—Mother-tongue is the language spoken from the cradle. In the case of infants and deaf-mutes give the mother-tongue of the mother.

8. *Question 8 (Bilingualism).*—Record only one subsidiary language. The abbreviations given for the mother-tongue may be used in recording the subsidiary language.

9. (i) *Question 9, Part One.*—You are asked to distinguish every person whom you enumerate as either a “self-supporting person” or an “earning dependant” or a “non-earning dependant”. The distinction is explained below:—

Where a person is in receipt of an income, and that income is sufficient at least for his own maintenance then he (or she, as the case may be) should be regarded as a self-supporting person. Any one who is not a self-supporting person in this sense is a dependant. A dependant may be either an earning dependant or a non-earning dependant. The test is whether he secures a regular income even though it may be small. Such income may be in cash or in kind. Where the income which he secures is not sufficient to support him, that person is an earning dependant. A person who does not earn any income either in cash or in kind is a non-earning dependant.

NOTE.—Where two or more members of a family household jointly cultivate land and secure an income therefrom, each of them should be regarded as earning a part of the income. None of them is, therefore, a non-earning dependant. Each of them should be classed as either a ‘self-supporting person’ or an ‘earning dependant’, according to the share of income attributable to him (or her). The same applies to any other business carried on jointly.

This does not mean that everyone *who works* is necessarily a self-supporting person, or an earning dependant. Thus, for instance, a housewife who cooks for the family, brings up the children or manages the household is doing very valuable works. Nevertheless, her economic status is that of a ‘non-earning dependant’, if she does not also earn an income, and should be recorded as such.”

(ii) *Question 9, Part Two.*—You are asked to distinguish whether a self-supporting person is an employer, an employee or an independent worker.

(a) You should record as an “employer” only that person who has necessarily to employ other persons in order to carry on the business from which he secures his livelihood. Thus, if a person employs a cook or other person for domestic service, he should not be recorded as an “employer” merely for that reason.

(b) An “employee” is a person who ordinarily works under some other person for a salary or a wage in cash or kind, as the means of earning his livelihood. There may be persons who are employed as managers, superintendents, agents, etc., and in that capacity control other workers. Such persons are also employees only, and should not be recorded as employers.

(c) An “independent worker” means a person who is not employed by anyone else and who does not also employ anybody else in order to earn his livelihood. Note that dependants (whether earning or non-earning) are not to be classified under these three heads.

10. *Question 10 (Principal means of livelihood).*—This is a very important question. Please, therefore, pay great care. You have to ask every person how he makes his living and put down the answer here. A person may have more than one means of living. In that case the occupation which gives him the greatest part of his income is called his principal means of livelihood. That which gives him the next most important part of his income is called the secondary means of livelihood. You have to record only the principal means of livelihood against question 10. The secondary means of livelihood should be shown separately under question 11. A non-earning dependant has no means of livelihood of his own. His principal means of livelihood should be taken to be the same as that of the self-supporting person on whom he is dependent. The same assumption should be made about earning dependant also. (See paragraph 11 below.) In the result, the answer to question 10 should be the same for a self-supporting person, as well as all other persons who may be dependent on him whether earning or non-earning.

Four simple contractions have been provided which will cover most cases where the livelihood is dependent on agriculture. If you find that a person falls under two of these four categories, note that category which provides the largest income against question 10 and the second against question 11. No note need be taken of more than two such categories in any case. Ownership of agricultural land for purposes of the Census enquiry includes such tenures as those of “Raiyats” in Raiyatwari villages and “occupancy tenants” in malguzari or other villages. The test of ownership is existence of a right which should be heritable but may or may not be transferable. Therefore, all tenants who hold such tenancy and who cultivate the land would be regarded as owners of the land and the contraction “1” would be used for them.

In all other cases, you have been asked to write fully and clearly what the person does in order to earn his livelihood and where he does it. There are three lines on the slip provided for answering this question. Use them fully. Avoid vague and general terms. Do not write “service” or “labour”. If you are enumerating a trader, describe the articles in which he is carrying on trade and state clearly whether he is a wholesale trader or a retail trader. A retail trader sells to the public and a wholesale trader does not.

If you are enumerating a factory worker, give the name of the factory or the product it makes, e.g., coalmine, jute factory, cotton mill, etc.

11. *Question 11 (Secondary means of livelihood).*—Avoid repeating against this question the answer you have recorded against question 10.

(a) A "self-supporting person" may have more than one means of livelihood in some cases. If so, you should record his *second* means of livelihood against question 11.

(b) An "earning dependant" is maintained partly by the income of some other person and partly by his own. It is unnecessary to enquire which is more important. His principal means of livelihood should always be taken to be the same as that of the self-supporting person on whom he is dependent (see paragraph 10 above). The occupation which gives him an income should always be taken to be his secondary means of livelihood, and recorded against question 11.

(c) "Non-earning dependants" have no secondary means of livelihood.

12. *Question 12 (Literacy and Education).*—The test for reading is ability to read any simple letter either in print or in manuscript. The test for writing is ability to write a simple letter.

13. *Question 13 (Number of children born to a married woman and age at birth of the first child).*—This information is to be obtained only about a married woman, a widow or a divorced woman. The husband or father or other elderly person in the house should ordinarily be requested to give the information. First ask how many children she has had in all (including dead ones). Write down the figure and put a dash. Next ask how many children are surviving; write the figure in brackets and again put a dash. Then ask how old she was when her first child was born and write the age. Thus an entry "7—(5)—20" on the line against question 13 on the enumeration slip will mean that the woman had given birth to 7 children of whom 5 are alive and that her age when the first child was born was 20 years. For a male or an unmarried female, and for a married woman, widow or divorced woman who has had no children, write O.

14. *Question 14 (Sex).*—Eunuchs and Hermaphrodites should be treated as *MALES*.

15. *Practice.*—You should study the questionnaire and these instructions very carefully. Practice the questions as much as you can. You can write down the answers on the back of an envelope or on any odd piece of paper or on a slate in the course of such practice. What we aim at is something like a man who has entered for a competition. At the competition he must be able to do his best and he will not have anyone to help him or to take his place. Consequently, he practises beforehand. Government desire to see this adopted as the general model of our efforts.

Consult your Supervisor in any case of difficulty but remember that in the last resort it is on you as a citizen of the country that India relies for the information she secures through the Census.

SECTION III.—PRACTICAL DIFFICULTIES ENCOUNTERED AND THEIR SOLUTION

Part A.—Questions other than the Economic Questions

1. *Question 1.*—This question is about name and relationship to the head of household. Although instructions were very clear that the head of the household was the person on whom lay the chief responsibility for the maintenance of the household and that any person actually acknowledged as the head of the household was to be recorded as such, the problem continued to disturb several people who seemed to be nervous about the legal implications. An assurance had to be given that all Census information was of a confidential nature and could not be cited in evidence in any court and that, therefore, people could unhesitatingly give the facts without any fear of any legal liability with regard to the head of the household. Again, sometimes the inmates mentioned an old man as the head, although he was not really responsible for the maintenance of the household within the knowledge of the Enumerator, who got confused. He had to be told that as in all affairs of human dealings, commonsense was to be used in recording answers to the Census question as well and that when he knew a fact beyond doubt there was no point in getting confused instead of writing out the truth. No difficulty was experienced in ascertaining the husband's name of a woman with the help of her relatives or neighbours.

2. *Question 2—Parts (a) and (b).*—These related to the nationality and religion and presented no difficulty.

3. *Part (c).*—According to the instructions replies to this question had to be recorded in accordance with the prescribed procedure and therefore a provisional list of non-backward castes was prepared by the Honorary Provincial Organiser, Backward Area Welfare Scheme, and was approved by the State Government and copies of the list were supplied to the Enumerators. In actual practice, they had to ask every person his caste and it was only at the time of recording the answer that they had to examine the list of non-backward castes to decide upon the answer to be written. Apart from the time taken in frequently referring to the list no other difficulty was experienced.

4. **Question 3—Civil Condition.**—This was one of the simple questions, but at some places unmarried women having illegitimate children presented difficulty about their classification. The average Enumerator hesitated to recognise her as an unmarried woman. In one meeting, an educated gentleman said that there was no use conniving at the evil and classifying such women arbitrarily as unmarried, that is, as virgins, instead of having for them a separate category, so that the extent to which the evil exists in the country could also be known and measures taken to remedy it. The problem does not, however, seem to be so simple, because if such a procedure were adopted, perhaps the tendency to hide true facts might be encouraged.

5. **Question (4)—Age.**—This was one of the really difficult questions, particularly in the interior. On account of the ignorance of the people and because of their taking the matter of age very casually, the difficulties were all the more increased. In every district, local calendars of important events generally known to the people were prepared and copies were distributed to the Enumerators. The calendars for the districts are reproduced in the District Census Handbooks, as the question of age is bound to be troublesome for a fairly long time to come until the standard of education amongst the masses is raised. The usual question asked at the Census Conferences was, "What should we do when even with the help of the local calendar also nothing can be known about the age of a villager who is completely ignorant about it?". The usual reply given to such questions was, again, "In such cases, please use your commonsense and write the age from your own judgment of the person concerned after having exhausted all means of ascertaining the age by making enquiries from elderly people of the village or the family, etc."

6. In view of the typical difficulties about the ascertainment of age, local officers adopted different methods of arriving at as accurate figures as possible. The Deputy Commissioner, Chanda, ordered the patwaris to take the kotwars and the mukaddams along with them with their books at the time of enumeration and to take their help in ascertaining the age of the villagers. In his report the Deputy Commissioner says, "The age returns of unmarried girls and boys below 12 years were almost accurate as the local Patwaris having full knowledge of the people were the Enumerators and were accompanied by village Kotwars and Mukaddams with their books". In some places, instructions were given to the Enumerators to compare local persons of known ages with those of unknown ages before taking a final decision about the age.

7. Tahsildar, Balod, of the Durg district, has reported that amongst the backward people of his tahsil there is a superstition that giving of correct age brings about premature death.

8. The Deputy Commissioner, Buldana, reports as follows, "Enumerators had to depend upon their individual commonsense for finding out the age of an illiterate backward or an aboriginal person as it was very difficult for such persons to give an approximate idea of their age. They possessed no idea about any important events in the district".

9. The Deputy Commissioner, Hoshangabad, found the local calendar of important events to be extremely helpful. He remarks, "A local calendar of important events was prepared and supplied to the Census workers, who were instructed to elicit the correct age by referring to some event of importance that occurred in the past. This method proved quite successful; and it can be safely said that no serious mistakes occurred in ascertaining age".

10. The Deputy Commissioner, Wardha, on the other hand reports, "A great majority of the illiterate people of the rural area could not give out their age and that of their family members. Even the calendar of the local events could not help much in securing their ages, and the Enumerators had to depend on their judgment along with that of other elderly literate persons of the village. Exact age of such persons could not be recorded".

11. The Deputy Commissioner, Amravati, said in his report, "The age returns all over the district are fairly accurate except perhaps in the Melghat tract, where the degree of accuracy might have been comparatively low. Efforts have been made by the Enumerators to ascertain correct age by referring to the list of important local events. These observations apply to the ages of men as well as married and unmarried women".

12. Except in the Amravati district, there was no tendency reported from anywhere about exaggeration of old age. In the Amravati district, from where this tendency was reported, the Deputy Commissioner remarked that efforts were made to get at the truth by referring to contemporary events.

13. The Deputy Commissioner, Bastar, has made the following observations about the age returns in his district, "The age returns in respect of interior of all tahsils can by no means be taken as accurate. They can only be taken as approximately correct. Even with the help of hundred years' calendar of

important events supplied to each Enumerator throughout the district, it was not possible in some cases to ascertain correct ages of individuals particularly in aboriginal areas where people do not know when they or their children were born. The age returns in respect of urban areas can generally be taken as accurate. The accuracy of returns of ages of unmarried females in urban areas can be taken as reliable. In so far as the interior of the district is concerned, they can be taken as approximately correct. These remarks hold good for women also. No special tendency was noticeable to exaggerate old age upwards of 50".

14. The discussion given above would show that although all possible efforts were made to get as accurate a record as possible of the age of the people, the returns have to be taken into consideration bearing in mind the circumstances under which the information was collected. From the observations made by me on my extensive tours of the State, I think that on the whole, the probability of error in the urban age returns would be negligible; whereas it would not be so in parts of the interior, particularly in the backward tracts of the State. In the developed rural tracts, such as those of Berar, Nagpur and Jabalpur divisions also, the age figures can be regarded as fairly accurate.

15. **Question (5)—Birth-place.**—There was no trouble about people born in the district, but with regard to the people coming from outside, the matter was not without difficulty. Occasionally, people gave names of villages or odd places and did not know the names of the districts. In such cases the Enumerators gave the name of the places as returned and were instructed to write the name of the Province or State in brackets.

16. **Question (6)—Displaced persons.**—In many cases, where the displaced persons carried with them their registration cards, the entries were verified and recorded in the enumeration slips. In some cases, they could not give the date of arrival in India and in such cases the month or season of the year had to be recorded. Many displaced persons failed to give their district of origin and gave merely names of villages or other places and as the Enumerators were unable to locate the villages in any particular districts they had to content themselves by writing the answers as returned. Attempts were made in the Tabulation Office to get information from the Rehabilitation Department and the Registrar-General, but these also were not successful and such displaced persons have had to be taken under the head, "District not stated".

17. **Question (7)—Mother-tongue.**—No particular difficulty was encountered anywhere in respect of this question as the language or dialect as returned was recorded as the mother-tongue.

18. **Question (8)—Bilingualism.**—Where a person commonly used only the English language in addition to his mother-tongue, 'O', had to be written in his case and it was not quite clear to some people why the limitation was kept in the question. There was, however, no difficulty in getting replies to the question.

19. **Question (12)—Literacy and Education.**—This question also did not present any particular difficulty, except that in some cases where the Enumerators found difficulty in writing the names of the degrees and diplomas held by certain people. In such cases instructions were issued that the Enumerator should get the correct names of the degrees or diplomas written by the person concerned in the census records.

20. **Question (13).**—No difficulty was experienced anywhere in getting the replies to the fertility questions. Enumerators were explained that they should obtain the information either from the women themselves or from their close relations as might be found to be convenient.

21. **Question (14)—Sex.**—No difficulty was experienced in connection with this simple question, particularly as the instructions made it clear that eunuchs and hermaphrodites were to be treated as "males".

Part B.—The Economic Questions

1. **Criticism of the Economic Questions.**—The main criticism of these questions was as follows:—

- (1) They needed a higher standard of intellectual attainment on the part of Enumerators than was necessary at any previous Census.
- (2) They involved not only intensive training of the Enumerators, but also of the people in general.
- (3) The order in which the questions were asked was not happy.
- (4) Some people thought that Part I of question No. 9 attempted to strike a happy mean between the two methods of enquiry, *viz.*, (a) to ascertain only the active and passive members of the labour force and (b) to undertake a detailed investigation of the income levels by introducing the semi-active worker. The argument that this category of "earning dependants" was introduced merely because it had special importance in this country helped in enabling people to appreciate the object, but the three-fold enquiry about the "self-supporting

persons", "earning dependants" and "non-earning dependants", though apparently simple, proved to be a really difficult part of the Census enquiry in many places. Families in villages working jointly presented their own problems to a village Enumerator, because although the instructions were clear that no detailed enquiry was necessary about the income of individuals in such cases and that the word of the head of the household was to be taken for granted, the tragedy was that the innocent village folks and their heads of households had no "word" to offer on the subject to the Enumerator who had eventually to sit down quietly with them and had to actually estimate the income of different members after prolonged discussions to ascertain whether a particular member was "an earning dependant" or "a self-supporting person" within the meaning of the Census definition and instructions.

- (5) Part II of question No. 9 was typically difficult in respect of numerous border-line cases, and an Enumerator could not easily decide whether a person was to be recorded as an employee or an independent worker when he worked at will more as a petty contractor than as an employee although he was employed by some one else to do the job work.
- (6) With a view to avoiding vague replies to question No. 10, it could have been split up into 2 or 3 simpler questions.
- (7) Some of the terms used in the economic questions had to be given specific meaning intended by the framers of the questions and not their popular meaning.

2. The efforts to meet the criticism and to overcome the difficulties were directed to—

- (a) the dissemination of the true doctrines, and
- (b) the removal of objections.

In the matter of dissemination of true doctrines amongst the people and the workers, the leadership was taken by the Honourable Pandit Dwarka Prasad Mishra, Home Minister to the Government of Madhya Pradesh, who started the intensive campaign of educating all to make the Census Economic Enquiry a real success by holding a Press Conference on the 12th December 1950, at which he appealed to the Press and the enlightened section of the public to educate the people about the importance of the Economic Enquiry during the Census. He pointed out that on the Census depended the future of the people and the prosperity of the country as all our schemes and plans for reforms and developments would be based on the important statistics and information collected at the Census. If the information was not correct, our schemes and plans would go wrong, and the country would suffer a serious set-back. The Honourable Pandit Mishra made a very strong appeal to the people and the Census staff of the State and said :—

"The most important part of the work is to secure correct answers to the questions contained in the Census questionnaire. There were certain terms which had been used in a particular sense in the economic questions and unless the answers collected conveyed that particular meaning or sense, the whole purpose would be defeated. It is in this respect that the people have to be educated."

3. The note on the progress of the Census work in the State and on the scope and nature of the economic enquiry distributed at the Press Conference and published in the newspapers of the State is given in Annexure I. Copies of the note and its translations were printed and distributed throughout the State with the help of the Tahsildars and the Census staff.

4. Four special articles on the Census Economic Enquiry were written in popular style by the Deputy Secretary to the Government of Madhya Pradesh in the Publicity Department explaining the scope of the enquiry, the significance of the economic status and means of livelihood and pointing out what the Census data would reveal. These articles which are reproduced in Appendix P were translated into Hindi and Marathi and were published in all newspapers of the State and were freely and widely distributed. An intensive drive was undertaken throughout the State to educate the people and the workers and in addition to the regular intensive training classes for the workers large public meetings were also arranged at different places and people were explained the importance of the Census enquiry and were told how they could co-operate to make the Census a success. A report of a typical meeting addressed by me is given in Annexure II.

5. Objections raised to the Census questions were systematically dealt with by the members of the superior Census staff who were thoroughly drilled in the details of the economic questions. Leaflets explaining "duties of citizens" and methods of asking the Census questions in a simple way and replying to them properly were widely distributed amongst the people and the workers.

6. Along with his demi-official letter No. 621-50-RG of 28th June 1950, the Registrar-General sent very useful instructions elucidating the Census questions Nos. 9 and 10 in form of questions and answers. They are reproduced in Annexure III. Leaflets containing the instructions were widely distributed and they served a useful purpose in removing doubts and objections.

7. Methods of actually asking the economic questions and a suitable order in which they could be asked in a simple way were explained in leaflets which were translated and distributed to the Enumerators. The final instructions issued were as follows :—

“(i) Amongst the 14 questions to be asked, the most important questions are 9 (1), 10 and 11. On the basis of correct replies to these three questions will depend the real success or failure of the whole Census because the most important economic tables to be prepared will depend on the accurate and full replies given and recorded against these questions.

(ii) Every Census worker must, therefore, check up his knowledge of these questions. Where National Registers of Citizens have already been written, they should be very carefully verified to see that the replies recorded in each case are accurate. At the time of taking the actual Census and filling in the slips between the 9th February and 1st March, every Citizen must be asked these three questions again and replies must be very carefully recorded in the slips. If the entries in the National Register of Citizens need corrections, these should be carefully made.

(iii) Question No. 9 (1) can be asked in a simple way as follows : “Do you earn any income?” If the reply is “no”, the person is a non-earning dependant and you have to write 2. If the reply is “yes”, you should ask one more question, “Can you support yourself with this income, if you live alone?” If the reply is “yes” the person is “self-supporting” and you have to write 1 for him. If the reply is “no” and the person says that although he earns some income but gets help of some relative, etc., for supporting himself, then he is an earning dependant and you have to write 3 for him.

(iv) To get replies easily for question No. 9 (2), you should first ask the 10th question as follows : “What is your principal means of livelihood?” If the reply is “service” or “labourer”, etc., you have to write 2. If the reply is “trade”, “shop-keeping”, “cultivation”, etc., you should ask one more question : “Do you engage any servants in the particular profession?” If the reply is “yes”, write 1. If the reply is “no”, write 3. Remember that for beggars, pensioners and convicts, etc., you have to write “O”. Similarly, for all dependants, whether earning dependants or non-earning dependants for whom you have written 3 or 2 in question No. 9 (1), you must write “O” in question No. 9 (2).

(v) For question No. 10 you must remember the following hints :—

(a) *For a trader or businessman* you must find out two things : (i) *In what articles or commodity he trades* and (ii) *is he a retail or a wholesale trader?*

(b) For “service” or “labourer” find out the actual job which the person does, and if he works in a factory, etc., point out what articles are manufactured there. • In short, give full details of the nature and type of work the person does and details of the factory or other place where he does the work. *Giving of full details is most essential.*

(c) Remember the four contractions to be used for agricultural work. 1 for person who cultivates his own land himself or with the help of his labourers, 2 for a person who cultivates land as above but belonging to another person, 3 for an agricultural labourer and 4 for a person who lets out his own land to another person.

(d) Contraction 3 is used in question No. 10 for agricultural labourer only, and for any other labourer, you must give full details of the nature of work he does and particulars of the factory or other place where he actually works.

(e) In the case of dependants, whether earning or non-earning, you must write in question No. 10 the principal means of livelihood of the person who supports them. (The idea is that we want to know the number of persons who are supported from the income derived from the particular principal means of livelihood).

(f) *In question No. 10 if you fail to write proper contraction for agricultural classes or if you fail to give full details for others the entire Census will fail as it will be impossible to classify people according to their principal means of livelihood.*

(vi) Question No. 11, about secondary means of livelihood is to be dealt with equally carefully. It is to be remembered that in the case of an earning dependant you have to write against this question the nature of work from which he derives the small income himself. In the case of a non-earning dependant, you have to write "O". Similarly, if a person has no secondary means of livelihood, you have to write 'O'."

8. It is proposed to conclude this discussion on the Economic Questions after pointing out instances of difficulties and experience of District Officers in different parts of the State with regard to the Census economic questions.

9. The Deputy Commissioner, Amravati, says—

"As regards the economic questions Nos. 9, 10 and 11, it was observed that an Enumerator of average intellect found it difficult to comprehend their implications. It was only after persistent instructions that the correct implications of the questions could be understood. It was not on account of want of clarity in the explanations to the questions that the collection of information was difficult but it was due to the low intellectual standard of the Enumerators and at times of the persons enumerated."

10. The Deputy Commissioner, Chhindwara, has to make the following observations :—

"It was rather difficult for a person to understand the term 'self-supporting'. Instead of putting the long question as it was, it would have been better if it had been divided into two or three simpler forms in colloquial language. Due to the joint family system, when a person was asked if he was self-supporting he would usually understand that he was being asked about himself and his family dependant upon him. It is, therefore, necessary to word this question more directly so as to make him realise at once that he alone was concerned in the reply. Similarly, there was some confusion about earning and non-earning dependants in the case of members of a joint family having share in the property. It is, therefore, necessary to make it absolutely clear as to which of the members could be taken up in one or the other category."

11. The Deputy Commissioner, Bilaspur, observes as follows :—

"From the very beginning, special attention and particular emphasis was laid on questions Nos. 9, 10 and 11, and the Enumerators were personally explained by the District Census Officer how to write the entries of these questions. In spite of our best efforts, however, it was noticed that some Enumerators committed mistakes. All possible attempts were made to give as much details as possible of question No. 10. In spite of all this, in some cases, the Enumerators made technical mistakes. The distinction between the head of the family and earning member was explained time after time to the Enumerators by the Supervisors, but still for want of sufficient intellectual development, mistakes were committed, but they were corrected as far as possible, at the time of checking."

12. The Deputy Commissioner, Wārdha, remarks—

"These were the most important questions for obtaining the Census economic data of the country. Undoubtedly, these were extremely difficult and were not within the easy grasp of the Enumerators and even the Supervisors and Charge Superintendents in many cases. Several intelligent persons had their own interpretations. The elucidation of these questions contained in Superintendent of Census Operations' Memorandum No. 246-SCO/50, dated the 12th July 1950, and pages 8 to 12 of the booklet *Duties of Citizens*, however, made it easy for the Census Officers to understand these questions. Constant training and practice in asking these questions to the people, obtaining their replies and recording the same in sample enumeration slip brought home to the Census Officers a thorough understanding of these questions and it can be said with authority that the answers to these questions have been recorded with considerable accuracy."

13. The Deputy Commissioner, Hoshangabad, says—

"It may be mentioned that very great attention was paid to questions Nos. 9, 10 and 11 by all the Census workers, and special training and practice were given at the training classes about these questions. I have already mentioned above about the existence of some confusion in the minds of some Enumerators about question No. 1 and question No. 9 (i). In the beginning, a number of cases were detected where only the head of the household was classified as self-supporting, and the mark '1' was put against question No. 9 (i), and all members of the household, whether self-supporting or not, were given the figure '2' or '3'. The mistakes were corrected in time and the point was explained in detail in various training classes. The ignorance of the common people made the task of the Census workers more difficult in respect of questions Nos. 9, 10 and 11."

14. The Deputy Commissioner, Raipur, makes the following observations :—

“Question Nos. 9, 10 and 11 were really most important questions, and the success of the Census depended upon the accuracy of the replies elicited and recorded for them. Much emphasis was invariably laid on the correct recording of the answers to these questions, and the instructions and clarifications received from time to time were explained at length to all Census staff in the district. It was felt that errors in the use of contractions for these questions could result in misleading statistics which might upset the important economic tables proposed to be prepared from these answers. Much difficulty and doubt were felt by the Enumerators in classifying the labourers and others, as employees, employers and independent persons. It would have been better, if some more specific divisions of these classes could have been provided in the column. It was felt very difficult to decide the principal means of livelihood in question No. 10 of persons having more than one means of livelihood. The persons concerned were reluctant to disclose the means which provided largest income to them. Use of contractions in question No. 10 in rural areas for cultivators was also very complicated, and there was every likelihood of using wrong contractions by Enumerators for cultivators. The Enumerators were, however, thoroughly drilled in the subject, and strict supervision was exercised by checking officers in verifying and rectifying, where necessary, the answers recorded on the slip.”

15. The Deputy Commissioner, Yeotmal, mentions in his report—

“The distinction between an ‘employee’ and an ‘independent worker’ was too subtle or difficult for practical application in some cases of daily labourers, sometimes working on daily wages and sometimes on contract basis also. Constant practice and repeated tests and counter-tests of Enumerators were adopted for achieving accuracy in this respect, but in spite of that a few errors on the part of some Enumerators are not improbable.”

16. The Deputy Commissioner, Jabalpur, observes—

“Government and Local Body employees seldom disclosed their secondary means of livelihood, when the same are prohibited departmentally, *e.g.*, moneylending, running a flour mill or Insurance business in the name of wife or children. Teachers invariably take up private tuition without the required sanction and as such they do not disclose it as their secondary means of livelihood. I came across a typical case of such concealment of secondary means of livelihood. A fourth grade employee of Central Telegraphs Works, Jabalpur, was found plying on hire a rented rickshaw at night to supplement his earnings for supporting a trail of dependants. During day time, he worked in the factory. He frankly admitted that he did not disclose this information to the Census Enumerator lest it should lead to his dismissal from service.”

17. District officers also made local arrangements for publicity and tried to educate the people and their workers in all possible ways. The Deputy Commissioner, Jabalpur, reported that publicity to Census matters was given “with the help of cinema slides, loud-speakers, posters, the local press, public speeches by prominent people and by Samaj Shiksha publicity vans, the radio broadcasts,” etc. Propaganda was made in all districts amongst the people to convince them that the replies to be given by them to the Census questions in general and the economic questions in particular were to be treated as strictly confidential under the Census Act and that the information could not be used even in law courts.

ANNEXURE I TO APPENDIX U

Population Census—1951

NOTE.—Distributed at the Press Conference held by the Honourable Pandit Dwarka Prasad Mishra, Home Minister to the Government of Madhya Pradesh, on the 12th December 1950.

IMPORTANCE OF THE CENSUS ECONOMIC ENQUIRY

Preparations for the forthcoming Census to be held from the 9th February to the 1st of March 1951 have almost been completed throughout Madhya Pradesh, and the work of writing the National Registers of Citizens has also commenced everywhere. The latest figures indicate that there are 48,683 Enumerators, who will enumerate estimated population of over two crores and eleven lakhs in this State and who will collect vital and important statistics in respect of residents of Madhya Pradesh under the supervision of 7,753 Supervisors and 595 Charge Superintendents. Training of this vast Census organization has been completed in almost every district under the supervision of the Deputy Commissioners and their Assistants with the guidance of the Superintendent of Census Operations, Madhya Pradesh. Except in a few places, the standard of training given is reported to be satisfactory, and it is hoped that the data collected by the Census staff with the co-operation of the people would be accurate and reliable everywhere. It is encouraging to find that at many places non-officials are taking very keen interest in the Census work as they have appreciated its national importance in free India. It need hardly be stated that if the information collected is not accurate, the planning work based on the unreliable figures would give a very serious set-back to the country.

The Census Economic Enquiry.—Amongst the numerous enquiries contemplated by the Census questionnaire, the most important is the one connected with the economic condition of the people and as it relates to the question of prosperity of the country it is of the utmost importance that all Enumerators and as large a population of citizens, as can possibly be reached with the co-operation of the press and the educated people should be made to clearly and uniformly understand the significance and meaning of economic Questions Nos. 9, 10 and 11 of the Census questionnaire and the terms used therein so that the people might give full and accurate replies and the Enumerators might correctly take them down.

The three questions mentioned above are inter-connected and directed to two topics, namely, "means of livelihood" and "economic status". The former is broken into two parts, "principal means of livelihood" and "secondary means of livelihood" and these are put as two separate Question Nos. 10 and 11. The latter is also broken into two parts, "dependency" and "employment" and are put as two separate parts of the same Question No. 9. It is to be remembered that the three questions mentioned above have to be put exactly as they stand to seven crores of households throughout India and they have to be understood in an identical sense and the replies have to be recorded correctly by the Enumerators.

There is no real difficulty in understanding Questions Nos. 10 and 11, regarding "principal means of livelihood" and "secondary means of livelihood". "Means of livelihood" of any individual ordinarily means the gainful occupation, which forms the source from which that income which is utilised for his maintenance is normally derived; but it is more comprehensive, in as much as in exceptional cases income may be secured without gainful occupation. "Principal means of livelihood" means the same thing as "means of livelihood" for every person who has only one means of livelihood. Where a person has more than one, that which gives him the greater part of his income is the "principal means of livelihood". In the sense thus defined, every human being without any exception has a "principal means of livelihood" whether or not he is a "self-supporting person". Every "non-earning dependant" is maintained exclusively by the income of some "self-supporting person" on whom he is dependent. Consequently, the "principal means of livelihood" of the latter is required to be recorded as the "principal means of livelihood" of the former. The same rule applies to "earning dependants" also.

The meaning of "secondary means of livelihood" should also be clearly understood. A "self-supporting person" may or may not have more than one "means of livelihood". If he has more than one, that which provides the greatest income is the "principal means of livelihood" and the next is "secondary means of livelihood". It is to be noted that for the forthcoming Census enquiry, it has been laid down that no note should be taken of more than two such "means of livelihood" in any case.

The first part of Question No. 9 deals with "self-supporting persons", "earning dependants" and "non-earning dependants", while the second part of that question aims at ascertaining the "employers", "employees" and "independent workers". It is of the utmost importance to remember that the above terms used in Question No. 9 are of a non-technical nature, although the enquiry to be made is a technical one. The non-technical terms have to be used in order to be intelligible to our Enumerators, as well as the citizens. It is also to be noted that the average Enumerator employed in the Census is not an

economist and is himself a very average citizen, who has to do the Census work in his spare time. It is, therefore, all the more important that the meaning of the non-technical terms used in Question No. 9, as fixed by the framers of the questions (the technical experts), must be taken by every citizen to be the meaning of these terms for purposes of the specific enquiry. It is conceivable that the terms used in Question No. 9 might be given meaning other than the meaning intended to be given by the framers of the question, but the Census would be completely spoilt, if the exact meaning contemplated by the questionnaire itself is not given to these terms and if different people were to give them different meanings and to give replies in different ways. It might be very specifically made clear that in the Final Census Reports great care would be taken to explain the correct significance of the statistics collected by asking Question No. 9 with the particular meaning of the terms used therein, so that there would be no possibility of misinterpreting the figures by giving different meanings to the terms used in the question.

We will now proceed to consider the definitions of and the meaning to be attached to the non-technical terms "self-supporting person", "earning dependant" and "non-earning dependant". With a view that the average Enumerators and the average citizens might understand the definitions in a simple way, they were told that where a person was in receipt of an income and that income was sufficient at least for his own maintenance, then that person was to be regarded as a "self-supporting person". Anyone, who was not a "self-supporting person" was a "dependant". The "dependant" might be either an "earning dependant" or a "non-earning dependant"; the test was whether or not he secured a regular income even though it might be small. Where the income which he secured was not sufficient to support him, that person was an "earning dependant". A person who did not secure any income was a "non-earning dependant".

In some places, it is argued that under the definition as given above, a semi-starving human being would be classed as a "self-supporting person". The misunderstanding is really due to the use of the non-technical terms in a technical context. The following explanation would make it clear what exactly is contemplated by the enquiry in Part I of Question No. 9 and what particular restricted meaning has to be given to the popular terms for purposes of technical economic enquiry:—

(i) It is perfectly true that there are a great many persons with too low incomes to support life at the minimum that can be regarded as a human standard; and that these would be classed as "self-supporting persons", if it so happens that their small income at least proves sufficient for their maintenance at the *de facto* standard (sub-human as it might be). The first part of Question No. 9 does not seek to classify people according to income or standard of living, but according to their actual status in relation to national economy as well as the economy of the household:

(a) Within every household, there are bread-winners and others who are not bread-winners. It is this distinction which is sought to be brought out by the terms "self-supporting persons" and "non-earning dependant". The "earning dependant" is an intermediate category which, it is believed, has greater significance in India than elsewhere, and is accordingly provided. This is the person who gets some income, but not enough even to meet the cost of his own maintenance at whatever standard he happens to live.

(b) The distinctive economic status, as visualised in the first part of Question No. 9, is significant not merely in relation to the economy of the household but also in relation to the national economy. In fact, the particular distinctions mentioned in the first part of Question No. 9 and explained above, would be made use of in the detailed classification which is to be adopted in the various economic tables which would be prepared from the Census data. The people would in the first place, be broadly classified under two "livelihood categories", namely, the agricultural classes and the non-agricultural classes. Each of these categories would next be subdivided into four "livelihood classes" as follows:—

Agricultural classes

- (i) Cultivators of land, wholly or mainly owned by them, and their dependants,
- (ii) Cultivators of land, wholly or mainly unowned by them, and their dependants,
- (iii) Cultivating labourers, and their dependants, and
- (iv) Non-cultivating owners of land, agricultural rent receivers, and their dependants.

Non-Agricultural Classes

- (i) Production (other than cultivation),
- (ii) Commerce,
- (iii) Transport, and
- (iv) Other services and miscellaneous sources.

Now in each of the above branch of national economy, you might derive your "principal means of livelihood" in one or two ways. You may be an "active" worker, an "earner", a member of the "labour force" (many such expressions are in use to signify much the same thing) in that branch of the national economy; or you may be a wife, a child, or other dependant of such person (in which case your existence is dependent on that branch, but you are not an "active" member of it). There is (as already explained) an intermediate category which might be termed the "semi-active" worker. Thus, the three economic status mentioned in the first part of Question No. 9, namely, "self-supporting persons", "earning dependant" and "non-earning dependant" correspond to "active", "semi-active" and "passive" members of the particular branch of the national economy and these three economic status would be made use of to further divide each of the "livelihood classes" mentioned above, into sub-classes under the heads "self-supporting persons", "earning dependants" and "non-earning dependants". After completing this sub-division of the "livelihood classes", the analysis will proceed further in respect of "active workers", or the "labour force", or the first economic status, namely, the "self-supporting persons". This detailed analysis of the "self-supporting persons" or the "labour force" or the "active workers" of the particular branch of economy will be undertaken to further classify them under the heads "employers", "employees" and "independent workers" in industries and services by divisions and subdivisions on the basis of the information obtained in the second part of Question No. 9.

Thus, it will be seen how Part I of Question No. 9 is a very vital link in the chain of the questions relating to the economic condition of the country and the importance of understanding the question in the sense in which it is to be understood can hardly be overemphasised.

(ii) It might be asked why no effort is made directly to ascertain the income level and standard of living of the people, so that the occasion for any misunderstanding may be removed and positive information of the value might be provided. The answer is—

- (a) Government would have been very glad to do this if there was even a sporting chance of success; but according to their best information and advice, it would be far too difficult to secure this information in an enquiry addressed to seven crores of households and carried out by unpaid staff in spare time. There was also the risk of suspicion and hostility being aroused amongst some sections of the people that this was an attempt to increase the tax burden.
- (b) The Central Government do intend to collect such data by more specialised enquiries on a sample basis. They have already taken steps to this end. Further, the answer to Questions Nos. 9, 10 and 11 (if correctly ascertained and recorded in the National Register of Citizens) will prove to be of great value in determining suitable sampling frame-work for such enquiries in future years.

Need of co-operation from the public and the press.—The public and the press have been giving their full co-operation in Madhya Pradesh in making the forthcoming Census a real success in this State. It is to the press that we look forward to educate the people about the important economic enquiry contemplated by Questions Nos. 9, 10 and 11 of the Census questionnaire and to bring home to them the importance of these questions and their duties in giving full and accurate replies so that basic economic data of very high value for the economic and social planning of the country might be made available to the nation.

ANNEXURE II TO APPENDIX U

[Copy of the article published in the "Nagpur Times", dated the 29th November 1950.]

CENSUS ECONOMIC ENQUIRY AND ITS SIGNIFICANCE

SHRI KERAWALLA'S TALK AT RAIPUR

Raipur, Nov. 26.

A largely-attended public meeting was held at Kamal Talkies, Raipur, on the 25th November under the Presidentship of the Deputy Commissioner Shri S. K. Shrivastav, I.A.S., at which Shri J. D. Kerawalla, I.A.S., Superintendent of Census Operations, Madhya Pradesh, stressed the importance of the forthcoming Census and pointed out how basic data of very high value for social, economic and educational planning would be made available to the nation after the 1951 Census.

Amongst those who were present, were Mahant Laxminarayan Das, M.L.A., Seth Sheodas Daga, M.L.A. (Central), Shri Sharada Charan Tiwary, President, Municipal Committee, the Heads of Departments of the State Government and a number of prominent citizens and Census workers.

Shri Kerawalla laid particular stress on the Economic Enquiry to be conducted during the Census and said that Questions Nos. 9, 10 and 11 of the Census Questionnaire were most important of all. According to Shri Kerawalla, these three questions were interconnected and directed to two topics, namely, "means of livelihood" and "economic status". The former was broken up into two parts—"principal means of livelihood" and "secondary means of livelihood"—and these were put as two separate Questions Nos. 10 and 11. The latter was also broken up into two parts, the first dealing with "self-supporting persons", "earning dependants" and "non-earning dependants", and the second dealing with "employers", "employees" and "independent workers".

Proceeding further, Shri Kerawalla urged that it was extremely important that all Enumerators throughout Madhya Pradesh and as large a population of the State as possible should understand and appreciate the three questions fully and thoroughly in the same sense, so that correct replies might be secured and recorded throughout Madhya Pradesh uniformly.

With regard to Question No. 9, Shri Kerawalla particularly mentioned that the terms "self-supporting persons", "earning dependants" and "non-earning dependants" used in this question must be understood in the sense in which they have been specifically used to obtain a specific type of economic information from the people. "As a matter of fact", said Shri Kerawalla, "there was a certain amount of risk involved in using these non-technical terms in a technical and scientific context". But, he pointed out, non-technical terms had to be used in order to be intelligible to the Enumerators, as well as to the citizens, and that in the Census Reports, great care would be taken to explain the terms used and the correct significance of statistics collected during the enquiry by the use of those terms.

Self-supporting

Proceeding further, Shri Kerawalla explained the restricted meaning of the term "self-supporting" as used in Question No. 9 and pointed out that this term did not necessarily mean that the person had at least an income, which could be regarded as minimum for a normal human standard but that it merely meant that the person, in respect of whom it was used, belonged to an economic status and had such income (howsoever small it might be), which was at least sufficient for his maintenance at the *de facto* standard, though that standard might even be adjudged sub-human.

It had to be clearly understood he said, that this part of question No. 9, did not seek to classify people according to income or standard of living, but according to their actual status in relation to the existing national economy, as well as the economy of the particular household. Within every household, there were "breadwinners" and others who were "not breadwinners". It was this distinction which was sought to be brought out by the terms "self-supporting persons" and "non-earning dependants".

Earning Dependants

The "earning dependants" was an intermediate category, which, it was believed, had greater significance in India than elsewhere and was, accordingly, provided in the question. This was the person who got some income, but not enough to meet the cost of his own maintenance whatever standard he happened to live. In other words, remarked Shri Kerawalla, the economic classification contemplated by the first part of the 9th question referred to the economically "active", "semi-active" and "passive" members of the population. The "self-supporting persons" mentioned in the question might be identified with the "active workers", or the "labour force" of the country.

Shri Kerawalla proceeded further and said that the terms used in the first part of the 9th question were to be understood in the sense explained above and not in any other sense and that if this were done, there would be no misconception that the Census enquiry would be misleading and by pointing to the large number of "self-supporting persons" would deny the existence of widespread poverty in the country. There was no one in the Census organisation, stressed Shri Kerawalla, who was interested in concealing the prevalence of poverty among the masses, or furnishing any misleading information.

Referring to the question why no effort was made directly to ascertain the income level and standard of living of the people, so that the occasion for any misunderstanding would have been removed and positive information of value would have been provided, Shri Kerawalla said that this would have certainly been done if there had been even a sporting chance of success. According to the best information and advice available to Government, it was found that it would be far too difficult to secure this information in an enquiry addressed to seven crores of households and carried out by unpaid staff in spare time.

There was also the risk of suspicion and hostility being aroused amongst some section of the people that this was an attempt to increase the tax burden. Shri Kerawalla added that Government intended to collect such data by more specialised enquiries on a sample basis and further that the answers to questions Nos. 9, 10 and 11, if correctly ascertained and recorded in the National Register of Citizens, would prove to be of great value in determining suitable sampling frame-work for such enquiries in future years.

Principal Means of Livelihood

After explaining the second part of the 9th question dealing with "employers", "employees" and "independent workers", Shri Kerawalla dealt at length on the importance of question No. 10 and giving full and accurate replies about the "principal means of livelihood". He appealed to the audience to explain the significance of the question to their friends and to create amongst them such interest as would lead them to seek the right answer for question No. 10 as well for questions Nos. 9 and 11 almost in the same spirit as while solving a crossword puzzle.

Shri Kerawalla also dealt with the questions dealing with the social and educational enquiry to be conducted during the Census and pointed out how the sociological and educational data would be of very great value to the social reformers and to the Government in ascertaining the educated man-power of the country.

Shri Kerawalla has been touring in the Chhattisgarh Division after completing his tour of the Western districts of Madhya Pradesh. He felt that the standard of work in Berar was, on the whole, very satisfactory and that there was much scope for improvement in the districts of Bhandara and Durg recently visited by him.

He appealed to the officials as well as the non-officials of Chhattisgarh to make a sincere effort in raising the standard of training of the Enumerators and in educating the public, so that accurate and reliable Census data might be secured from these districts.

ANNEXURE III TO APPENDIX U

CENSUS ECONOMIC DATA—ELUCIDATION OF CENSUS QUESTIONS
NOS. 9 (1), 9 (2) AND 10

Copy of letter No. 621-50-R.G., dated the 28th June 1950, from Government of India, Ministry of Home Affairs, New Delhi-2, to the Superintendent of Census Operations, Madhya Pradesh, Nagpur

I enclose herewith (in the form of question and answer) a further elucidation of Census questions Nos. 9 (1), 9 (2) and 10.

The answers to these questions will be the Census economic data for all-India; and rigid uniformity of interpretation of instructions is essential. Enquiries from one State indicated the incipient growth of heresy, notwithstanding prolonged debate at the Census Conference. Hence this letter.

I.—Census Question No 9 (1)

Question No. 1: In the instructions the words are "the test is whether he secures a regular income, even though it may be small". Does the use of word "regular" rule out persons who earn an income by seasonal employment?

Answer: No. The word "regular" is used in the sense of "non-casual". It is not intended to be confined only to income derived from continuous employment. It also includes income derived from seasonal employment. What it does exclude is individual income accruing casually and not constituting a source of income which is regularly depended upon.

Question No. 2: The word "self-supporting" as defined in the instructions, means any person whose income is sufficient at least for his own maintenance. Does this mean that an income sufficient for one man is self-supporting income? What about his direct dependants—wife, children, etc.?

Answer: Yes. The instructions mean what they say. A person must be deemed to be self-supporting if his income (such as it is) is sufficient to support him individually at his present level of living (such as it is). He does not cease to be self-supporting merely for the reason that he, his wife and children taken together are not maintained by his own income.

If the wife and children have no income of their own, they are non-earning dependants. The instructions provide that their principal means of livelihood should be deemed in every case to be the same as that of the person on whom they are dependent. This would in most cases be the husband or father who will also be the head of the household. In those exceptional cases where the husband or father is *not* the head of the household, and is also not able to support anyone but himself, then the head of the household in which the non-earning dependant is living is the person on whom he (or she) is dependent.

Remember—every "family household" is (collectively) self-supporting; otherwise it would not exist. The surplus of self-supporting persons within a family household is in every case sufficient to meet the deficit on the earning and non-earning dependants in that family household.

Question No. 3: In the instructions it is recorded that if two or more members of the family household jointly cultivate land they would be classed as self-supporting or earning dependant "according to the share of income attributable to him or her". How are those share to be assigned? What about females who, in some cases, take an active part in agricultural operations?

Answer: The share of the income attributable to a person is what the head of the household (or whoever is the managing member) deems it to be. No attempt should be made to make a detailed calculation of this share. All that has to be ascertained is whether (in the opinion of the head of the household or managing member) the member concerned is entitled to a share which would be sufficient to cover the cost of his own maintenance.

If the answer is "yes", he is "self-supporting"; if the answer is "no", he is an "earning dependant".

The considerations are exactly the same whether the individual is a male or a female, an adult or a non-adult.

II.—Census Question No. 9 (2)

Question No. 4: Are doctors and lawyers, who employ compounders and clerks independent workers or employers?

Answer : They are employers. A doctor employs a compounder in order to relieve him of part of the work connected with the business on which he is engaged and by which he secures his livelihood. A lawyer employs a clerk for a like purpose.

Question No. 5 : A moneylender employs four persons to realise interest. Is he an employer or independent worker ?

Answer : He is an employer. He would be an employer even if he employed only one person, provided that person was regularly employed and derived his principal means of livelihood by such employment. Casual employment or part-time employment which does not provide the principal means of livelihood of the person employed, should not be taken into account.

Question No. 6 : What is the status of tenants or zamindars who do not cultivate themselves but employ labourers ?

Answer : If they employ others they are "employers" provided the purpose of the employer and the nature of the employment are as stated in the answers to the two preceding questions.

Question No. 7 : What is the status of beggars ; orphans in orphanages ; convicts in jails ?

Answer : They fall in none of the three categories. Record "O" for them.

III.—Census Question No. 10

Question No. 8 : What is the category of a minor, a blind person or a lady who has land in his or her name but gets it cultivated by labourers ? Category 1 or category 4 ?

Answer : Learn to distinguish between "cultivation of the land" and "performance of labour necessary for cultivating the land". There are, of course, millions of persons who perform both functions—but the functions are distinguishable and should be distinguished. The man who takes the responsible decisions which constitute the direction of the process of cultivation (*e.g.*, when and where to plough, when and what to sow, where and when to reap and so on) ; it is this person who should be referred to as the cultivator, even though he does not perform any manual labour whatever. The man who ploughs, or sows, or reaps, under the directions of some one else is not the cultivator—but a cultivating labourer, a different thing altogether.

The cultivator may be the owner of the land cultivated. In that case he is category 1, whether or not he also combines in himself the functions of a cultivating labourer.

Alternatively, the cultivator may be a lessee, an agent or manager (paid or unpaid). Even in this case it is immaterial whether this lessee or agent or manager also combines in himself the functions of a cultivating labourer ; he (the cultivator) is category 2, and the other person (the owner) is category 4.

Applying these principles, the answer to the question put depends on whether the minor, blind person or lady does or does not actually direct the process of cultivation. If the person does this, the answer is category 1 ; otherwise, the answer is category 4.

APPENDIX V

A NOTE ON FERTILITY STATISTICS IN MADHYA PRADESH

Question No. 13 of the census questionnaire was left blank by the Government of India in order to accommodate any special requirements of the various State Governments. 'Infirmity', 'unemployment' and 'fertility' were the subjects suggested at the Census Conference held at New Delhi in February 1950, but question on any other subject was also admissible provided it did not relate to caste. The decision of the Madhya Pradesh Government to collect statistics on 'fertility' at the 1951-Census was conveyed to the late Shri Kerawalla by the Additional Secretary to the Government of Madhya Pradesh, General Administration Department, in his D. O. No. 1573-1294-II, dated the 30th March 1950.

Reference to Statistics

2. The statistics on fertility are contained in Table F-I (Size of family and present age of mothers), F-II (Size of family according to age at birth of first child), F-III (Age at birth of first child and number of children born), F-IV (Age at birth of first child and number of children surviving) and F-V (Number of children born and surviving) and Tables M-I-A and M-I-B, showing present age and age at birth of first child, in respect of still married mothers and widowed or divorced mothers respectively, and Table M-II showing the distribution of fertile and infertile women amongst the still married women and widowed or divorced women, by various age groups, given in Part II-D of the Report. Tables F-I to F-V are based on the total count, while Tables M-I-A, M-I-B and M-II are compiled from the data contained in the 10 per cent sample extracted during the initial sorting as below :—

“ Break each pad and stack the slips of the pad ; and “cut” the stack as in a card game. Place the lower portion above the upper portion and then deal the slips into the pigeon-holes. You should deal the slips into the pigeon-holes in the order 1, 2, 3, 4, 5, S, 6, 7, 8 and 9, respectively. All the time you should watch the slips for the answer to question 6. If you come across any slip in which the answer to question 6 is different from '0' deal it into the pigeon-hole for 'displaced persons'.”

Four Subsidiary Tables, 8-1, 8-2, 8-3 and 8-4, derived from the sample data, are given in Part I-B of the Report.

The inquiries made at the Census regarding fertility consisted in ascertaining in respect of each woman, the total number of children born to her, the number of children surviving out of them and her age at the birth of her first child. The instructions issued to the Enumerators on the subject were as follows :—

“ Number of children born to a woman and age at birth of the first child.—First write the total number of children including dead ones. Put a dash and write in brackets the number of surviving children. Again put a dash and write the age of the woman when she gave birth to the first child. Thus the three entries would be written as '7-(5)-20'. Put 0 if the slip refers to a woman, who has had no children, and also if the slip relates to a male.”

The following supplementary instructions were also embodied in the Census Code :—

“ 13. Question 13 (Number of children born to a woman and age at birth of the first child).—The husband or father or other elderly person in the house should ordinarily be requested to give the information. First ask how many children she has had in all (including dead ones). Write down the figure and put a dash. Next ask how many children are surviving ; write the figure in brackets and again put a dash. Then ask how old she was when her first child was born and write the age. Thus an entry '7-(5)-20' on the line against question 13 on the enumeration slip will mean that the woman had given birth to 7 children of whom 5 are alive and that her age when the first child was born was 20 years. For a male or a woman who has had no children, write 0.”

The procedure followed by the Enumerators for arriving at the correct age of the mother at the birth of her first child was, first to ascertain her present age and that of the first issue, provided he was alive and then to subtract the age of that issue from that of the mother. In case the first issue was dead, the Enumerator ascertained by various means, the age which that issue, but for his death, would have reached and then subtracted it from the present age of the mother.

Accuracy of Fertility Statistics

3. The answers to all the three components constituting the answer to question No. 13 were, in general, recorded accurately. This was rendered possible largely on account of the very wide publicity given to the importance of furnishing meticulously correct returns, particularly in respect of economic and fertility data, in the months preceding the Census. The Enumerators were also asked to make absolutely certain that all births including still births were covered while recording replies to question No. 13 in the enumeration slip.