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REPORT
OF THE
Unemployment Committee,
Bihar
1935-1936.



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REPORT OF THE BIHAR UNEMPLOYMENT COMMITTEE, 1935-36.

CHAPTER I.

INTRODUCTION.

Personnel and terms of reference.

1. On the 20th February 1935 a resolution by our colleague, Maulavi Shaikh Muhammad Shafi, M.L.C., was carried in the Bihar and Orissa Legislative Council recommending the appointment of a committee of officials and non-officials to devise ways and means to relieve unemployment in the province, especially amongst the educated classes. In pursuance of that resolution the Government of Bihar and Orissa in their resolution no. 175-Com. R., dated the 22nd July 1935*, announced the appointment of this Committee—

“to examine and report on the nature and extent of unemployment among the educated classes, to investigate the possibilities of diverting more educated young men to industry and to make recommendations for reducing the volume of middle class unemployment; in particular to examine:—

- (a) the extent to which employment can be found in connection with the industries of Bihar and Orissa for the educated young men of the province;
- (b) the causes which operate against the admission of educated young men in the industries and the measures necessary to overcome their difficulties in securing employment;
- (c) the technical and other qualifications required for industrial employment and the extent to which facilities are available for acquiring these qualifications;
- (d) whether posts in the industrial system of the province for which men from this province are fitted are in fact being filled to any considerable extent by men from other provinces, and if so, for what reasons;

* Appendix II.

- (e) the nature and scope of the training provided in the Bihar College of Engineering and the technical and industrial institutes of the province, the extent to which these institutions qualify their students for industrial employment and whether modifications are desirable :

and to make recommendations.”

2. The Committee was composed of the following members :—

- (1) Mr. S. Lall, I.C.S., Secretary to the Government of Bihar and Orissa, Education and Development Department—*Chairman*,
- (2) Maulavi Shaikh Muhammad Shafi, M.L.C.,
- (3) Khan Bahadur Saghir-ul-Huqq, M.L.C.,
- (4) Rai Bahadur Mihir Nath Ray,
- (5) Rai Bahadur Lakshmidhar Mahanti, M.L.C.,
- (6) Dr. Gyan Chand, Professor of Economics, Patna College,
- (7) Babu Chandreshvar Prasad Narayan Sinha, C.I.E., M.L.C.,
- (8) Rai Bahadur Shyamnandan Sahay, M.L.C.,
- (9) Mr. L. D. Coueslant, Principal, Bihar College of Engineering,
- (10) Professor A. S. Khan, Chemical Adviser to the Director of Industries, Bihar and Orissa,
- (11) Mr. S. M. Dhar, I.C.S., Director of Industries, Bihar and Orissa—*Member and Secretary*.”

3. The Committee was further authorised by Government to form one or more sub-committees and depute them to important industrial centres in the province to collect information, and to co-opt persons with special local knowledge as members of such sub-committees.

4. Bihar and Orissa being joint when the Committee was formed, our enquiry at first extended to the combined province of Bihar and Orissa. But after the separation of Orissa in April last, our investigation was confined to Bihar only. Our colleague from Orissa, Rai Bahadur Lakshmidhar Mahanti, did not attend the meetings of the Committee after that date. Some of the statements which were prepared prior to the separation relate to

the combined province of Bihar and Orissa. It was not possible to separate them as this would have involved considerable time and labour. Some of our conclusions, therefore, necessarily apply to the original province of Bihar and Orissa, but, where possible, we have tried to draw separate conclusions applicable only to Bihar.

Scope of enquiry.

5. The scope of our enquiry was determined by the terms of reference. It will be observed that no reference is made to the vital and vexed problem of educational reconstruction. On the other hand, special emphasis is laid on the absorption of the educated classes in industry and on the employment of outsiders in posts for which suitably qualified men of the province are available. The Hon'ble Mr. Nirsu Narayan Sinha, the Finance Member, and the Hon'ble Mr. Saiyid Abdul Aziz, the Education Minister, very kindly addressed us at our first meeting. Their speeches* are of importance as they explain the reasons for imposing a limitation on our terms of reference. The Hon'ble Mr. Nirsu Narayan Sinha said in his opening speech :—

“ I do wish to emphasize the point which I have all along maintained and that is that it would be impracticable to expect a single committee to deal with each and every aspect of the problem of unemployment. I also believe that if you proceed on the lines which are indicated in your terms of reference there is much useful work which you can do and your recommendations are likely to have a far reaching effect in shaping the future policy of Government in certain directions.”

Similarly the Hon'ble Mr. Saiyid Abdul Aziz stated :—

“ The problem of unemployment is very vast and cannot be tackled as effectively as we may desire to do, because it would involve an enquiry and reform in our educational as well as social systems. It is obviously impossible for this committee to deal with the question comprehensively and, therefore, the Government have indicated the special lines on which the enquiry can be conducted with reasonable hope of some tangible and useful results. This limitation should be regarded rather as an advantage than a disadvantage.”

6. Though we fully realise the importance of the question of educational reconstruction in relation to the problem of unemployment, we have, in view of our terms of reference, avoided going into the details of this question except in so far as it affects

* (The full text of these speeches will be found in Appendix III A & B.)

the question of technical education and vocational training. At first sight the exclusion of educational reconstruction from the scope of our work may appear to some like the play of Hamlet without the Prince of Denmark. In dealing, however, with unemployment there is not one problem but a series of problems which require to be tackled from different angles. A campaign against unemployment must be conducted on several fronts. The exclusion of one front, even though it may be the most important, still leaves much to be done and in our report we have attempted to deal with certain features of this problem which are special to Bihar. We are also pleased to find that the question of educational reconstruction has been taken up by the Central Advisory Board of Education recently constituted by the Government of India which, we gladly admit, is more competent than we are to deal with it. The recommendations of this Board are already receiving the consideration of the local Government, and the Patna University has also independently been considering them in connection with the revision of the Matriculation Examination. We hope, therefore, that this important question with which we cannot deal will not be overlooked.

7. The definition of the term "educated classes" has presented a difficulty which, we find, was also felt during the debate in Council. For the purpose of our enquiry we have included among educated classes those who have received education at least up to the middle English or middle vernacular standard of our schools. An attempt was also made to consider the case of boys who have received corresponding education in Sanskrit schools and *madrassas*, but the information which the Committee could collect regarding the openings for these boys was too meagre to deal with their case satisfactorily.

Previous investigations.

8. The problem of unemployment is not a new one, nor is it confined to this province or, for that matter, to India alone. It is now world-wide in extent, though it may have special features in different places. Enquiries into the problem have been held in other provinces and in some of the Indian States, which have proved of great value to us. In particular, we take this opportunity of acknowledging our indebtedness to the recent report of the United Provinces Unemployment Committee presided over by the Rt. Hon'ble Sir Tej Bahadur Sapru, P.C., K.C.S.I.

CHAPTER II.

METHOD OF ENQUIRY.

Collection of statistics.

9. Statistics of unemployment among the educated classes are not available and, as has been the experience of other committees dealing with this question, their collection has presented exceptional difficulties. A member of the Legislative Council, who sent us an interesting memorandum, stated in evidence that it was no use calling for information on the subject from the public as they had not the means of supplying it. This pessimism was not without reason. During the last census of 1931 a systematic attempt was made in this province to collect statistics of unemployment among the educated classes, but the result was a complete failure. At page 193, part I, of the Census Report of 1931 it is stated :—

“ A special enquiry was undertaken at the present census with a view to ascertain the extent of unemployment among the educated classes. For this purpose a separate schedule was issued, to be filled in by ‘ male persons who are literate in English and who are wishful for employment but have tried in vain to obtain any employment for which their education has fitted them.’ No person was treated as ‘ literate in English ’ for the purpose of this enquiry unless he had passed the Matriculation or some higher examination. Unfortunately the returns obtained were hopelessly incomplete and the enquiry must be written down as a failure.

Only 462 educated persons between the ages of 20 and 40 are shown as unemployed, and this number includes only about 60 graduates. About one in every four is a Brahman by caste, the depressed classes being entirely without representation. Rather more than half of the unemployed are the sons of cultivators. But indeed no very useful purpose is served by an analysis of the figures, as they obviously represent only an inconsiderable fraction of the young men who have passed through the high schools and colleges of the province and have found themselves unable to obtain work for which ‘ their education has fitted them.’ For this reason it has not been thought worth while to tabulate particulars of the local distribution of these persons.”

10. We felt, however, that without statistics our task would be impossible. Our problem induces a tendency to generalise

and it is no easy matter to disentangle the facts from general statements which are necessarily based more on impressions than on actual experience. A suggestion was made to us that circular letters should be issued to all who had passed various examinations in the last two years, to the addresses recorded in their schools and colleges, asking them to report on their present occupation. Apart from the fact that such addresses were not expected to be kept up to date, the Committee felt that it would probably be necessary to allow for a longer waiting period and in any case an enquiry of this nature was not likely to meet with any satisfactory response. Unless there is some immediate prospect of securing a post, very few care to send a reply. This is corroborated by the last census and the experience of the Department of Industries where, in spite of repeated requests, the ex-stipendiaries failed to report their present occupation except when they were in search of employment or were anxious to better their prospects. A second suggestion was that test advertisements should be published in the papers for posts requiring different qualifications. We considered that this procedure was both unnecessary and undesirable. In the first place it would raise false hopes among a class which, from all accounts, is already sadly disappointed and disillusioned. In the second place, experience has shown that many of the candidates who apply in response to advertisements are already employed and are merely trying to improve their prospects. This fact is very often not disclosed in their applications. As some of the departments of the local Government have very kindly placed at our disposal the results of advertisements issued by them from time to time, there was no real necessity to try test advertisements.

Procedure adopted.

11. As it was not practicable to take a census of unemployed persons, the only satisfactory method of estimating the volume of unemployment among the educated classes was by obtaining figures of the normal output of education and the normal vacancies in which the educated classes could be absorbed. This we have attempted to do, but there are unavoidable gaps in the statistics collected by us which we have tried to fill in as well as possible. To determine the normal output of education we ascertained the number of passes in the last five years in all examinations of the middle standard and above. These include the Middle English (including Middle Vernacular), Matriculation, I. A., I. So., B. A., B. Sc., M. A. M. Sc., B. C. E., S. C. E., Industrial Diploma, diplomas or

certificates in other technical and industrial subjects, M.B., B.S., L.M.P., Compounders' and Dressers' certificates, Veterinary Diploma, B. L., Pleaders'hip, Mukhtearship, B. Ed., Teaching certificate, Guru and Maulavi training, Co-operative banking, Commercial certificate, Prathama, Madhyama, Acharya, Mulla, Maulavi, Alim, Fazil, etc. An average was taken of the five years' figures. From the average number of passes in a particular examination, the average number of those who passed the next higher examinations was deducted. This gave the number of boys who failed to go beyond that particular stage. To ascertain the number of posts available in the province the Committee addressed all Government departments, local bodies, railways, factories, mines, etc., who were asked to give the number of posts requiring different qualifications. We calculated the probable annual vacancies at four per cent of the total number of posts for which a particular qualification was required. The percentage was based on an average of 25 years' service and from the evidence which we received we consider that for most classes of posts our figure will be found to be reasonably accurate. We then compared the number turned out each year with a particular qualification against the probable number of vacancies for which that particular qualification was required. By this means we were able to compare demand with supply, but in drawing conclusions several other factors had to be taken into account and the results obtained were checked with the statements furnished to us by Government departments and local bodies of posts advertised and applications received during the last two years.

12. To Government departments, local bodies, industrial establishments and various associations we are greatly indebted for the information furnished regarding the number of posts and the qualifications required. Without their co-operation our enquiry would have been in vain. Factories, mines, railways and workshops were requested to furnish figures of the posts in each individual establishment carrying a pay of Rs. 20 or more and the number of these posts held by Biharis.* In all doubtful cases the statistics furnished by industrial establishments were checked by the Circle Officers of the Department of Industries. Some of the smaller factories which did not reply to our letter were visited by the Circle Officers and the necessary information was collected by them on the spot. All the railways, except the East Indian Railway, which, however, is the most

*In all our statistics and recommendations the term "Bihari" includes persons domiciled in the province.

important railway of the province, furnished the information required by us. In the case of the East Indian Railway we were compelled to make a rough calculation of the available posts by classifying the railway stations within the province and multiplying the average number of posts in a station of each class by the number of such stations. The information obtained from the collieries was also incomplete. Here too, we were compelled to make a rough calculation by classifying the collieries according to their output and multiplying the average number of posts in each class of colliery, as ascertained from the figures furnished to us, by the number of collieries in that class. The Bar and Mukhtear associations of the province furnished interesting figures of the total number of lawyers and the number unable to earn even a pittance. For the purpose of our enquiry a vakil or a pleader earning less than Rs. 50 a month and a mukhtear or a revenue agent earning less than Rs. 30 were treated as unemployed. The figures furnished by their respective associations were checked with the available data regarding the volume of litigation and the statistics of the Income-tax Department relating to the income-tax paid by lawyers.

Circular letters.

13. The Committee decided not to issue a general questionnaire as such questionnaires with the usual stereotyped answers were not expected to be very helpful in an enquiry of this nature. We were anxious to secure statistics rather than vague generalizations. We accordingly decided to issue two sets of circular letters in place of a questionnaire. The first was issued to industrial establishments including technical institutions, while the second was addressed to associations and other persons having special knowledge or interest in the problem of unemployment. Our circulars were published and a communique was also issued inviting the views of the interested public. These circulars and the communique are reproduced in Appendix IV(A), (B) & (C). Excluding the statistical material furnished by Government departments, local bodies, industrial establishments, etc., sixty four memoranda were received. On the whole, the response from the general public was poor but we were able to examine some typical unemployed persons whose evidence was both interesting and useful.

Work of the Committee and sub-committees.

14. The Committee held its first meeting at Ranchi on the 7th September 1935 and concluded its deliberations at Patna

on the 19th September 1936. In all there were eight meetings of the main Committee of which five were held at Patna and three at Ranchi. Fifty witnesses were examined by the full Committee which also paid a visit to the Ranchi Technical School.

15. As contemplated in the Government resolution constituting the Committee, the investigation in centres outside Patna and Ranchi was entrusted to sub-committees which were constituted as follows :—

(1) Bhagalpur sub-committee.

Members :— Mr. S. M. Dhar. (Chairman.)
 Mr. L. D. Coueslant. Vice Rai Bahadur
 Dr. Gyan Chand. Shyamnandan
 Sahay and Khan
 Bahadur Saghir-ul-
 Huqq, who were
 unable to attend.

Co-opted members :—at Bhagalpur—Rai Bahadur Bansidhar
 Dhandhanian.

at Monghyr—Mr. C. R. Campbell,
 Manager, Tobacco
 Manufacturers (India)
 Ltd. and Printers,
 India Ltd., Monghyr.

(2) North Bihar sub-committee.

Members :—Mr. S. Lall. (Chairman.)
 Mr. S. M. Dhar.
 Rai Bahadur Shyamnandan Sahay.
 Khan Bahadur Saghir-ul-Huqq.
 Mr. A. S. Khan.

Co-opted members :—Mr. Noel Deerr of Messrs. Begg Suther-
 land & Co.

Mr. F. L. Vardya of the New Swadeshi
 Sugar Mills, Narkatiaganj.

Mr. Benarsi Prasad Jhunjhunwala of
 the Harinagar Sugar Mills, Ramnagar,
 Champaran.

(3) Jamshedpur sub-committee.

Members :—Mr. S. Lall. (Chairman.)
 Mr. S. M. Dhar.
 Maulavi Shaikh Muhammad Shafi.
 Babu Chandreshvar Prasad Narayan Sinha,
 C.I.E.
 Rai Bahadur Lakshmidhar Mahanti.
 Mr. L. D. Coueslant.

Co-opted members :—at Jamshedpur—Mr. P. H. Kutar of the Tata Iron and Steel Co., Ltd.
 Mr. W. O. Henderson of the Tinsplate Co., of India Ltd.
 at Ghatsila—Mr. R. B. Woakes of the Indian Copper Corporation, Ltd.

(4) Dhanbad sub-committee.

Members :—Mr. S. M. Dhar. (Chairman.)
 Rai Bahadur Shyamnandan Sahay.
 Dr. Gyan Chand.
 Maulavi Shaikh Muhammad Shafi.

Co-opted members :—at Kodarma—Mr. C. C. Augier of the Brindaban Industrial Syndicate, Kodarma.
 at Dhanbad—Dr. D. Penman, Chief Inspector of Mines.
 Mr. J. Mackie of the Eastern Coal Co., Ltd. Bhowra.
 Rao Bahadur D. D. Thacker of the Pure Jharia Colliery Co., Jharia.

16. The Bhagalpur sub-committee visited Bhagalpur, Monghyr and Jamalpur from the 18th to the 21st January 1936 and examined twenty witnesses. It also visited the Bhagalpur Silk Institute and eight factories and workshops in that area, including the East Indian Railway Works at Jamalpur. The North Bihar sub-committee met at Muzaffarpur on the 30th and 31st January and 1st February 1936 and examined eleven witnesses. It also visited the workshop of Messrs. Arthur Butler and Company, Limited, and the Tirhut Technical Institute at Muzaffarpur. One of the co-opted members of this sub-committee, Mr. Banarsi Prasad Jhunjunwala was unable to attend. The Jamshedpur sub-committee met at Jamshedpur from the 14th to the 18th April 1936 and examined seventeen witnesses. It visited the works of the Tata Iron and Steel Company, the Tinsplate Company and the Indian Steel Wire Products Limited at Jamshedpur, and the Indian Copper Corporation at Ghatsila. The Dhanbad sub-committee, which met at Kodarma on the 18th and at Dhanbad on the 19th to the 21st July 1936 and examined

thirteen witnesses, had a general discussion with the representatives of the mica industry at Kodarma and the co-opted members at Dhanbad. In addition to the above, a sub-committee consisting of Rai Bahadur Shyamnandan Sahay, Dr. Gyan Chaud and Mr. L. D. Coueslant visited the Bihar College of Engineering on the 17th September 1936 and examined the nature and scope of training provided in this College and the possibility of introducing a degree course in mechanical and electrical engineering. A list of witnesses examined by the main Committee and its sub-committees will be found in Appendix XII of this report.

CHAPTER III.

NATURE OF UNEMPLOYMENT.

Definition.

17. For the purpose of our enquiry it is necessary to give a precise interpretation of the term "unemployment" which is capable of many shades of meaning varying according to the nature of the problem under consideration and the purpose for which the study of the problem is being undertaken. Unemployment may be of the following categories :—

- (a) absolute unemployment, where a person is "down and out" and reduced to the verge of starvation,
- (b) casual unemployment or under-employment, where a person secures employment for only a part of the year or is alternately in and out of work,
- (c) indirect unemployment or nominal employment, where a person though employed is not properly suited and has no scope for making proper use of his education and training,
- (d) provisional unemployment or unemployment of a person who has some reserve * to fall back upon and, therefore, a bargaining power which enables him, though sometimes with extreme hardship, to prolong the waiting period for employment rather than accept a post which is below his qualifications and legitimate expectation,
- (e) voluntary unemployment, where a person over-rates his ability and prefers to remain unemployed unless he can secure a post, which neither his qualifications nor his ability can support.

18. The dictionary meaning of unemployment does not include all the above categories. We are, however, charged with the duty of investigating the causes of unemployment among the educated classes and cannot confine ourselves to the dictionary meaning. We have to deal with young men who having finished their education, general or special, are unable to find work which will provide them with opportunities for turning their ability and training to good account. We are not concerned with the last category of voluntary unemployment, for which there is no remedy, but we have to take into account all the other categories. The educated young man, who is

* The reserve may take the form of assistance from friends and relations or a share in a small ancestral property.

compelled by necessity to accept a post which neither brings him the income which, by his qualifications and ability, he has a right to expect, nor provides an opportunity for utilising his training and education, is for our purposes as much of a problem as an educated young man who is actually unemployed. Employment in his case involves a sense of frustration and legitimate discontent. The number in this category is large and is likely to increase. Our unemployed or nominally employed young men are a problem to themselves, their parents and to society.

Number of applications for Government posts.

19. There can be no question that the volume of unemployment, in its wider sense, is considerable. This is evident from the very large number of applications that are received when any post under Government or local bodies is advertised. In Appendix V will be found the number of applications received by various Government departments and local bodies in response to advertisements for 512 vacancies in the last two years. The position in respect of Government posts requiring different qualifications is shown below:—

Qualifications required.	Matriculation.	I. A.	B. A.	B. Sc.	M. A.	M. C.
1	2	3	4	5	6	7
Average number of applications from Bihar and Orissa men for each vacancy.	30	42	19	12	27	6

In the above statement we have to allow for the fact that some of the candidates who applied may have had other private or less remunerative employment and some of them may have applied for more than one vacancy, but such allowances are expected to be small and not sufficient to affect our conclusion, provided it is understood that unemployment embraces all the categories in the preceding paragraph 17.

Degrees of unemployment—effect of joint family system.

20. Our enquiry leads us to believe that there are comparatively few educated young men who come under the first category of absolute unemployment; quite a number fall within the second category of casual unemployment and some within the fifth category of voluntary unemployment, but most come

under the third and fourth categories where they are not able to find employment suited to their qualification or legitimate expectation. The reason for the comparatively small number under absolute unemployment is the existence of the joint family which guarantees to support a member from its corporate resources. While serving as a kind of insurance against unemployment, the joint family system, which is probably stronger in this province than in most parts of India, has developed serious disadvantages. It is now sapping initiative and weakening individual effort. We have evidence to show that some of our young men prefer to remain a burden on the family rather than start on a career from a small beginning. This system, combined with our defective educational system, is also responsible for another serious defect which was imputed to the educated young men of this province by industrialists who gave evidence before us. It was stated that boys from Bihar are not prepared to begin at the lowest rung of the ladder and work their way up. The result is that educated young men from other provinces are occupying places which would otherwise have been held by them. Perhaps with the greater struggle for existence and the increasing pressure on the family resources this attitude of the Bihari boy will correct itself, but we were disappointed to find from the evidence of the unemployed young men who appeared before us that the folly of such an attitude has not yet been fully realised except in very few cases. The joint family system cannot maintain its idle members in luxury or even in comfort, but quite a large proportion of our unemployed young men are being maintained by their family above the level of bare subsistence. This probably accounts for the reluctance to accept a post which is not considered good enough. Our educated young men are not entirely to blame because the acceptance of a post below their standing in society lowers their prestige and often stands in their way when they apply for a higher post. It is important, therefore, that public opinion should exert its influence to bring about a change in this attitude towards employment. Otherwise there is little prospect of our boys finding a place in industry. Industrial concerns cannot be expected to adopt the meticulous grading of new entrants according to their qualifications or their position in society.

Recruitment of outsiders by industrial establishments.

21. If the rush of applications for Government posts is taken as an index of the volume of unemployment among the educated

classes, the fact that Bihari boys do not offer themselves for employment in industrial establishments on terms which are acceptable to boys from other provinces might also to some extent be used as an argument in the opposite direction. We would here quote some concrete instances which came to our notice. Recently there were several vacancies of weaving supervisors under the Department of Industries on salaries from Rs. 60 to 65 a month, for which a number of young men of the province qualified at the Victoria Jubilee Technical Institute, Bombay, were available but were unwilling to accept the posts on the pay offered, although qualified candidates from other provinces were available even on Rs. 30 a month. A Bihari graduate in mechanical and electrical engineering, who was examined by the Committee, refused to begin as an apprentice as he considered that the pay of an apprentice was too low for his qualifications. As he lacked practical experience, he could not reasonably expect a responsible position and his refusal to begin as an apprentice was, therefore, fatal to his future employment in industry. We have come across many instances of young men from other provinces with high qualifications who are prepared to make a small beginning. The failure of Bihari boys to do likewise is to a large extent responsible for their exclusion from industry even in petty clerical posts for which there is no real need to import outsiders. We wish also to emphasise the fact that industrial employment offers opportunities of rapid rise on the strength of merit. A humble beginning need not, therefore, be despised. For instance, in Jamshedpur we found a subordinate engineer from Madras who, from a very modest beginning in the Tata Iron and Steel Company, was occupying the responsible and well-paid post of head draftsman. Another Madras boy who started as a junior clerk in the Tin Plate Company rose to the position and responsibility of chief time-keeper. Such instances are common and, generally speaking, the successful men in industry have had to climb from a very low rung of the ladder. It is this spirit which must be inculcated in the young men of Bihar if they are to enter the technical line in larger numbers. As we have indicated, the responsibility for their present attitude to industrial employment lies equally with their parents and guardians and with public opinion. If the family is willing to support a member in his fruitless and indefinite struggle at the bar, there is no reason why the same help should not be extended if he wishes to secure a footing in industry with a small beginning.

EXTENT OF UNEMPLOYMENT.

Passes and vacancies compared.

22. We give in Appendix VI the average number of young men with different qualifications passing out of the various educational and technical institutions of the province every year, and in Appendix VII the number of posts in the Government departments, local and private bodies, railways and industries. Appendix VIII gives an abstract of all these posts. As already explained, the average annual vacancies are calculated at 4 per cent of the existing posts. The statement below which has been prepared from the above appendices shows the number of young men with different qualifications and the number of annual vacancies in Bihar and Orissa.

Qualification.	Average number qualified each year to the stage shown in column 1.	Annual vacancies.				
		Government including Wards Estates.	Local bodies, banks and private educational institutions.	Industries.	Railways.	Total.
1	2	3	4	5	6	7
1. Middle English and Middle Vernacular.	14,125	114	60	127	27	328
2. Matriculation, including Senior and Junior Cambridge and Commercial diploma.	859	395	112	317	177	901
3. Intermediate in Arts and Science.	228	53	59	2	1	115
4. Degree in Arts and Sciences.	111	43	46	15	4	108
5. Engineering (civil and mechanical), mining and metallurgy.	75	23	18	61	8	110
6. Industrial or mechanical diploma, including artisan certificates.	392	18	1	1,375	72	1,466
7. Doctor (M. B. and L. M. P.).	91	14	27	3	...	40
8. Compounder and Dresser.	190	3	44	6	1	54

Qualification.	Average number qualified each year to the stage shown in column 1.	Annual vacancies.				
		Government including Wards Estates.	Local bodies, bank and private educational institutions.	Industries.	Railways.	Total.
1	2	3	4	5	6	7
9. Veterinary ...	10	7	...	...	...	7
10. Bachelor of Law ...	147	7	...	...	...	7
11. B. Ed. and Diploma in Education.	67	29	...	...	...	29
12. V. T. S. (Secondary) ...	135	11	33	...	...	44
13. V. T. S. (Primary) ...	1,957	...	1,566	...	...	1,566

A comparison of the figures in columns 2 and 7 of the above statement shows at a glance the relation between supply and demand.

Unemployment among under-matriculいたes.

23. The statement in the preceding paragraph shows that on an average 14,125 boys each year pass the middle standard, but are not able to pass the Matriculation examination. The number of posts shown in the statement as available to this class of young men is only 328, but our statement in this respect is very incomplete as it includes only a limited number of superior posts for which this qualification has been prescribed. Even the total number of posts available for these boys under Government and local bodies could not be ascertained with any degree of accuracy, as some of them take up inferior service (e.g. constables, peons, etc.), for which bare literacy is a sufficient qualification. Some of these young men are absorbed in clerical posts for which the Matriculation is not prescribed as the minimum qualification, some return to their fathers' profession such as cultivation, trade, etc., while others find employment as *tahsildars*, *muharrirs*, etc., in *zamindaris*, clerks of lawyers, and assistants in shops and other private concerns. In the absence of data showing the total number of posts of all kinds available annually for boys of this class, it is not possible to ascertain definitely the extent of unemployment among them, but we are inclined to believe that there is a considerable number of under-matriculいたes who swell the ranks of the unemployed. Many of them are sons of agriculturists and petty

businessmen, but they have become reluctant to revert to their ancestral occupation. Industry can absorb every year over 1,300 mechanics drawing Rs. 20 a month or more against which there are barely 100 passing out each year from our technical schools. Some of these posts are held by Biharis of the mistry class, but a considerable proportion is recruited from outside the province. There is thus considerable scope for the absorption of under-matriculats in industry, provided they are given the necessary training and are willing to take up this work.

Unemployment among matriculates.

24. The position in regard to matriculates, as would appear from our statistics, is that the number of posts is slightly in excess of the output. Out of 889 passes each year, including the commercial diploma, 507 can be absorbed in Government service, local bodies, banks and private educational institutions. The excess is 382, but some of the posts requiring the Matriculation qualification are also taken by men with higher qualifications such as I. A.'s, I. Sc.'s and even graduates. Allowing for this overflow of candidates with higher qualifications, we estimate that the number of matriculates in excess of the requirements of Government, local bodies, banks and private educational institutions would be about 500 each year. Most of this excess could be absorbed in the industries and railways of the province in which the annual vacancies are about 400, but the majority of these posts are at present held by outsiders. It is clear, therefore, that the present unemployment among matriculates is due largely to the employment of men from other provinces.

Unemployment among I. A.'s, I. Sc.'s and graduates.

25. The average number passing the Intermediate stage (Arts and Science) is 222 as against 112 vacancies each year requiring these qualifications under Government, local bodies and private institutions. Most of the surplus is absorbed in clerical posts requiring only the Matriculation qualification. As regards graduates, M. A.'s and M. Sc.'s, there are 89 vacancies under Government, local bodies and private institutions against 111 passes every year. Here too, the surplus is almost entirely absorbed in industries or in posts requiring lesser qualifications. Our statistics indicate that the supply of graduates is not unreasonably greater than the demand, but we must take into account the fact that an unduly large proportion of our graduates study for the law and even after qualifying for the legal profession are in no way better off than unemployed graduates. The incidence of unemployment is, therefore, shifted from

the category of graduates to that of lawyers. Among graduates, our evidence showed that there was less unemployment among those taking science than those taking arts. Mr. A. T. Mukharji, Principal of the Science College, Patna, has furnished a statement* showing the occupation of passed students of the Science College since 1928. This is compiled from the detailed occupation statement maintained by the Old Boys' Association of the college. It appears therefrom that very few science graduates who passed from this college before 1933 are sitting idle. Science graduates are at an advantage because they can compete both for posts open to arts graduates and for posts in industrial establishments requiring scientific qualifications.

Unemployment among engineers, doctors and lawyers.

26. We shall deal later in detail with these professions and we confine ourselves here to certain general observations. While there is an excess of civil engineers, the number of mechanical and electrical engineers is inadequate for the needs of our industries, which are recruiting men from outside. As regards doctors, the number of posts available is only about half the annual production, the excess number having to depend on private practice. There is a good deal of under-employment among doctors because they tend to concentrate in large towns instead of spreading themselves over a larger area. Among lawyers the rate of increase is alarming even when allowance is made for the fact that many have other sources of income. The vast majority are under-employed in the sense that briefs are received after depressing intervals.

Products of Sanskrit and Islamic studies.

27. Regarding the products of Sanskrit and Islamic studies, the figures collected by the Committee show that, apart from 20 *kavirajes* and 17 *hakims* turned out every year who have sufficient opening for indigenous medical practice in villages, 2,644 boys pass from the Sanskrit schools in Prathma, Madhyama and Acharya, and 127 boys pass from the *madrasas* in Mulla, Maulavi, Alim and Fazil every year. As regards those qualified in *madrasas*, some are absorbed as *maulavis* in secondary schools, *muktabs* and *madrasas* and some become religious preachers or *imams*. As regards those passing from Sanskrit schools, some find employment as teachers in primary and secondary schools and *pathshalas*, but the majority of them make a living

by working as priests, *pandits* or astrologers. We are unable to say whether all boys from these institutions are able to find employment.

Summary.

28. Unemployment among educated classes is considerable if the term "unemployment" includes nominal employment which it should do for the purposes of our enquiry. Unemployment is serious among matriculates and under-matriculates, but there is scope for their absorption in industry. So far only a limited number of Biharis have secured employment in industry, even in posts for which they are qualified. This is to a large extent due to the fact that Bihari boys are reluctant to make a small beginning in industry. Unemployment among graduates is reflected in the alarming increase of lawyers who are unable to earn a decent income. There is under-employment among doctors because of their concentration in large towns. The output of civil engineers exceeds the demand, but there is scope for employment of mechanical and electrical engineers in industry. The joint family system, which is particularly strong in Bihar, has mitigated the hardships of unemployment, but it is also responsible for the lack of initiative and a wrong attitude towards industrial employment on the part of Bihari boys. On the whole, the unemployment problem among educated classes does not appear to be so acute in Bihar as in some other provinces, but it threatens to become more serious than elsewhere if Bihari boys do not secure their due share of the available posts in the industries and railways of the province which are at present filled mostly by men from all other parts of India. The failure of the educated Bihari boy to secure a footing in the industries of the province has aggravated the unemployment problem in Bihar.

CHAPTER IV.

CAUSES OF UNEMPLOYMENT.

Increasing pressure on land.

29. Several causes are conspiring to make unemployment among the educated classes a serious problem. We must, however, separate the superficial and temporary causes from the main cause. Otherwise, we run the risk of not seeing the wood for the trees. It is possible to adopt measures which will provide some relief, but this can only be of a temporary character. Unemployment will soon gather momentum and bring us back to the position from which we started. One of the important causes of unemployment is progressive economic deterioration due to the increasing pressure of population on the soil. In this respect the problem is no different, and, in some respects, worse, in Bihar than in other parts of India. The census of 1931 showed an increase of 10 per cent in our population within a decade. The average density in Bihar proper is 642 to the square mile, while in the whole province including Chota Nagpur it is 368. The average for the whole of India is only 195. When it is remembered that 80 per cent of our population is dependent on agriculture it will be realised how heavy the pressure is on the land. Even the proverbial fertility of Bihar cannot provide adequately for her teeming population. Fragmentation of holdings has also proceeded to an extent which prevents efficient cultivation. Agriculture, the predominant occupation of the province, neither requires nor can it maintain the increasing rural population.

Effect of mechanisation.

30. In more advanced industrial countries, the increasing use of labour-saving machinery has created unemployment among manual workers. Though India is predominantly an agricultural country, its industries are developing steadily. The displacement of manual labour is, therefore, inevitable. With the improvement of communications, machine-made goods manufactured within the country and imported from outside are finding their way to the countryside. Our villages are losing their self-sufficiency and the village artisan, who used to provide for local needs, is gradually being driven from his hereditary occupation. His simple and primitive methods of manufacture cannot keep pace with mass production. The demand for his services has rapidly decreased and his skill is lost in the altered economic conditions. The unemployment of the village artisan has accentuated the general unemployment, or rather under-employment, in rural areas.

Drift to towns.

31. The pressure of population on land and the displacement of the village artisan has led to a double stream of migration from the countryside to the towns. The poorer classes of cultivators, including those who have become landless, and village artisans are drifting to industrial centres where they find employment as ordinary workers. Until comparatively recently, the complaint of industrialists was the scarcity of labour. The position now is entirely reversed. We were informed that for every vacancy there were scores seeking admission and in some places the presence of applicants in large numbers was causing embarrassment. The second stream of migration consists of the sons of cultivators, tenure-holders and zamindars, for whom there is no scope for employment in their village homes. These boys are sent by their parents to a high school for education in the hope that they will enter Government service or a suitable profession and thereby improve their prospects in life. It is this stream which is creating the problem of unemployment among the educated classes. The migration from the countryside to the towns might have resulted in some permanent benefit to the villages, but this is not the case. The educated young men from rural areas, having enjoyed the amenities of towns with their crowded streets, bazars and cinema houses exhibiting sensational films, do not readily reconcile themselves to the dull and simple life of the village. Their visits to their homes are of brief duration and they do not hesitate to make known their intense dislike for the surroundings in which they were born without making the least attempt to improve them. The countryside loses its more energetic and enterprising young men and the only return is the periodical remittance of money from those who are successful, to help struggling relations at home.

Depression in agriculture.

32. The migration from the countryside to the towns has increased in volume owing to the prevailing depression in agriculture. As is well known, agriculturists in India, as in all parts of the world, have been hard hit by the marked fall in the price of agricultural produce. The province being mainly agricultural, all classes are affected,—lawyers, doctors, traders and even the village money-lender. It is, therefore, not surprising that larger numbers are deserting the countryside to try their fortunes in the towns where also the openings are limited. The result is that the towns are crowded on the one hand by the educated people who are reluctant to go back to

the villages and eke out an existence, and on the other by the uneducated villagers who can find nothing better in their village.

Aim of education.

33. With parents, who send their boys to the increasing number of high schools, the main object of education is not the equipment of students for varied activities nor the attainment of knowledge and culture, but the possibility of Government service, which is prized not only on account of the remuneration which it offers, but also for its security of tenure, pension on retirement, and the prestige which it carries in the eyes of the public. Every youth, who enters a high school or a college, hopes to secure a Government appointment. As the number of Government posts is necessarily limited there are now far more disappointments than appointments. Our system of education suffers also inasmuch as it was designed originally to turn out qualified staff for the administration of Government. Other services and professions are only the second strings to the bow of our educated young men. Unable to secure Government service, either in the general or in the teaching line, they drift to the bar. Very few think of any other career until they are compelled by circumstances. Nor are they really fitted by their education for any other business or profession. This indicates a serious deficiency in our system of education which is in no small measure responsible for the problem of unemployment.

Maladjustment.

34. The rigidity of our system of education is responsible for the maladjustment between supply and demand. For Government service, clerical appointments and the stereotyped professions, e.g., lawyers and doctors, there is no dearth of qualified candidates, but there are few recruits for industry or for trade or business. This maladjustment is more noticeable in Bihar than in many other provinces. We have referred to the difficulties experienced by the Industries Department in recruiting candidates of the province as weaving supervisors on a starting pay of Rs. 65. On this same initial pay there were no fewer than 231 applications from qualified graduates for 19 posts of inspectors under the Co-operative Department. We consider that there could be no stronger argument for the reform of our educational system. Unfortunately, the craze for a high school education continues. There is no difficulty in filling up a high school and there is a steady demand for an increase in their number in rural areas. The parents and

guardians of our boys gladly bear the cost of education in a high school, but even to this day a technical school has to provide a large number of stipends in order to attract an adequate number of students. If, therefore, our system of education is creating a maladjustment between supply and demand, it is also true that the parents and guardians of our boys are reluctant to change it.

Dislike for manual labour and divided allegiance.

35. In view of the scope which industry offers for the absorption of our educated unemployed, we made it a point to ascertain from industrialists the reasons for the failure of our boys to secure adequate representation in the industries of the province. It was stated to us that illiterate men of the mistry class were preferred to educated young men because the latter were not prepared to work with their hands and to start from the bottom. It is true that our system of education creates a dislike for manual labour and for the rigid routine and discipline of a factory. We believe, however, that circumstances are now compelling our young men to overcome their prejudices. In particular, the prejudice against manual labour no longer exists among boys who are trained in the technical schools. Unfortunately, however, there are few boys who come to these technical schools from the upper classes of high schools, i.e., under-matriculantes, who, as we have seen, are the worst sufferers from unemployment. Another defect which was brought to our notice was the disinclination on the part of the boys of this province to concentrate on their work in industry. This is due to a divided allegiance between industrial employment and clerical service. It is not uncommon to find an educated young man in industry looking out for vacancies in the clerical line. While we sympathise with the desire on the part of our boys to better themselves, we cannot help feeling that they cannot hope to be a success if they are unduly obsessed with the idea of finding something better. We have in mind the case of a Government stipendiary who, after completing his course of technical training, secured an appointment in a big sugar factory, but instead of concentrating on his work and showing his usefulness to his employer he kept on changing from factory to factory without any improvement in his status. Eventually he applied for a minor post in the Agricultural Department. It is obvious that industry can have no place for such rolling stones.

Competition with outsiders.

36. We have laid emphasis on the defects of our boys for industrial employment, but we must not be understood to imply

that these defects are solely responsible for their exclusion. In the large industries and in the railways working in the province, even in posts requiring general qualifications for which qualified Bihari boys are available in large numbers, outsiders have been and are still being recruited. The large industries of the province are mostly in the hands of outsiders and many have their head offices outside the province. When the industries were started, experts and managers were brought from outside, who, naturally, recruited persons known or familiar to them even for subordinate appointments. In many cases the appointments are still made or controlled by the head office at Calcutta or Bombay. It is also the practice with most concerns to give preference to sons and relatives of old employees. As these old hands were originally brought from outside the province, the system perpetuates itself and the flow of outsiders continues at the expense of the children of the soil. The result is that local candidates experience considerable difficulty in securing a footing. They have an uphill task. Each vacancy in an industrial establishment within the province involves an all-India competition for which they have no backing or support. We have had definite instances to show that unemployment in other provinces is compelling their young men to take up employment in this province even on a miserably low rate of pay. The presence of outsiders in such large numbers is, therefore, adversely affecting the prospects of the educated young men of this province.

Summary.

37. The unemployment problem among the educated classes is closely connected with the economic condition of the countryside. With the progress of education an increasing number of young men from rural areas will flock to the towns although the scope for their employment is limited. Government service and the stereotyped professions have an undue attraction for our boys. The system of education is also defective, as it is creating a maladjustment between supply and demand. It needs revision in order to give a vocational bias to our boys. There is scope for the absorption of our educated young men in industry, but posts in industrial concerns are held mostly by outsiders and Bihari boys, who were late in the field, are experiencing difficulties in securing a footing. It is necessary for our educated young men to overcome their prejudice against manual labour and to take to industrial employment seriously if they are to obtain their due share of employment in the industries of the province.

CHAPTER V.

GOVERNMENT AND QUASI-GOVERNMENT SERVICES.

38. As we have remarked previously, the majority of our young men passing the Matriculation and other higher examinations are absorbed in Government or quasi-Government services, e.g., appointments under local bodies. This has an important bearing on the unemployment problem. We shall here deal in detail with the prospects of employment of our educated boys in these services and consider what changes are necessary to reduce the volume of unemployment, either directly or indirectly.

All-India services.

39. We give below a statement showing the present strength of the all-India services in this province and the number recruited in the last six years. As the cadres of these services are joint with the new province of Orissa, officers deputed to Orissa have been included in our statement.

Name of service.	Total strength in Bihar and Orissa.	Number recruited since 1930.	Remarks.
Indian Civil Service ..	112	21	
Indian Forest Service	16	Nil.	
Indian Police Service	66	10	
Indian Medical Service*	28	6	*Recruitment is made in England from military commissioned officers.
Indian Service of Engineers.**	21	3	**No recruitment since 1932.
	243	40	

40. We also give below, for the purpose of comparison, a statement showing the total recruitment in India in these

services in the last six years and the number of Bihar and Orissa men who have been successful :—

Name of service.	Total number of candidates from all provinces.	Number of Bihar and Orissa candidates.	Total number selected by competition.	Number of Bihar and Orissa men selected.
Indian Civil Service ..	1,231	59	70	2
Indian Police Service ..	434	41	38	4
Indian Service of Engineers and Indian Railway Service of Engineers.	604	14	44	Nil.
Indian Audit and Accounts Service.	498	10	14	Nil.
Transportation (Traffic) and Commercial Departments.	236	13	21	Nil.
	3,003	137	187	6

The backwardness of this province will be quite apparent from the above statement.

41. Out of 187 persons recruited to the all-India services during the last six years, only six belonged to Bihar and Orissa. The main reason is that Bihari boys have only recently taken to these competitive examinations. Their recent success in the Indian Civil Service and the Indian Police examinations gives reason to hope that they will do better in the future. We understand that in some provinces arrangements have been made by which candidates competing for the all-India services receive coaching in the subjects prescribed for these examinations by the Public Service Commission. We recommend that the local Government should consider the possibility of providing similar facilities in consultation with the Patna University.

42. The other superior services which have recently been opened to Indians are the army, navy and air force. To our knowledge there is only one case of a Bihari who joined the Indian Military Academy at Dehra Dun. Parents with

necessary means should be encouraged to send their boys to these new lines, instead of preparing them for the usual crowded professions.

Provincial and subordinate services.

43. We shall, under this head, deal only with those posts which require general qualification, the posts requiring specialised training, such as doctors, engineers, etc., being dealt with under Chapter VI.

44. The statement * below shows the total number of posts with their requisite qualifications in the provincial and subordinate services of Bihar and Orissa, the probable annual vacancies and the average number passing out of the educational institutions of Bihar and Orissa with these qualifications each year:—

Qualification.	Number of posts in Bihar and Orissa	Annual vacancies at 4 per cent.	Average number qualified each year.
Matriculation, including Senior and Junior Cambridge and Commercial diploma.	7,468	299	889
I.A. and I.Sc.	1,038	42	222
B.A. and B.Sc... ..	831	34	47
M.A.	90	4	55
M.Sc.	62	2	9
	9,489	381	1,222

45. It will appear from the above that Government service can absorb only 31 per cent of the annual output. This percentage will decrease with the progress in education and it is necessary that our young men in schools and colleges should be discouraged from pursuing their educational career with the sole object of entering Government service. At present even those who have no special aptitude for literary education persist in their attempts to pass university examinations, in spite of repeated failures, in the hope that if once they succeed in obtaining the minimum qualifications, they will be able to exercise other influences to secure a Government appointment. There is also a tendency for these mediocre boys to struggle on to

* This statement differs from that given in Chapter III at page 16 inasmuch as it does not take into account the posts under the departments of the Government of India and the Wards Estates.

their degree, hoping that their higher qualification will give them a pull for posts requiring a lesser qualification. This is responsible for much waste of time, money and energy. A large number of boys pursuing an university education are quite unfit for higher literary studies ; they are merely wasting their parents' money, clogging the progress of their more intelligent fellow students and frittering away their own energies in pursuit of a vain ambition to enter the ranks of Government servants. It is of fundamental importance that this wastage in our educational system should be checked.

Competitive examination for provincial and subordinate services.

46. Our first recommendation to discourage the wastage referred to in the preceding paragraph is that the recruitment to all provincial and subordinate services should, as far as practicable, be made by competitive examinations. Recruitment by open competitive examinations is particularly necessary in respect of services which require university education, such as provincial and subordinate executive services, provincial police service, excise superintendents, etc. This would discourage higher education of the unfit who hope, at present, to enter service on the strength of special testimonials secured by influence. With the introduction of competitive examinations, none but the promising boys would wish to continue their college career.

47. For ministerial posts, which attract by far the largest number of our educated young men, the age limit for entrance should be reduced where the minimum qualification required is only the matriculation. This would discourage undue perseverance at university examinations. Here, too, recruitment should be made by competitive examinations to be held by the heads of the offices concerned. Shorthand and typewriting should be made an additional subject for these examinations so that candidates for ministerial service may join commercial schools instead of pursuing a college career. Even when competitive examinations are not practicable, it should be made clear that selection will be strictly on merit except in so far as adjustments may be necessary to redress communal inequalities. If this policy is strictly pursued, those who have no chance of entering Government service will turn their attentions at an earlier stage to other practical avocations for which they may be better suited.

Discouragement of certificates.

48. In this connection, the Committee would like to discourage very strongly the present habit of our young men going

round in search of certificates and recommendations from Government officials, council members and other influential gentlemen to help them in securing a Government appointment. This practice not only wastes their time and energy, but also produces a demoralising effect on candidates. An unemployed young man examined by the Committee stated that he did not dare to apply for a Government post as he was unable to secure the necessary letters of recommendation from those who count. We recommend that, for posts under Government and local bodies, the filing of general certificates or letters of recommendation from officials or the public should be definitely forbidden. The production of such certificates should also be made a disqualification for the appointment. In proof of character, educational attainments and training, certificates should be required from the school and college authorities or from the employers under whom the candidates have worked. Candidates may also give as references persons who can be addressed direct by the appointing authorities, if necessary. We understand that this is the procedure adopted by the Public Service Commission and its general adoption in this province would save the time of candidates, the patience of those who are besieged for certificates and the embarrassment of appointing authorities.

Compulsory retirement at 55.

49. We also recommend that all officers of Government, including ministerial officers, should be compelled to retire at the age of fifty-five or even earlier if they have lost energy for active service. Under the rules Government can retire an officer before the age of superannuation and they should not hesitate to exercise this power if it is in the public interest. The rule regarding retirement at the age of 55 should not be relaxed except, when necessary, in the case of officers having specialised or expert knowledge. We would also discourage the appointment of superannuated hands under special departments such as the Court of Wards. At the age of 55 an officer in India is usually well past his prime and it is not in the public interest that he should be kept in harness when there are numerous candidates of the younger generation anxiously waiting to take his place. Some of us consider that it would be in public interest to reduce the compulsory age of retirement to fifty.

Domicile certificates.

50. Another factor, which has played some part in accentuating the unemployment problem among our educated young

* Maulavi Shaikh Muhammad Shaif, Khan Bahadur Saghir-ul-Huq and Rai Bahadur Shyamnandan Sahay.

men who are in search of Government service, is the facility with which domicile certificates are obtained by outsiders. This has resulted in the transference of a part of the unemployment in other provinces to Bihar which has, in consequence, to bear more than her legitimate share of the burden. The rules regarding the grant of certificates of domicile, circularised by Government are stringent enough, but we have reason to believe that they are not being rigorously enforced. We do not mean to make any insinuation or criticism against district officers. From our individual experience we find that, in most cases where domicile certificates have been wrongly granted, the fault lies with local residents who support the grant of such certificates with statements which are not properly verified.

51. In dealing with the question of domicile we wish to make it clear that it is not our intention, either directly or indirectly, to make any discrimination against the domiciled communities*. Indeed, our recommendations are as much, if not more, in their interest as of Biharis, as will appear from the evidence of one of their representatives who is a member of the Bihar and Orissa Chamber of Commerce. This witness stated that outsiders were swelling the number of the unemployed in Bihar and Orissa and that 50 per cent of the men who passed as domiciled in the province were not genuinely domiciled at all. This was an encroachment on the rights of those who are really domiciled in this province. He added that candidates for domicile certificates generally bought a piece of land which was promptly sold as soon as the object was served. An official witness also corroborated these statements from his own experience. According to him a house was bought and sold several times over to enable different claimants to secure domicile certificates. "There is hardly any form of employment," he added, "for which a large number of men are not qualified but who for lack of opportunities or on account of stiffer competition from people from outside the province with better qualifications are pushed aside."

52. The "domicile" question is undoubtedly causing much bitterness among the educated young men of the province and we feel that it requires the close attention of Government. We consider that it should again be impressed on all concerned that the mere possession of a house or land is not by itself a sufficient proof of domicile. The main criterion should be that the claimant has shown by definite acts extending over a length of time that he has made

* In this connection vide footnots at page 7.

Bihar his permanent home. Where a candidate claims recent domicile the fact of his domicile should be strictly scrutinised and, where necessary, the statements made in support of his claim should be verified by careful enquiry. We further recommend that candidates applying for a domicile certificate should be asked to make a detailed statement of the facts and circumstances on which they claim a domicile in the province. It should at the same time be made clear to them that a false statement will be a ground for removal from service on subsequent discovery.

53. While making recommendations for stiffening the procedure for the grant of domicile certificates, we strongly deprecate any policy of discrimination or harassment in the case of people who have already entered the service of the local Government either with the specific sanction of Government on definite grounds or at the time of the separation of the province from Bengal. We do not believe that the cause of Biharis can be advanced by hardship to such people who have served the province loyally for several years or, even if it can, that it would be just to make any discrimination against them.

Services under local bodies.

54. It will be seen from Appendix VII-B that the district boards and municipalities in Bihar and Orissa employ about 43,000 educated persons. Excluding medical and engineering posts which are dealt with separately, these local bodies have 40,777 posts, which would absorb annually 1,631 persons with different qualifications as shown below :—

Qualification.	Number of posts in Bihar and Orissa.	Annual vacancy at 4 per cent.
Middle standard ... ..	.. 855	34
Matriculation .. ..	.. 1,347*	54
I. A. and I. Sc. .. ..	.. 355	14
* B. A. and B. Sc. .. ..	.. 64	3
V. T. S. (Primary) .. ..	.. 38,156	1,526
Total .. ..	.. 40,777	1,631

Vernacular teachers.

55. The largest opening for educated young men in local bodies is as vernacular teachers in primary schools. For 38,156

* This does not include sanitary and health inspectors.

vernacular teachers appointed by the local bodies, we may expect an annual vacancy of 1,526, if we allow an average of 25 years' service. Against this, we are turning out 1,357 qualified teachers every year, as will appear from Appendix VI. This number is sufficient to meet the present demand as the actual vacancies in the posts of primary school teachers is probably less owing to the fact that some of the schools have been started recently. We, therefore, do not recommend any increase in guru training and maulavi training schools until the increased demand has established itself.

Other posts.

56. The other posts under the local bodies in Bihar and Orissa requiring general qualifications are distributed as below :—

—	M. E.	Matriculates.	I. A. and I. Sc.	B. A. and B. Sc.	Total.
1	2	3	4	5	6
Clerical posts ..	..	931	3	..	934
Middle schools ..	416	416	352	64	1,248
Miscellaneous posts such as mohurrirs, collecting sarkars, amins, disinfectors, jamadars, etc.	439	..	..	..	439
Total ..	855	1,347	355	64	2,621

In addition to the above, there are 315 sanitary inspectors and health inspectors, 1,365 vaccinators, besides a large number of road sarkars.

57. As in the case of the Government departments, we recommend that for all clerical posts, for which the Matriculation is the minimum qualification, recruitment should be made by competitive examinations to be held by the district boards and municipalities concerned. For other posts selection should be made strictly on merit, and production of general certificates and letters of recommendation should be forbidden. Should it be necessary to appoint a candidate of a particular community to adjust communal inequalities the choice

should fall on the candidate of that community who stands highest in order of merit. We also consider it important that fifty-five should be the compulsory retiring age for all employees under local bodies. We recommend that Government should make definite rules to this effect. Such a rule would prevent the appointment of retired and superannuated Government servants by district boards and municipalities.

Special training for sanitary inspectors, vaccinators, etc.

58. It has been brought to our notice that a large number of road sarkars, jamadars, disinfectors and sanitary inspectors are appointed in the district boards and municipalities who have no special qualification. The first three have very little education and none of them have any proper idea of drainage, etc., which is so necessary for their work. There was a system of training sanitary inspectors in the past, but this has since been discontinued. The Committee considers that if an elementary training in civil engineering, corresponding to the Industrial Diploma course for mechanical engineers, could be given to some educated young men, they could profitably be employed in these posts. Matriculates could be appointed as sanitary inspectors and boys passing the middle English or middle vernacular examinations in the other subordinate posts. The Inspector-General of Civil Hospitals informed us that there was no regular system of training prescribed for vaccinators. They secured their license from the Civil Surgeon of the district after they had practised for two or three years. These vaccinators were illiterate or barely literate and there was no minimum educational qualification prescribed for them. This witness was of the opinion that if better educated boys were trained as vaccinators they should be more efficient, but he was doubtful if they would be prepared to undergo the hardship that this work involved for the small income from fees. We recommend that a trial might be given to the appointment as vaccinators of boys passing the middle English or middle vernacular standard.

59. With regard to vaccinating inspectors, who draw a fairly decent pay and for whom also no minimum qualification has been prescribed, we consider that the Matriculation, or preferably the Intermediate Science, should be prescribed as the minimum qualification and that they should be required to undergo a short course of training under the Public Health Department.

DEPARTMENTS UNDER THE GOVERNMENT OF INDIA.

60. The posts in the province which are under the Government of India may be grouped under four departments, viz.,

Posts and Telegraphs Department, Income-tax Department, Audit Department and Railways. We deal with them separately below :—

Posts and Telegraphs Department.

61. In this department there are 29 superior gazetted posts, of which only three are held by men of this province. In the subordinate service there are about 4,000 posts, of which 50 per cent are of postal peons drawing a salary of Rs. 20 and above. These men are mostly natives of the province or domiciled therein. Out of the remaining 2,000 posts about 81 per cent are held by men of the province, including those domiciled in Bihar, but they all appear to be in the lower grades while the upper grades of the service are held mostly by outsiders. This is presumably due to the fact that before the issue of the Director-General's circular in 1926, prescribing local recruitment to the subordinate postal service, Biharis were not receiving their proper share of appointments and most of those in the higher grades were appointed before the creation of the province or soon after. The Director-General's (Post Offices) circular no. 29, dated the 2nd September 1926, is of importance. It runs as follows :—

“Local recruitment for subordinate postal appointments.”

“On the recommendation of the Postal Conference of 1926 it has been decided by the Director-General that with effect from the 1st September 1926 future candidates joining the subordinate postal service must belong to the revenue division in which they enlist. In the case of cities like Bombay and Calcutta candidates belonging to the adjacent revenue divisions will also be eligible for appointment in such cities.”

“Any exception to the instruction given in paragraph 1 above must be referred to the head of the circle—postal or railway mail service—for orders.”

62. We are glad to note that in addition to the circular of 1926, the Director-General issued the following instructions in 1933 :—

“It is hereby ordered that the instructions contained in Part I of the Director-General's (Post Offices) circular no. 29, dated the 2nd September 1926, regarding local recruitment for subordinate postal services should apply to recruitment for subordinate services in all the branches of the Posts and Telegraphs Department. The instructions should, however, be considered as laying down a general principle for observance and may be departed from at the discretion of the head of a circle if

local conditions make this necessary, but in no case should a candidate be recruited in a circle who has not his domicile in that circle."

We hope that in view of this action taken by the department, most of the posts in the subordinate postal service will be held by Biharis in the near future. We note, however, that for certain superior technical posts under this department, such as engineering supervisors and wireless operators, the approved list of qualifications does not include the diploma of the Bihar College of Engineering although diplomas from institutions of a definitely lower standard are recognised. We recommend that this matter should be taken up by the local Government with a view to securing recognition of the civil engineering diploma of the Bihar College of Engineering.

Income-tax Department.

63. This is a small department employing only 124 persons in the superior service. All of them belong to the province except six who come from outside. We are glad to note that, as in the case of the Posts and Telegraphs Department, this department recruits only local candidates to the subordinate services.

Audit Department.

64. This includes the Accountant-General's office and the Local Audit Department. There are in this department 264 posts, including 3 gazetted posts of Assistant Accounts Officer but excluding those of the Accountant-General, Deputy Accountant-General and Assistant Accountant-General. It appears from a statement furnished by the Deputy Accountant-General that out of the above number, only 70 are held by men of the province or domiciled therein. The province has been in existence now for about 25 years and the small number of Biharis in this department is disappointing. We consider that the local Government should bring to the notice of the Government of India the necessity of advertising vacancies in the Audit Department of Bihar in the local gazette and newspapers, and of giving preference to local candidates in the matter of appointment. This principle has been adopted by the Posts and Telegraphs Department and the Income-tax Department of the Government of India. We see no reason why the same principle should not be followed by the Audit Department.

Railways.

65. There are four principal railways working in the province, viz., the East Indian Railway, the Bengal and North-Western Railway, the Bengal Nagpur Railway and the Eastern Bengal Railway, besides four light railways. In Appendix VII-C will be found a statement of the posts available in the railways within the province carrying a pay of Rs. 20 and above. This statement includes posts in Orissa on the Bengal Nagpur Railway. As remarked previously, the East Indian Railway having failed to supply the data asked for, the number of posts in that railway had to be worked out on a statistical basis. The total number of posts should, therefore, be taken as a rough approximation. According to our calculation about 7,000 educated men are employed by the railways in Bihar and Orissa. With the exception of the Bengal and North-Western Railway, in which, according to the statement furnished by this railway, about 70 per cent of the posts are held by Biharis, the representation of local men is very poor. In the Eastern Bengal Railway they form only about 14 per cent of the employees in the province, and in the East Indian Railway and the Bengal Nagpur Railway, although statistics are not available, it may safely be assumed that they are not doing any better. The mechanical apprentices under the East Indian Railway are recruited through the Jamalpur Technical School. Bihar secures one-third of the total number of seats allotted to Indians in consideration of the fact that the local Government contributed towards the cost of construction of this institute and continues to make a contribution for its students. The province has thus gained a footing in this railway, but for other posts no special consideration has been shown. The railways owe a duty to the province through which they run and we consider that they should not ignore the legitimate claims of the people of the soil for the posts falling within the province. Recently the East Indian Railway have started recruiting some of their subordinate services at the divisional headquarters at Dinapore instead of at the head office in Calcutta. It is also stated that preference is given to local candidates, other things being equal. In practice, very few Biharis have been successful in securing appointments even under this new arrangement. We recommend that a representation should be made by the local Government to the Railway Board that vacancies in all the subordinate services of the railways arising within the province should be filled up exclusively by local men, as is done in the Posts and Telegraphs Department which, we note, is also a commercial department. It is also necessary that vacancies in the railways should be duly advertised in the provincial papers.

CHAPTER VI.

THE PROFESSIONS

66. We proceed in this chapter to the consideration of the professions which absorb, or can absorb, our educated young men. We shall deal separately with the engineering professions which come more conveniently under industries. Here we consider the opening in the veterinary, medical, legal and other professions, such as insurance, commerce and accountancy, journalism, etc., and the extent to which they can absorb educated young men of the province.

VETERINARY SCIENCE.

Posts under the Veterinary Department.

67. The Veterinary Department has under it 139 field veterinary dispensaries and 33 veterinary hospitals, a cattle breeding and dairy farm and a veterinary college. The total number of persons holding the veterinary diploma employed under the department in Bihar and Orissa is 168, which consists of 154 veterinary assistants and inspectors, 6 teachers and 8 other staff.

The Veterinary College and prospects of passed students.

68. Formerly students from this province used to be sent to the Bengal Veterinary College at Belgachia, but training for the veterinary diploma is now provided at the Veterinary College at Patna which was started in July 1930. The length of the course is three years and the minimum qualification for admission is Matriculation. In addition to the course for the diploma, a refresher course of six months for subordinate officers of the department is also provided during the college term. Students who pass the third year examination are awarded the diploma in Veterinary Science by a Board of Examiners appointed for the purpose.

69. The college admits local students as well as outsiders. For students from other provinces and States, the Government concerned makes a contribution of Rs. 500 per student per

annum, inclusive of tuition fees. The statement below gives the statistics of students during the last three years.

Years.	Maximum capacity.	Total number admitted.	Number on the roll.			Number of passes.	
			Bihar and Orissa.	Outsiders.	Total.	Bihar and Orissa.	Outsiders.
1932-33	52	10	29	16	44	5	10
1933-34	53	24	33	12	44	7	3
1934-35	70	25	27	20	47	9	1

70. The average annual passes for Bihar and Orissa students according to the above comes to 7. Taking 4 per cent of the 168 veterinary diploma holders engaged by the department, the annual vacancy is also 7. This corroborates the statement of Mr. R. T. Davis, Principal of the Veterinary College, Patna, that very few passed students from the college are at present in the unfortunate position of being without work. The reason for this is that the number of boys of the province seeking admission has adjusted itself to the local demand.

Cost of Veterinary College.

71. We feel that the Veterinary College is an expensive institution for the province to maintain in view of the small number of young men passing from it who can find employment. The cost of training a student in the Veterinary College is about double that in the Bihar College of Engineering, as shown below :—

Name of Institution.	Average expenditure during last 3 years 1932-33 to 1934-35.	Average number of students on the roll.	Average cost per student.
	Rs.		Rs.
Veterinary College ..	80,915	45	1,798
Bihar College of Engineering..	1,98,779	255	780

72. The above statement also indicates that the contribution received for outside boys does not cover the full cost of their training. It is desirable, therefore, that steps should be taken to reduce the expensiveness of this institution. It is not possible to reduce the cost of maintenance without risk of lowering the

efficiency of the training. In view of the existing prospects of employment, we do not also see any likelihood of a large increase in the number of students.

73. The Principal of the college pointed out to us that one veterinary surgeon for every two lakhs of cattle in an area of about 600 square miles, is quite insufficient. But, at the same time, the financial position of the district boards and municipalities, which have been repeatedly approached in the past, does not encourage us to hope that in the near future a substantially larger number of passed students of the Veterinary College will be able to secure employment.

Subsidised veterinary practitioners.

74. We have examined the scheme prepared sometime ago by the Principal of the Veterinary College, with a view to create a new field for the private employment of veterinary surgeons by subsidising them for the first five years after graduation. According to this scheme, "a successful graduate would apply to the Director of Veterinary Services for permission to work under the scheme in a place selected by himself. If the place is approved by the Director of Veterinary Services, he would be appointed to the Civil Veterinary Department, temporary branch, and given Rs. 200 for drugs and instruments (in the first month only) *plus* a pay of Rs. 100 per month for three years and Rs. 50 per month for the two succeeding years". It has been suggested that after five years the veterinary graduate would be left free to carry on private practice.

75. In theory there is no reason why the villager should not pay for the treatment of his cattle, but our experience shows that he will not pay. We feel very doubtful if, in view of the poor quality of the cattle in this country and the poverty of the average agriculturist, a veterinary surgeon would ever be able to maintain himself from private practice. The possibility of such a large number of veterinary graduates being absorbed in an independent profession seems very remote. In our opinion a modified scheme of subsidising permanently a number of veterinary graduates for private practice in the mofussil by reducing the number of veterinary assistant surgeons, who should be limited to the district and subdivisional headquarters, has more chance of success. These subsidised practitioners may also be engaged for inoculation work during epidemics, for which they should be paid some remuneration in addition to the subsidy, by the district boards concerned. We recommend that this system may be given a trial, beginning with the more advanced districts.

Future of Veterinary College.

76. Whatever measures are taken, we fear that the Veterinary College will continue to run at a loss. On the other hand, there is at present no facility in this province for higher agricultural training. In the Agricultural and Co-operative departments of Government, ordinary graduates and undergraduates are being recruited where graduates in agriculture might be more useful. Co-operative banks also require the services of agricultural experts, and the marketing and rural reconstruction schemes recently introduced might profitably absorb some of these men. We recommend that Government should consider whether it would not be possible to come to some arrangement with other local Governments which would enable boys from Bihar to secure admission in agricultural colleges in other provinces in return for the admission of outside boys in our Veterinary College. The multiplication of such expensive institutions is not desirable in the existing state of provincial finances. Joint institutions would be less expensive and more efficient than separate institutions for each province which also lead to over-production and consequent unemployment. If, however, it is not possible to secure inter-provincial co-operation in this matter, we recommend that Government should consider the possibility of combining an agricultural with a veterinary college. Some of the subjects are common and the combination should be cheaper than having separate institutions.

MEDICINE.

Prospects in Government service.

77. The departments of Government which employ graduates and licentiates in medicine are—(1) Medical Department, (2) Public Health Department, (3) Jail Department and (4) Education Department. Medical men are also employed in dispensaries and hospitals under the local bodies, railways and wards estates. The statement below gives the strength of the existing services for medical men in the above departments of Bihar and Orissa :—

Name of department.	M. B., B. S.	L. M. P.
Civil hospitals and dispensaries :—		
Government	123	136
Local bodies, railways and wards estates	59	601

Department of Public Health :—

Government	..	..	28	5
Local bodies	..	..	11	15
Jail Department	..	..	..	26
Education Department	..	..	5	1
Total	..	..	226	784

76. Thus there are in all 226 posts of the assistant surgeon class for medical graduates and 784 posts of the sub-assistant surgeon class for medical licentiates. Taking vacancies at an average of 1 per cent per annum, the above posts can absorb annually about 9 graduates and 31 licentiates. It will appear from Appendix VI that the institutions in Bihar and Orissa have been turning out annually 25 M. B., B. S.'s and 66 L.M.P.'s. Thus the output each year is much in excess of what the existing services can absorb. This is, however, not unnatural in a profession with a large scope for private practice. The occupation statement of passed students of the Prince of Wales Medical College supplied by the Principal, Lt.-Col. G. H. Mahony, I.M.S., supports our conclusions regarding the employment of medical men. According to him, the Medical College turned out 134 graduates during the five years 1931 to 1935, who are engaged as below :—

1931—35.

Appointed as civil assistant surgeons	..	..	14
Appointed as temporary assistant surgeons	..	..	6
Other Government service	..	..	9
Employed in district board service	..	..	7
Employed in States service or other private firms	..	..	4
Working in Patna Medical College Hospital as house physician or house surgeon	..	..	22
Post-Graduate training in Calcutta	..	..	7
In England for higher studies	..	..	7
Private practice	..	..	45
Preparing for M. D. of the Patna University	..	..	1
Deceased	..	..	1
Whereabouts not known	..	..	11
Total	..	..	134

Private practice.

79. At present most of our medical practitioners are concentrated in large towns. We have it from Lt.-Col. J. A. S. Phillips, C.V.E., I.M.S., officiating Inspector-General of

Civil Hospitals, that as regards the district and subdivisional towns, where there are doctors appointed by Government and local bodies, there is enough scope for comfortable private practice by an equal number of medical graduates and licentiates. Allowing for the fact that a large number of L. M. P.'s are posted in mofussil dispensaries where there are very few private practitioners, the number of those earning a competence by private practice may be taken roughly to be 100 per cent of the graduates and 50 per cent of the licentiates holding posts under Government and local bodies in the province. This gives us 226 M. B., B. S.'s and 392 L. M. P.'s or about 600 medical men practising successfully in Bihar and Orissa. This figure virtually tallies with the statement* furnished by the Commissioner of Income-tax, according to which 400 private medical practitioners are earning more than Rs. 1,000 per year. The figure worked out by us is higher because in the case of the licentiates we have included persons with an income of Rs. 50 per month.

Unemployment among medical practitioners.

80. We have calculated that 9 graduates and 31 licentiates may be absorbed in the services against 25 graduates and 66 licentiates turned out each year. Allowing for private practice on the basis worked out above, 18 M. B., B. S.'s out of 25 and 47 L. M. P.'s out of 66 are provided for every year, and the rest are unemployed or under employed. This is very unsatisfactory, but the main cause of unemployment among doctors, in our opinion, is that they all try to concentrate in the larger towns instead of spreading themselves out over the countryside. None of them are willing to settle down in the villages and earn a living as a country doctor. While the towns are over-staffed with doctors, the rural areas are badly in need of medical aid, and the total number of doctors is by no means large compared to the population. In this matter, we entirely agree with the views expressed by Col. P. S. Mills, I. M. S., Inspector-General of Civil Hospitals, in his memorandum submitted to the Committee. He states :—

“ Practically none of these doctors is willing to settle in villages and they flock to the towns where there is more money and where they hope that in time they may get practice which shall be not only lucrative but up to the standard of one or two of better known practitioners of the town who may be making large incomes. They do not realise that although one or two

doctors are making a large income the majority cannot make nearly as much. Many of these young doctors apply for Government service because the rates of pay offered by Government are good, the posts are pensionable, and the position is far more secure than in general practice."

"Twenty years ago many of our large towns relied very largely for treatment by doctors of the Western school on the civil surgeon, the assistant surgeon and on a very limited number of doctors in the town, say perhaps two medical graduates and three or four of the sub-assistant surgeon class. In the same town now the number of medical practitioners of this class is probably five or even ten times of what it was then. Generally speaking the total amount of money available for these doctors has increased a little, but by no means in the same proportion as the number of doctors. The result is that the amount of money that each doctor can earn is very little. I believe there are many graduates in practice in the bazar who find it difficult to make Rs. 50 or Rs. 60 a month....."

Prospects of mofussil practice.

81. Dr. Sinha, Secretary of the Old Boys' Association of the Medical College, stated before us that the higher cost of medicine prevented an allopathic doctor from carrying on a successful practice in the mofussil in competition with the village *vaids* and *hakims*. Col. Phillips, however, did not subscribe to this view, and stated that allopathy became more expensive only because satisfactory treatment of some of the tropical diseases required pathological and bacteriological examinations which involved additional expenditure. Since the mofussil dispensaries, where there are no special facilities for clinical examination, have been very popular in the villages, and instances of allopathic doctors succeeding in rural areas, though rare, are not wanting, we are inclined to think that these difficulties are not insuperable, provided that the doctor is prepared to make a small beginning and reduce his fees to suit the pockets of the villagers. In this connection Col. Mills stated :—

"The general impression has been that an ordinary fee for an M.B. doctor should be Rs. 4 which means 6 shillings of English money. This fee is very big and doctors in general practice will have to adjust their views on the size of the fee they demand..... Already doctors are beginning to see that smaller fees must be charged and they overcome the difficulties by accepting a fee of Rs. 2 for one consultation and often seeing the patient 2 or 3 times afterwards for nothing."

82. We agree with this view and consider that the sooner the doctors adjust their ideas to the new conditions, the better it will be for all concerned. We have no doubt that it will not be long before the law of supply and demand will force them to change their views regarding their legitimate fees and realise the scope of country practice. With the improvement of communications, the development of rural welfare schemes which we have recommended elsewhere and the introduction of a system of subsidising country doctors we think that the desired changes will not be long delayed.

Subsidised medical practitioners.

83. The idea of providing better medical relief in the interior and encouraging country practice by subsidising private medical practitioners, is not a new one. It was tried in Bihar and Orissa and also in other provinces such as Bengal, Madras, the United Provinces and the Central Provinces. Although the experiment in this province was not successful in the past, it is worth trying again in view of the altered conditions and greater unemployment among medical practitioners. This is also the view of Col. Phillips, the officiating Inspector-General of Civil Hospitals, who informed us that in some places the scheme was still in operation. We recommend that it should be extended but only those doctors should be chosen who are used to village conditions. They should be posted in selected areas, preferably near their homes, where there are no district board dispensaries. Their headquarters should be fixed in a large village within easy access of the surrounding villages. Strict supervision should be exercised over their work but their pay should not be made too attractive so that they may be compelled to build up a private practice. They should be given a free supply of common medicines and should be required to inspect all children in neighbouring schools.

Free treatment in hospitals.

84. It has been pointed out by Col. Mills that "the medical profession in this province is to a great extent robbed of its legitimate right because of the extent to which the use of hospitals is abused by many who can afford to pay." We agree with him that instances are many of well-to-do people obtaining medical attention free of charge from charitable dispensaries. One reason, as pointed out by Col. Mills, is that there are practically no private hospitals and nursing homes which can take in surgical cases, nor are there any private clinics where, for certain tropical diseases, the necessary pathological and bacteriological

examinations can be conducted. The present system of voluntary contributions has not been satisfactory and the possibility of making it more effective requires further investigation. The system of attaching paying wards to hospitals is likely to check the tendency to obtain medical treatment without payment and we recommend that this system should be adopted more extensively.

Indian medicine.

85. Apart from the doctors trained in the western system of medicine, there are men practising the *ayurvedic* and *yunani* systems of medicine for which there is a demand in the villages. The figures collected by us show that on an average 20 qualified *vaid*s and 17 qualified *hakim*s are turned out every year. Most of them find employment in rural areas, though their income is generally small. These qualified men find their rivals in the village quacks, who should be discouraged. We recommend that qualified *vaid*s and *hakim*s should also be encouraged to settle in the interior, by being given small grants or subsidies from the district boards.

Homeopathy.

86. Homeopathy is another system of medicine which is becoming popular in this province. The small cost of medicine is one of its chief attractions. As the training required is simple and of a short duration, some of our unemployed youths are being attracted to this line. According to Dr. S. Prasad, a homeopath of Patna, as many as 238 men were trained in homeopathy during the last four years. Without proper training homeopathic practitioners are likely to commit deadly mistakes. In the absence of any facility for such training in homeopathic institutions, it would probably be desirable for students to qualify in allopathy before taking to homeopathy. Indeed many of the successful homeopaths known to us have received some training in the western system of medicine.

Dentists and opticians.

87. We find that there is some scope for dentists in this province. Even in a large town like Patna there are very few qualified dentists. Col. Phillips stated in his evidence, "there is plenty of scope for dentists in Patna and other bigger towns. No licence for dentistry is given to medical graduates but all graduates are taught some dentistry work and extraction of teeth. There is scope for starting a dentistry class in the Patna Medical College. The L.M.P.'s get three months' training in dentistry." We recommend that the question of starting a regular course in

dentistry at the Prince of Wales Medical College should be considered. Similar facilities should also be provided for the training of opticians for whom also there is plenty of scope as their number is limited.

Compounders, dressers and pharmaceutical chemists.

88. It will appear from Appendix VI that the number of compounders and dressers qualifying each year from Bihar and Orissa are 79 and 41 respectively. Against this, the number of available posts are as shown in the statement below :—

Name of department.	Compounder.	Dresser.
Civil hospitals and dispensaries :—		
Government	46	25
Local bodies, railways and wards estates ..	702	391
Education Department	1	1
Jail Department	6	..
Total ..	755	417

89. Taking the annual vacancies at 4 per cent of the posts, we find that 30 compounders out of 79 and 17 dressers out of 41 can normally be absorbed in the services every year. There is thus a considerable surplus, of which some are employed under private medical practitioners or in chemists' shops in towns. The large excess of supply over the probable demand is partly due to the fact that the figures include those who have passed the qualifying tests while in actual service. We understand that the Medical Department has already restricted the output by limiting the number of training centres. There is also a demand for male nurses for which some of these men can be utilised after necessary training. We do not consider that any other steps need be taken in this case to reduce the excess supply, which will adjust itself to the demand in course of time. There is no separate provision in this province for instruction in practical pharmacy, which provides an opening for a number of educated young men in more advanced countries. We, however, agree with Col. Phillips that there is not sufficient scope in Bihar for pharmaceutical chemists to provide a separate course of training for them.

LAW.

90. Unemployment among lawyers is proverbial, but this profession retains its attraction for our educated youngmen. This is due partly to the glamour attaching to it, the large

fortunes of the few who are successful and the fact that it is a convenient alternative to Government service. The extent of overcrowding in the legal profession is apparent from the Census Report of 1931, according to which the number dependent on it increased from 5,797 in 1921 to 8,129 in 1931, i.e., by about 40 per cent. These figures, however, do not represent the actual number of lawyers as they include *quazis*, private law agents, lawyers' clerks, deed writers, etc. To determine the actual number of practising lawyers and those earning a reasonable living, we issued circular letters to the bar libraries and mukhtears' associations in all the districts and subdivisions in Bihar and Orissa. We also approached the Registrar of the High Court for such statistics as could be supplied to us. We give below in the form of a statement the results of our investigation :—

	Number of lawyers in Bihar and Orissa.		Number earning a competence.	
	Advocates and pleaders.	Mukhtears and revenue agents.	Advocates and pleaders (earning Rs. 50 or more per month).	Mukhtears and revenue agents (earning Rs. 30 or more per month).
District Courts ..	1,659	809	1,388	421
Subdivisional Courts ..	1,604	666	565	366
High Court ..	174	...	116	..
Total ..	3,437	1,475	2,069	787
Annual wastage at 4 per cent ..	137	59	83	31

91. It will be seen that out of 3,437 advocates and pleaders and 1,475 mukhtears and revenue agents, only 2,069 advocates and pleaders and 787 mukhtears and revenue agents are able to earn a living. About 2,000 lawyers are thus struggling in vain at the bar. From the statement furnished to us by the Commissioner of Income-tax,* we find that about 1,100 legal practitioners in Bihar and Orissa have an annual income of Rs. 1,000 or more. We find therefore that 40 per cent of the total number of lawyers in the province are unable to earn even a pittance at the bar and only about 20 per cent are earning a decent income.

Over-production of lawyers.

92. In the statement given in the preceding paragraph we have calculated the annual wastage at 1 per cent allowing an average of 25 years' practice for a lawyer. On this basis an annual output of 137 advocates and pleaders and 59 mukhtears and revenue agents will maintain the legal profession at its existing strength. But, as we have shown, the bar is already overcrowded and can properly absorb only about 83 advocates and pleaders and 31 mukhtears and revenue agents each year. Against this, we are turning out 175 B.L.'s and P. L.'s and 77 mukhtears and revenue agents every year, as will appear from Appendix VI, besides some barristers qualifying in England. There is thus an over-production of not less than 138 lawyers every year who have no reasonable hope of earning a living in this profession. Some of them may be absorbed in Government service but the vast majority go to swell the ranks of the unemployed. This, in our opinion, is the worst feature of our unemployment problem. The training of so many of our educated young men in law involves a waste of time, energy and money.

Volume of litigation.

93. We have examined the volume of litigation in Bihar and Orissa during the five years 1930—34, in order to see whether this had any effect on the unemployment problem among lawyers. We give below a statement of the number of cases instituted in the various courts as compiled from the annual reports on the Administration of Civil and Criminal Justice in Bihar and Orissa.

Year.	Number of criminal cases, including appeals.	Number of civil suits including miscellaneous cases and appeals.	Value of suits in column 3.
1	2	3	4
			Rs.
1930	79,683	2,28,405 ^c	5,73,02,046
1931	81,221	2,26,204	4,42,32,266
1932	87,513	2,25,305	6,19,57,896
1933	82,590	2,56,034	4,90,78,980
1934	82,153	2,62,301	5,74,70,413

It appears from the statement that while there has been some increase in the number of civil cases since 1930, there has been no corresponding increase in value. This supports our own experience that, while the number of petty rent suits has increased, there are fewer contested cases involving large amounts. This is perhaps to be expected during a period of general economic depression. Similarly, the slight increase in the number of criminal cases relates mainly to petty police cases of theft and burglary. In any case, it is clear that there has been no such change in the volume of litigation as to justify the recruitment of larger numbers for the bar.

Remedies.

94. We have read with interest the recommendations of the United Provinces Unemployment Committee for finding better employment for lawyers by a proper division of their duties and for raising the standard of legal education, but we feel that we are not competent to pass any judgment on these proposals,* which can be considered by the High Court and the Faculty of Law of the Patna University. We are, however, definitely of the opinion that in this province it is necessary to restrict the number of passes in law examinations either by raising the standard or by some other means. In this connection, we welcome† the action taken by the High Court, in its notification no. 76-E., dated the 12th December 1934, abolishing the pleadership examination with effect from the close of the year 1938. This will no doubt give some relief by reducing the average outturn of lawyers by about 28, and will, at the same time, help to raise the standard of pleaders. There is, however, need for still further reduction. We recommend that with the abolition of the pleadership examination, the question of raising the general qualification for admission to the mukhtearship examination should be considered. The standard of this examination should also be raised. We further recommend that the separate examination for revenue agents should be abolished and that the course for this examination should be combined with the mukhtearship examination. The extent of unemployment in the legal profession should be given wide publicity and we

* Rai Bahadur Mahir Nath Ray, Rai Bahadur Shyamandan Sahay and Maulavi Shaikh Muhammad Shafi are in favour of adopting the recommendations of the United Provinces Unemployment Committee regarding the division of lawyers into two classes, viz., (1) those who will perform the functions of a counsel, that is, examine witnesses, argue cases, etc., and (2) those who will perform the functions of a conveyancer or solicitor, that is, draft legal documents and do all other acts necessary for the completion of a legal transaction or the progress of a law-suit or a legal proceeding in court.

† Maulavi S. M. Shafi is not in favour of the abolition of the pleadership examination.

recommend that pamphlets discouraging the rush to the bar should be distributed in high schools and colleges so that only those boys who possess special aptitude will be attracted to the legal profession.

OTHER PROFESSIONS.

Insurance.

95. There are about fifty insurance companies operating in Bihar and their total business in the province is estimated at about $1\frac{1}{2}$ crores of rupees, of which only about Rs. 20 lakhs is held by Bihari companies. The amount of premium received by these various companies every year is about Rs. 60 lakhs. To deal with this vast business, the companies engage about five thousand agents all over the province. From the information that we could collect from some of the companies, we find that quite a large proportion of these agents are outsiders. From the nature of the occupation, the local men have better chance of success in this line, provided that they have the necessary perseverance. The educational qualifications required are of a general nature and personality is an important factor for success. There is scope for the employment of more educated Biharis as insurance agents and we recommend that the Information Bureau of the Department of Industries should get into touch with insurance companies and induce them to employ local men as agents. The Bureau should also publish statistics showing the employment of Biharis by the various insurance companies.

Commerce and accountancy.

96. With the development of trade and industries, the demand for men trained in commerce and accountancy is increasing. Their services are required not only in Government departments but also in the various firms and banking institutions. There is thus an increasing prospect for men qualified in this line. There is at present no arrangement in Bihar for imparting training in commerce and accountancy, but we are glad to find that a number of Biharis are securing this qualification in the Allahabad University.

Journalism.

97. Bihar is very backward so far as journalism is concerned. The number of local newspapers, periodicals, etc., is very few compared to other provinces. But even for this limited scope there seems to be a dearth of properly qualified men, and some of the leading newspapers have had to recruit their editorial

staff from outside. We recommend for their consideration that they might train up a few intelligent Biharis in this work by offering a suitable subsistence allowance.

Zamindari work.

98. The zamindars of the province at present employ only cheap and semi-educated staff for the collection of rents and for the keeping of accounts in their village *kutcheries*. For this work educated young men would be suitable, provided they are given the necessary training and the zamindars can be persuaded to give them a trial. The present attitude of the zamindars in employing cheap and unreliable staff is likely to make their relations with their tenants more difficult in the future. It is, therefore, in their own interest that they should engage a better type of *tahsildars* and *patwaris* to represent them in their villages. We believe that some of them are now employing matriculates and under-graduates with success, but the modern educated young man takes time to learn the ropes, and dislikes living in the village. We recommend that in the *khasmahal* and wards estates, Government should recruit annually a few graduates and under-graduates for training in *zamindari* work including elementary survey. At the end of their training they may be given a certificate by the Collector which will assist them in finding employment under zamindars. A small allowance may be given as remuneration for the work done for Government during the course of training. The possibility of introducing village accounts and elementary survey as optional subjects in selected middle schools, for the benefit of boys who wish to become *patwaris*, may also be considered. The landholders' associations of the province should be asked to exert their influence in persuading their members to employ young men who have received training in *zamindari* work, and the bigger zamindars should also be encouraged to provide training facilities as in the *khasmahal* and wards estates.

CHAPTER VII.

AGRICULTURE AND ITS SUBSIDIARY INDUSTRIES.

Fragmentation of holdings.

99. Bihar being essentially an agricultural province, the Committee has considered the possibility of diverting some of our educated young men to agriculture, or at least of preventing the migration of educated young men from rural areas to towns. We have remarked previously in Chapter IV that while 80 per cent of the people in this province are wholly or mainly dependent on agriculture, the large increase in population with the increasing pressure on the land, the low level of prices of agricultural produce, and the absence of improved methods of cultivation and irrigation facilities in certain areas have made agriculture, as it is at present carried out, unprofitable. According to Mr. D. R. Sethi, Director of Agriculture, an economic holding must not be less than 15 acres in a compact block. Against this, the size of the average holding in Bihar is about 5 acres*, and although the average holding in Chota Nagpur is larger, being about 10 acres*, most of this is poor upland and not more than one-third of the holding is fit to grow rice. Besides, in the process of fragmentation brought on by the progressive operation of the law of inheritance and the sale of part holdings on account of the indebtedness of the agriculturist, the land comprising a holding has become scattered. These small and scattered holdings make it quite impossible to adopt improved methods of farming even if the agriculturist has the necessary knowledge and capital. To prevent the evil of fragmentation, Germany and Italy have enacted laws disallowing partition when the size of a holding has reached the economic minimum. While we are doubtful if similar legislation could be attempted in Bihar on account of the very different social conditions, we consider that Government should take up seriously the question of consolidation of holdings.

Can agriculture pay ?

100. We have indicated the effect on the unemployment problem of the growing exodus from the countryside to the towns. If agriculture could be made profitable the solution of our problem would be simple. The evidence of the Director of Agriculture on this point indicates that under certain conditions agriculture does pay in spite of the prevailing low prices of agricultural produce. We were informed that the Byreah

*These figures have been taken from the Report of the Bihar and Orissa Provincial Banking Enquiry Committee, 1929-30.

farm of the Bettiah Raj, which was started five or six years ago, has yielded a steady profit to the estate after deducting the cost of cultivation including management. Similarly, we understand that the Government farms could be made to show a profit if additional staff were not maintained for experiment, demonstration and propaganda. Mr. Sethi has also furnished us with a statement† showing the financial aspect of a 15-acre farm in Bihar. According to him a cultivator with 15 acres of reasonably good land can with an initial outlay of Rs. 900 secure a net profit of about Rs. 380 a year or about Rs. 30 a month under present price conditions. We cannot, however, on the basis of Mr. Sethi's figures, recommend to our educated young men that they should acquire 15-acre holdings for their private cultivation. The statement furnished by Mr. Sethi does not include the cost of acquiring the holding which will be considerable. We are also inclined to believe that in the beginning, at any rate, our educated young men will not be able to secure the estimated outturn. The acquisition of 15-acre holdings is a matter of some difficulty and we feel that even if an educated young man has the necessary capital it would not be safe for him to invest it in agriculture, unless he has received adequate training in a Government farm. The possibilities of diverting our educated young men in towns to agriculture are, therefore, very limited. For them other openings must be found. But as we have shown, our unemployment problem deals not only with the young men already in towns but also with the ever-increasing number of young men who are drifting from the countryside to the towns. If agriculture which is the main support of about 80 per cent of our population cannot pay, there can be no solution of our unemployment problem. The fact that such large numbers continue to be maintained by agriculture combined with the fact that there is considerable scope for improvement in cultivation leads us to hope that steps can be taken to check, to some extent, the growing exodus of young men from rural areas, which is aggravating our unemployment problem. With improved agricultural marketing, which is now under investigation at the instance of the Imperial Council of Agricultural Research, the introduction of seeds of better varieties, improvements in agricultural practice for which propaganda is being carried on by the Department of Agriculture, and suitable facilities for agricultural finance, the income from agriculture should increase and be reflected in the economic betterment of the countryside. We cannot, however, by any means hope that this would in itself achieve our object.

The pressure of population on soil has increased to such an extent that agriculture by itself is quite inadequate and must be supplemented by subsidiary and cottage industries which will find profitable spare-time employment for the rural population. The sons of comparatively well-to-do cultivators, tenure-holders and small zamindars are finding their way in large numbers to high schools. If instead of pursuing the stereotyped course of education which is provided in these high schools, they are taught improved methods of cultivation and some subsidiary occupation, there should be a strong inducement for them to remain in the village where they could help to augment the family income.

Colonisation scheme.

101. We have examined the possibility of a colonisation scheme of the kind that has been tried elsewhere for settling educated young men on the land. The fundamental difficulty in Bihar is that lands suitable for cultivation are already being cultivated and culturable waste lands of reasonably good quality are not easily available. In Chota Nagpur the uplands are too poor for any successful extension of cultivation. In the opinion of Mr. Sethi, the Lapra scheme which is being tried in Ranchi district for settling Anglo-Indian youths, is handicapped by the poor quality of the soil. Mr. Y. A. Godbole, Registrar of Co-operative Societies, also informed us that a similar scheme was tried in Chordera in the same district for settling educated middle class boys on a co-operative farm, but it proved a complete failure on account of the inferior quality of the land. Outside this province there are colonisation schemes which have attracted public attention. At our instance Mr. Godbole visited the *zamindari* colony of Sir Daniel Hamilton at Gosaba in the Sunderbans, Bengal. From his report it appears that Sir Daniel has been remarkably successful in reclaiming a large area of 22,000 acres of jungle and marshy lands and in improving its sanitation. He has provided his tenants with every facility for better farming, co-operation and marketing. The disappointing feature of this scheme is that very few educated young men have taken advantage of it in spite of the considerably larger volume of unemployment in Bengal. Out of about 2,500 families of tenants, only about 25 can be said to belong to the *bhadralog* class. This is perhaps due to uncongenial surroundings and the fact that a small area of only about 9 acres is offered to each settler. For boys of the *bhadralog* or middle class, Sir Daniel has started a Rural Reconstruction Institute

since 1934, with the idea of encouraging them to learn agriculture (with its subsidiary and allied industries) and co-operation. Mr. Godbole's report shows, however, that very few boys trained in this institute were prepared to settle down as colonists and to cultivate lands which were offered to them. The difficulties of a colonisation scheme cannot be overlooked and in Bihar the scope for it is strictly limited. We consider, however, that an experiment should be tried in this province on a very small scale. We understand that there are comparatively good lands in the Bettiah subdivision of the Champaran district and in Furnea which are lying fallow and which could be acquired at comparatively little cost. We recommend that Government should make a small experiment in colonisation by acquiring land in these parts and leasing it to selected young men who have received training in agriculture.

Holdings acquired by Co-operative Department.

102. It has come to our notice that as a result of the agricultural depression, co-operative banks and societies have been compelled to acquire a large number of holdings in execution of awards against defaulting members, which are still available for resettlement. From the statistics furnished to us by the Registrar of Co-operative Societies it appears that about 2,600 acres of land are thus available of which not less than 700 acres are in compact blocks of about 15 acres each or can be made so compact. We recommend that the Co-operative Department in consultation with the Agriculture Department should explore the possibility of settling compact holdings with educated young men who have received training in the Government agricultural farms. We further recommend that every effort should be made by the Co-operative Department to consolidate the remaining scattered plots by private exchange.

103. We realise the difficulty arising out of the conservatism of the agriculturist and the obstinacy with which he clings to his ancestral lands, but we believe that with suitable propaganda this difficulty can be overcome particularly when it is realised that an exchange of lands will be to the mutual advantage of all concerned. The experience of the Co-operative Department may indicate the lines of future action on the part of Government in dealing with the evil of fragmentation. In the campaign for the consolidation of holdings it is essential that the Co-operative Department should enlist the sympathy of the zamindars. If similar action could be taken in respect of *khasmahal* lands, Court of Wards' Estates and private

zamindaris, we feel that much could be achieved. We recommend that the Government should convene a conference consisting of representatives of the landholders' associations in the province, experienced revenue officials and representatives of the Agricultural and Co-operative Departments to consider how steps could best be taken to consolidate the holdings which have been surrendered or acquired during the period of depression. For facility of supervision consolidation should be taken up first in areas which are within reasonable distance from central agricultural farms. If the scheme proves a success, it will be necessary to increase the staff of the agricultural farms and also the propaganda staff of the Agricultural Department.

Suitability of educated classes for agriculture.

104. Regarding the suitability of educated young men for agriculture, the Director of Agriculture stated as follows:—

“ In the case of those belonging to urban areas my view is that they are totally unsuited to the pursuit of agriculture and are unlikely to make a livelihood from farming. They are by up-bringing and by temperament not fit for the hard and unattractive life which an agriculturist must lead in order to make both ends meet, and if made to work under uncongenial surroundings they are bound to be failures. The case of the educated village youth belonging to the middle class is different.”

We agree that there is little hope of settling educated young men on land, who have become unfit for agriculture by long residence in towns. For agricultural training it is necessary to select only those boys who are sons of agriculturists, who have been educated in a middle or high school in a purely rural area and still retain a rural outlook. The object should be to prevent the aimless drift from rural schools to towns in the vain pursuit of higher education. Those with large holdings should be given a preference so that they may be able to make use of their training in the cultivation of their lands. In special cases, they may be helped by loans from the State or advances from co-operative banks on the security of their family holdings.

Agricultural training.

105. In the preceding paragraph we have indicated the type of educated young men who might with advantage be

absorbed, or rather re-absorbed, in agriculture. We recommend that promising young boys of this class should be selected by the Agricultural Department and given a complete course of training in practical agriculture in a central agricultural farm. There are four central farms in the province, viz., at Patna, Sabour, Sepaya and Ranchi, each of which can take ten to twelve students. Against this, there are now altogether seven or eight boys under training in all the farms. This is because, at present, the boys after training mostly look to Government service as a career instead of taking up farming on their own. To induce boys to go to the farms for training, suitable stipends should be awarded, and hostel accommodation on a modest scale should be provided at the farms. The period of training should be for at least two years, and after a boy has completed his course in a central farm he may be assisted to obtain settlement of a compact holding from a co-operative society or a private zamindar, if his ancestral holding is inadequate for efficient cultivation. We recommend that district agricultural committees should be formed in those districts in which there are Government central farms and it should be the duty of the committees to select suitable boys for training in agriculture and to assist them after the completion of their training to take settlement of compact holdings. We further recommend that the manager of the central farm in which a boy is trained should remain in touch with him for a further period of at least three years so that he may be able to acquire confidence in his own ability to cultivate his holding efficiently and may secure such assistance as it may be possible for the farm to extend to him.

Co-operative farming.

106. Co-operative farming provides a remedy for fragmentation. Uneconomic holdings could be amalgamated into one compact block which could then be run as a model farm. Co-operative farming, however, presents many difficulties; it requires complete harmony and understanding between the villagers and good leadership. With the limitations in human nature and the existence of party factions in village life, it is not a scheme which can be adopted on any general scale. An experiment in co-operative farming is being tried by the Co-operative Department at Nichitpur in the Dhaubad subdivision which was visited by the Dhanbad sub-committee. As far as we can judge, the results so far achieved do not justify any great optimism. We do not also consider that with illiterate villagers such a scheme is likely to be successful

unless it has a leader with a towering personality and the fullest confidence of the villagers. If, however, educated young men can be induced to take to agriculture, it is possible that some of them may combine to run a model farm on co-operative lines. If such a tendency develops, it should receive every encouragement and assistance from Government.

Agricultural bias in education.

107. To encourage educated boys of rural areas to return to agriculture instead of forsaking it for Government service or the crowded professions, it is necessary to give them an agricultural bias. Our present system of education has little connection with agriculture or village life, and as such it cannot be expected to create any liking or desire for agricultural pursuits amongst our young men. As stated by Mr. Sethi, "until education is given a strong agricultural bias from the very start, the process of weaning the village youth from the pursuit of agriculture will go on increasing and the desire to get such young men to go back to the land will remain a pious hope". Vocational classes in agriculture were introduced about seven years ago in the middle English school at Bikram in Patua district, where agricultural training, theoretical as well as practical, is being given to the boys. The school has its own farm on which the students are required to work for fixed periods. They also attend lectures on agriculture during school hours. The report of the Director of Agriculture shows that, although the school has now been raised to the high English standard, a large number of boys who passed from it have taken to agriculture and have adopted improved methods of cultivation which they learnt in school. The Bikram school has passed beyond the stage of experiment; it has provided a model which deserves to be widely adopted. We recommend that vocational classes in agriculture on the lines of the Bikram school should be introduced in other middle and high schools situated in rural areas. To provide a more thorough training in agriculture, we have also recommended in a subsequent chapter the conversion of selected middle schools in important agricultural areas into half time agricultural schools. A beginning should be made with schools in the neighbourhood of central agricultural farms, to which successful boys from these institutions may be sent for further training.

Rural welfare scheme.

109. A "back to the land" policy which we have recommended cannot be successful unless steps are taken to

make village life more attractive than it is to-day. Our educated young man feels that by living in his village home he is doomed to dullness. So long as this feeling persists, few will return and the drift to the towns will continue. Rural welfare schemes have rightly attracted a good deal of public attention and we have read with interest the village welfare scheme recently sanctioned by Government. At one selected centre in each division it is proposed to carry on intensive welfare work in a group of five to ten villages. The programme includes village sanitation and public health including maternity work, primary education of the adult members in night schools, agricultural improvement, the introduction of subsidiary cottage industries, improvement of water-supply, construction of village roads, cinema shows, and other entertainment for villagers. The idea is to make village life less isolated and more in keeping with modern developments. With broadcasting and the cinema, the rate of enlightenment could be accelerated very considerably and the Indian village which has remained unchanged and unaffected for centuries could be brought into line with modern developments in comparatively few years. We attach considerable importance to rural reconstruction. At our instance Mr. Godbole, the Registrar of Co-operative Societies, visited Bolpur in Bengal and prepared a report on Sriniketan or the Visva-Bharati Institute of rural reconstruction founded by Dr. Rabindranath Tagore. In the language of the poet "the object of Sriniketan is to bring back life in its completeness into the villages making them self-reliant and self-respectful, acquainted with the cultural tradition of their own country, and competent to make an efficient use of the modern resources for the improvement of their physical, intellectual and economic conditions". As Mr. Godbole puts it, Sriniketan aims at rural reconstruction, as we generally understand it to-day, carried out on a rational plan. Experiment and research on rural problems are first conducted at Sriniketan and then put into practice in a group of 17 villages through reconstruction societies. Apart from primary schools run on approved lines in the villages, there is a *siksha-satra* or a model school at Sriniketan where an attempt is made to give to the boys and girls an all-round practical education, including some trade or handicraft. Students from the various reconstruction societies are also given practical training in the experimental farms at headquarters, where training is provided in agriculture, dairy farming, poultry farming, and selected cottage industries. The aim of the reconstruction societies is to teach the villagers "better living, better farming and better business". Co-operative credit

societies affiliated to the central bank at Sriniketan, health societies providing cheap medical relief and looking to village sanitation, irrigation societies, adult education, a circulating library, arbitration tribunals, *mahila samitis*, primary education, *Brati Balaks* (boy scouts), relief of distress, propaganda for improved crops, manure pits, homestead gardens, improvement of cattle—all receive their due share of attention. In brief, the idea is to rouse the enthusiasm of younger generation and to bring the countryside into closer contact with modern civilisation.

Importance of Pusa for rural reconstruction.

109. We strongly recommend that village welfare schemes should be carried on more extensively in this province. One centre in each of the four divisions is a very poor beginning in a work which we consider to be of very great importance. An eighteenth century rural India in a twentieth century world is an anomaly which should not be allowed to continue. The recent acquisition of Pusa from the Government of India, in our opinion, provides a great opportunity for adopting a vigorous policy of rural development. Pusa can be made the *Sriniketan* of Bihar to provide the training for educated young men in agriculture, cattle-breeding, cottage industries, co-operative and other welfare activities. From Pusa will come the trained leaders for the rural reconstruction centres which should gradually be established first in every district, then in every subdivision and finally in every thana in the province. By this means a large number of educated young men will find useful employment, the countryside will become more attractive and there will be some inducement for boys passing from middle and high schools to return to the land.

Reconstruction programmes.

110. There is one further aspect of rural reconstruction, intimately connected with the question of rehabilitation of agriculture and village life, which needs emphasis. Welfare work will fail if it does not also develop a spirit of service and self-reliance among the people. Our rapidly increasing population is only finding part-time employment and an important feature of welfare work should be the mobilisation of the spare-time of the rural population for works of general utility. We have in mind the construction of wells, village roads, school buildings and minor irrigation projects by the free but willing labour of the villagers themselves. The cost of such works, if paid for at the usual rates, would be prohibitive and neither the local

Government nor the local bodies could undertake them. But if they are done by the villagers themselves under enlightened leadership the cost is nil while the free labour may be made to appear as a civic duty or recreation rather than as forced labour. The excavation of the Anderson Khal in Bengal may be cited as an instance where a work of considerable benefit estimated to cost Rs. 40,000 was completed in three months by local effort without impoverishing anybody. We recommend that each rural reconstruction centre should draw up a definite programme of construction works, which will be carried out by voluntary labour. As an encouragement, special grants or prizes may be given to those centres which show the best results.

SUBSIDIARY INDUSTRIES CONNECTED WITH AGRICULTURE.

Importance of subsidiary occupation to agriculture.

111. We have referred to the growth of population, the precarious position of agriculturists whose holdings are now below the economic limit and the fact that agriculture provides only part-time occupation for the rural population. The importance of developing industries subsidiary to agriculture needs no further emphasis. Improvement in agriculture is necessary, but will not solve the problem of general under-employment. Agriculture cannot absorb the rapidly increasing population and agricultural operations from their very nature involve hard work for short periods with comparatively long intervals of leisure. According to some estimates the agriculturists have practically no work to do on their fields for at least four or five months in the year. If our educated young men are to be encouraged to devote their energies to agriculture, it is important that they should also have a subsidiary occupation which will provide a supplementary source of income and an opportunity of utilising their spare time to best advantage. The uncertainty of agriculture on account of floods and failure of rainfall also makes it incumbent to have something to fall back upon in lean years. We deal in a separate chapter with cottage industries but here we confine ourselves only to those industries which are directly connected with agriculture. The scope for the development of subsidiary industries in rural areas is immense but success depends on initiative, organisation and enterprise. We can only indicate what are the possibilities according to the opinions of the experts who gave evidence before us.

Fruits and vegetable gardening.

112. As a sole occupation, fruit and vegetable gardening offers a limited scope for the employment of our educated young

men. According to Director of Agriculture, fruit growing to be profitable must be done on a fairly large scale. For this one must have at least 15 to 20 acres of land, which it would be difficult for the average educated young man to secure. Besides the fruit crop is liable to extreme seasonal fluctuation. A bumper crop is often followed by a number of lean years, which may involve considerable hardship. As regards vegetable gardening, there is the difficulty of marketing except in the neighbourhood of railways and large towns. On the other hand, as a subsidiary industry for the agriculturist, fruit-growing and vegetable-gardening have much to recommend them. The prospect of profitable fruit-growing can be improved by proper marketing facilities and propaganda to eat more fruit for the sake of health.

Canning and preservation of fruits and vegetables.

113. Bihar being an important fruit-growing province, the canning and preservation of fruits has distinct possibilities, if the industry can be properly organised. Experience, however, shows that there is danger in depending on one particular fruit such as the mango, which is grown abundantly in this province but is liable to failure every alternate year. This was one of the reasons why the fruit preservation concern which was started at Muzaffarpur ended in failure. If this industry is to be successful, it must take up the canning and bottling of a variety of fruits and syrups throughout the year. Recently the local Agricultural Department has been carrying on investigations in the canning and preservation of fruits and vegetables. Classes have also been started for training educated young men in this industry. Out of 12 or 13 boys trained, two are said to be carrying on business on a small scale at Patna. Mr. H. L. Dutt, Deputy Director of Agriculture, informed us that the capital required for running this industry on cottage lines is small, being only about Rs. 600, and the preservation of fruits and fruit syrups does not require any great skill. The industry has the possibilities of finding employment for a number of educated young men, but there is the difficulty of maintaining a reasonable standard of purity which is likely to stand in the way of its development. Manufacture in small units of food-stuff creates a suspicion in the mind of the consumer that reasonable precautions may not have been taken in the process of manufacture. Canning and preservation of fruits can best be done in a factory where standardised goods of guaranteed quality are produced under expert supervision. Canning of vegetables requires more expert handling owing to

the greater difficulty of eliminating the action of the micro-organisms present therein, and we do not recommend it unless expert supervision is available. The preparation of pickles, chutney and similar condiments does not present the same difficulty and we can recommend this as a subsidiary occupation. We also recommend that the men trained by the Agricultural Department in the canning and preservation of fruits should be encouraged to organise themselves on co-operative lines not only with a view to provide capital and marketing facilities but also to create an agency for effective supervision. Such an arrangement should not be difficult or expensive and it would promote sales by giving the articles manufactured by students the hall-mark of a single institution.

Poultry farming.

114. We agree with the view of the Director of Agriculture that poultry farming has little possibilities as an independent industry for our educated young men. Apart from the difficulty of marketing a large stock in competition with the local *murgiwala*, the birds of better breed are especially liable to epidemics which have been known to destroy an entire stock in a short time. We are, however, satisfied that, in conjunction with agriculture, poultry farming can help to increase the income of the small farmer, particularly with proper arrangement for marketing. We, therefore, recommend it as a subsidiary occupation for our educated young men who take to agriculture.

Dairy farming.

115. The Director of Agriculture did not consider that dairy farming offered any scope for our educated young men. According to him dairy farming to be a success must be done on a fairly large scale which is beyond the means of an average unemployed youth. There is also the difficulty of competition with the *goala* whose methods of adulteration are notorious. For private consumption, however, dairy farming is undoubtedly a useful subsidiary occupation for the small farmer who can also interest himself in cattle-breeding. There is some scope for dairy farming on a moderate scale in the vicinity of large towns, but we feel that it would be risky for our educated young men to take to it as a sole occupation, unless there is effective legislation to prevent adulteration.

Bee-keeping.

116. This industry has attracted attention but we are not in a position to make a definite recommendation. Although

in some districts honey is collected from wild combs for sale in local markets, bee-keeping as such is not practised anywhere in Bihar. According to Mr. T. B. Fletcher, the Imperial Entomologist, the main drawback of the industry in this province is that the amount of honey produced by the "Indian" bee, which thrives in the plains and can be domesticated, is too small to make it profitable. According to the same authority, however, there is no reason why higher yields of honey cannot be obtained by using improved strains of bees by crossing the local races with some selected European varieties. But this requires careful investigation and research by an expert. We understand that an experiment carried out some years ago at Pusa was partly successful. Further research is necessary and we are glad to note that the matter is likely to be taken up by the Imperial Council of Agricultural Research. We recommend that early steps should be taken to investigate the possibility of bee-keeping in the plains. This is an industry which would be ideal as a subsidiary occupation to agriculture.

Eri-rearing and spinning.

117. We shall deal later with the general subject of sericulture and the prospect of the silk industry. Here we confine ourselves to ericulture as a subsidiary occupation. Mr. K. S. Rao, the Textile Expert, has shown us by calculation that even in the present depressed state of the market, an agriculturist who grows castor plants on half an acre of land, can rear Rs. 20 worth of eri cocoons by feeding the silk worms on the castor leaves. If he spins these cocoons on *charkha* in the off-season with the help of his wife and children, he can earn Rs. 40 as the price of the eri silk thread produced, besides Rs. 5 or Rs. 6 from the castor seeds. The appliances required are simple, viz., a few bamboo trays and racks and a wooden *charkha* which would not cost more than Rs. 15 in all. Even the small cultivator can grow a few castor plants on his *bari* land and rear some silk cocoons, which he can dispose of at a profit. The Department of Industries has made arrangements to collect even small quantities of cocoons and threads produced by cultivators to dispose of them at most favourable rates.

118. The local Government have recently revived the eri demonstration party, with the idea of developing this useful cottage industry. A seed-supply station has also been started at Ranchi with a grant from the Government of India, for the supply of cellular eggs to agriculturists. Eri-culture on a large

scale will not be paying if hired labour has to be employed, but it has distinct possibilities as a cottage industry subsidiary to agriculture.

Pisciculture.

119. The importance of pisciculture was stressed by the Royal Commission on Agriculture. Apart from its value as a source of food which will give a more balanced diet to the population, it can help to improve the sanitation of the country not only by reclamation of silted and decaying tanks, which are the chief sources of epidemic and disease, but also by the actual destruction of malarial and other pathogenic larvæ. Not only the special larvicidal fish, but also the ordinary carp is larvicidal till it is about six months old. The addition of fresh carp fry in tanks is thus a valuable anti-malarial measure.

120. We consider that pisciculture can provide profitable employment for some of our educated young men. It does not require as much labour, attention, money and technical skill as most other occupations, while the profit is not negligible. It is also consistent with the social status and self respect of our educated young men and can be taken up either as a subsidiary or a sole occupation.

121. According to Mr. D. N. Sen, the Superintendent of Fisheries under the Department of Industries, even on a conservative estimate a good and fertile tank measuring one bigha, when brought under scientific pisciculture, should yield a net annual income of Rs. 100, the annual outlay being Rs. 50 only. A young graduate of the Benares Hindu University who took to pisciculture under the guidance of Mr. Sen appears to have done very well. Although labouring under several disadvantages, he made a net profit of 103 per cent on his outlay in three years. The letter received from this student is of interest. He states:—

“In spite of the drawback which my tank labours in, the profit to me has been 103 per cent in three years. In reality this profit counts at double almost of this percentage, for the cost of 30,000 fry which was purchased in the year 1930 was all wasted as 80 per cent of that fry died during transit owing to some accidental mistake.”

“The great peculiarity of this business is this that it requires practically no time and very little labour. It takes us only 2 days in bringing the fry from Patna and stocking in the tank. After that there is no work save inspecting the tank from time to time. The only labour required is for about

a month at the time of rearing the harvest when we have to settle purchasers and sell the fishes in our presence or in the presence of any reliable man. The greatest labour of course is required at the time when we have got to excavate the tank or to manure it."

"We never gave any food to the fish save that we allowed cattle to be grazed on the banks and the cowdung to be washed in the tank."

We quote this instance to show what can be done in pisciculture by an unemployed young man. There are numerous tanks, *jheels*, reservoirs, etc., in the province, which could be utilised for pisciculture. According to Mr. Sen even tanks which do not retain water throughout the year can be utilised for growing suitable varieties of fish and made to yield a profit.

122. The Department of Industries is now endeavouring to introduce pisciculture through co-operative societies. The first batch of *kamdars* is being given the necessary training, at the end of which it is hoped they will be able to carry on their work independently on behalf of the central banks. The Superintendent of Fisheries has suggested to the Committee that arrangement should be made by Government to give educated young men a course of training in pisciculture lasting for 8 to 10 months and that stipends should be given every year to one recruit from each of the districts of Muzaffarpur, Darbhanga, Monghyr, Bhagalpur, Gaya, Hazaribagh, Ranchi, Manbhum, Singhbhum and Santal Parganas. Mr. Sen further stated:—

"The department in its present state is far from fit to undertake such training and will have to be specially equipped for that purpose. The training should constitute fundamentally practical field work or carp-culture together with some theoretical training bearing on the practical aspect of the question. The different subjects of training should be spawn catching and earing, transport of fry, study of artificial conditions under which carp breed in confined waters, scientific manuring of tank and artificial feeding of fish, study of differences between rates of growth of fish in manured and unmanured tanks, the life-histories of carp, identification of tank fishes, fresh water biology, fish parasitology and disease, various methods of capturing fish, their marketing organisation, present markets and exploration of new markets, and methods of transporting fish to markets at long distances."

The Committee is of the opinion that this scheme deserves favourable consideration and that arrangements should be made as soon as possible for training young men in pisciculture.

123. One of the difficulties in developing pisciculture in the interior of the province is the absence of ice for cold storage during transport. We consider that the Department of Industries should approach seasonal factories, in selected areas with a view to persuading them to manufacture ice in the off-season. This should provide an additional source of income to the factories and also help the development of pisciculture in the interior.

CHAPTER VIII.

INDUSTRIES.

124. Bihar, though mainly agricultural, has many natural advantages for industrial development. Apart from the sugar, tobacco, hide and milling industries depending on, or connected with, agriculture, her vast mineral resources and her forests (though not developed as they might be) provide the necessary raw materials for important key industries. The most important of these are iron, coal, copper, manganese, lime-stone, kaolin, mica, quartz and felspar among the minerals, and lac, timber, bamboo and *sabai* grass among the forest produce. The industrial development of the province has been slow, but in some respects it has also been spectacular. The history of the iron and steel industry at Jamshedpur reads like a romance, while the sugar industry of Bihar, which is second in importance only to that of the United Provinces, has developed with amazing rapidity only in course of the last four or five years. Bihar is also the most important province in India so far as the coal, mica and lac industries are concerned. For all her industries there is an abundant supply of labour and the only deficiency of the province is in hydro-electric power which, however, is compensated by her rich deposits of coal.

Possibility of electrical development.

125. In provinces where hydro-electric schemes have been developed, e.g., Punjab, United Provinces, Bombay and Madras, it is possible not only to benefit large industries but also to introduce flourishing cottage industries and to promote improved agriculture by tube-well irrigation. We understand that the Ganges canal hydro-electric grid scheme in the United Provinces provides electricity to 88 towns and enables the agriculturist to buy cheap power to irrigate his fields and to process his crops. Small sugarcane crushers, cotton gins, oil-crushing plants and centrifugals are now being introduced in rural areas while irrigation by electric tube-wells has also enabled the agriculturist to cultivate paying crops, e.g., sugarcane, and to increase the outturn from his holding. The importance of such a scheme from our point of view is obvious, but the absence of hydro-electric facilities in Bihar has stood in the way of the introduction of any similar scheme. We understand that in the United Provinces the possibility of obtaining electric power on a large scale from steam turbines is being investigated and that according to some experts it would be possible to generate

steam-electric power which would be no more expensive than hydro-electric power. If this possibility materialises, the scope in Bihar is considerable as coal is obtainable at a very much cheaper rate than in the United Provinces or elsewhere. We recommend that Government should obtain expert opinion on the possibility of establishing power stations at convenient centres from which electricity can be carried by high tension distribution to the countryside. In the beginning an experiment in high tension supply may be made from the existing power stations at Patna and Bhagalpur. A scheme for rural electrification has such immense possibilities that an experiment in this direction seems necessary and desirable.

Need for co-ordination.

126. We have considered it necessary to examine the possibilities of industrial development because we are convinced that agriculture by itself will not check the economic deterioration of the countryside to which we have referred in an earlier chapter. As we have already pointed out, the population of the province has increased to such an extent in recent years that it cannot now be absorbed in agriculture. If the economic condition of the province is to improve, other avenues of employment must be explored. We can see no lasting solution of the unemployment problem without industrial development. But in considering the possibilities of future progress we can not overlook the fact that industrial development does not depend entirely on the resources of the local Government. Currency, tariff, railway freight, etc., which are very important and vital factors, are under the control of the Central Government. The history of the iron, coal and sugar industries of Bihar will illustrate the extent of our dependence on the Centre. We lay stress on this point because we consider that progress can be accelerated if there is proper co-ordination between the provinces and the Centre. We are glad to note the establishment of a Central Bureau of Industrial Research, but we feel that this bureau will achieve little result if it confines itself to isolated research without pursuing a vigorous and dynamic policy of promoting Indian industries. The obstacles in the way of industrial development are many and it requires the co-ordinated effort of local Governments and the Government of India to overcome them.

Employment of Biharis in industry.

127. The large industries of the province absorb a number of educated young men, but the number from Bihar is less than

half. Our investigation shows that there are more than 45,000 posts carrying a pay of Rs. 20 and above available in the industries of the province, of which only about 22,000 are held by men from Bihar and Orissa and the rest by men from other provinces and Indian States. It is this feature which is responsible for our special terms of reference and the Committee has gone into the question in great detail. Comparatively few educated Biharis are employed in the large industries of the province. Our visit to the various factories and mines convinced us that the scope for their further absorption in industry is great. We are glad to note that industrial concerns have expressed their willingness to assist Biharis as far as practicable. In dealing with this question we may appear to be taking a parochial view, but we feel that it is certainly anomalous that an industry should ignore the province in which it is located. For instance, the representatives of one important concern stated that they had not thought before in terms of Bihar although their works were situated in the province. We feel that active steps should be taken to secure adequate representation of our educated young men in the industries of the province. We recognise that the non-representation of Biharis is partly their own fault, but it is also partly their misfortune and we have explained their difficulties in securing a footing in industry. We are glad to find that many industrial concerns consider that the deficiencies of the educated Biharis, to which we have referred in an earlier chapter, are tending to disappear.

IRON.

The Tata Iron and Steel Company, Limited.

128. The most important industrial enterprise in the province is the Tata Iron and Steel Company, Limited, at Jamshedpur in the district of Singhbhum. This was established in 1907 on a site practically uninhabited before that date and far from any town of importance. With the starting of this industry a purely jungle area has, in the course of about three decades, been converted into an up-to-date modern industrial town. From a population of 5,672 in 1911, it has now built up, in association with several smaller factories of an allied character, a township of about 100,000 inhabitants. The main products of the Tata Iron and Steel Company are pig iron, steel ingots, rolled steel and coke. A comparatively recent development is the manufacture of agricultural implements, which was originally started by a separate company, but subsequently

taken over by the Steel Company. The subsidiary companies and workshops which have arisen in association with the Steel Company are :—

- (1) The Tinsplate Company of India, Limited, for the manufacture of tin plates, plain sheets and sulphuric acid.
- (2) The Indian Steel Wire Products, Limited, which manufactures wires, nails, rods, etc.
- (3) The Indian Cables Company, Limited, which manufactures electric cables.
- (4) The Tatanagar Iron Foundry Company, Limited, which manufactures railway sleepers and does other casting work.
- (5) The Indian Hume Pipe Company, Limited, which manufactures reinforced concrete pipes, septic tanks, reinforced concrete tanks, etc.
- (6) The Tatanagar Chemicals Company, Limited, which manufactures by-products from waste and spent acid from the Steel Company.
- (7) The East Indian Railway Works, which manufactures under-frames of railway carriages and wagons.
- (8) The Bengal and Nagpur Railway Loco Shed, which does mostly repair works.

Number of posts in the Tata Iron and Steel Company, Limited.

129. On the basis of the detailed statements very kindly furnished by the Company, there are 17,218 posts carrying a pay of Rs. 20 and above in the Company's works at Jamshedpur. Out of these, 5,723 posts or about 33 per cent are held by men from Bihar and Orissa. They are distributed as below in the different departments of the Company :—

	Total.	B. and O.
1. General Superintendent's office and safety department.	46	5
2. General Manager's office	100	7
3. General office accounts department ..	491	69
4. Open hearth department.. .. .	868	340

	Total.	B. and O.
5. Coke ovens department	963	328
6. Blast furnace	657	239
7. Pig casting machine	56	13
8. Duplex plant department	918	263
9. Plate mill	521	287
10. West plant machine	116	7
11. East plant mills	1,496	708
12. Merchant mill	383	150
13. Merchant mill and west plant shipping	244	132
14. Sheet mill department	1,925	518
15. Electric department	1,647	377
16. Metallurgical, chemical, physical and fuel department.	245	60
17. Machine shop department	545	149
18. Blacksmith shop	440	155
19. Millwright department	473	96
20. Timber and pattern shop	127	68
21. Painter shop	171	81
22. Brick department	527	196
23. Traffic department	799	413
24. Town department	403	179
25. Bar mill	286	139
26. Labour department	42	8
27. General construction	341	49
28. Stores department	174	...
29. Works guards	119	38
30. Power house and pipe line department..	203	81
31. New shipping department	186	80
32. Scrap and salvage department	185	80
33. Inspection department	79	17
34. Works hotel	14	8
35. Roll turning department	128	21
36. Works engineering department	104	12
37. Agrico department	161	49
38. Director's bungalow	31	18
39. Coal inspection	35	10
40. Technical institute	42	3
41. General drawing office	69	11

	Total.	B. and O
42. Medical office staff—Indian ..	124	35
43. Order department ..	32	1
44. Town engineering department ..	84	15
45. Boilers no. 2 and 3 ..	200	73
46. Boiler no. 5 ..	39	10
47. Pipe line east ..	95	23
48. Motor shed ..	32	13
49. Ice and soda plant ..	49	22
50. Loco crane department ..	173	61
51. Prospecting department ..	30	6
Total ..	17,218	5,723

Poor representation of Biharis in superior posts.

130. The Employment Bureau attached to the Company has also kindly furnished us with the following analysis showing the distribution of Bihar and Orissa men in the different grades of posts :—

Supervisory (Rs. 2 to Rs. 10 a day) ...	2.3 per cent.
Clerks (Rs. 35 to Rs. 130) ..	2.5 ..
Skilled labour (Rs. 1 to Rs. 5 a day) ...	54.3 ..
Semi-skilled labour and other inferior posts (As. 10 a day).	40.8 ..

It will be seen from the above that most of the Biharis are holding inferior posts as skilled or semi-skilled labourers, and only a small proportion of them are holding supervisory posts. The representation of Biharis in the clerical posts is also very poor, although local men are fully qualified for these situations.

Senior mechanical posts.

131. There are 737 posts of mechanical and electrical engineers and metallurgists in the company, of which only 94 are held by men from Bihar and Orissa. While every mechanical and electrical engineer in the iron works has to know metallurgy, the number of those exclusively employed as metallurgists is 32, of which 4 are local men.

132. Under the old system, most of these senior technical posts were filled through the Jamshedpur Technical Institute.

Science students with I. Sc. or B. Sc. qualification were recruited and given three years' practical training, at the end of which, if found satisfactory, they were appointed on Rs. 200 a month or Rs. 7 a day. Under this system, one-third of the vacancies (which were about 24 in number) were reserved for boys from Bihar and Orissa. In consideration for this concession, the Government of Bihar and Orissa made a non-recurring grant of rupees one lakh towards the establishment of the Technical Institute and a recurring grant of Rs. 25,000 every year towards its maintenance. The Company having decided to raise the standard of recruitment to these senior supervisory posts in 1932, they were not agreeable to continue the system of reservation of seats for local candidates, with the result that the grant from the local Government was discontinued. Under the new scheme, there is no reservation of seats, and graduates in mechanical and electrical engineering and metallurgy are preferred for recruitment to the apprentice classes to qualify for the superior posts. The result of this change has been most unfortunate for Bihar, for although as many as 85 out of 224 trained under the old system were Biharis, only one Bibari has been taken in out of 56 senior apprentices recruited under the new system in the five years since 1932. The number of these apprentices recruited from the different provinces and States during this period are shown below :—

Bombay	..	..	..	..	16
Bengal	..	..	..	..	10
Punjab	..	..	..	..	10
Madras	..	..	..	..	8
United Provinces	..	..	..	..	3
Central Provinces	..	..	..	..	3
Bihar and Orissa	..	..	..	..	1
Mysore	..	..	..	..	1
Assam	..	..	..	..	1
Delhi	..	..	..	..	1
Indore	..	..	..	..	1
Hyderabad	..	..	..	..	1
			Total	..	56

System of recruitment to A and B class apprentices.

133. The system of recruitment was again revised in 1935. Only graduates in mechanical or electrical engineering or metallurgy are now accepted as apprentices. These recruits

are called A and B class apprentices. Those with honours or a first class degree or diploma in mechanical or electrical engineering or metallurgy of a recognised Indian or foreign university, technical institute or college are classed as A(2) if they have had at least six months' practical experience, after graduating, in an iron and steel works abroad. Without such practical experience, though experience in any works abroad is preferred, they are classed as A(1). Recruits with an ordinary degree or diploma in mechanical or electrical engineering or metallurgy of an Indian or foreign university, technical institute or college are called B class apprentices. The age limit for graduates of foreign universities is 27 years and that for graduates of Indian universities is 24 years. The course of training extends over two years, during which the apprentices are given stipends of Rs. 200, Rs. 75 and Rs. 50 per month according as they belong to classes A(2), A(1) and B respectively. After satisfactory training, these apprentices are appointed to permanent posts, the status and salary of which is determined according to the merits of each candidate.

Cause of poor recruitment of Biharis.

134. The main reason why Biharis are not finding it possible to gain admission to these classes is that very few of them are qualified in mechanical and electrical engineering or metallurgy. There is no degree or diploma course in these subjects in our Engineering College. Most of the local candidates who applied for admission as A and B class apprentices were not properly qualified or were overage. We tried to ascertain if it would be possible to introduce special courses for training science graduates with a view to make them fit to follow the senior course in the Jamshedpur Technical Institute. Although this might be possible, it did not appear to be practicable as it would involve a very large expenditure and would practically amount to the establishment of an engineering college at Jamshedpur. We also tried to find out whether civil engineers, for whom we have a degree course in the Bihar College of Engineering, could not be taken in as A and B class apprentices, but the authorities were of the opinion that they were not suited for the duties required in their works.

Measures necessary for better recruitment of Biharis.

135. We consider it important that Bihari boys should be assisted to enter the steel industry as apprentices. In order to qualify our boys to compete for vacancies in senior technical

posts in this and other factories, we have separately considered the question of introducing a mechanical and electrical engineering degree course in the Bihar College of Engineering. But pending the establishment of such a course, promising boys should be given stipends for studying mechanical and electrical engineering and metallurgy at the Benares Hindu University. Scholarships should also be given from time to time to selected boys for training abroad in these subjects as there is a good chance of their being admitted into the Tata Iron and Steel Company. The selection of such boys should, if possible, be made in consultation with the Company, and we understand that it would not be impossible to arrive at an arrangement by which the Company would co-operate in selecting suitable candidates who would then have a better chance of securing employment on return after their training abroad.

Junior mechanical posts.

136. There are as many as 14,747 junior technical posts such as mechanics, fitters, turners, wiremen, etc. in this Company, of which 5,302 are held by men from Bihar and Orissa. Under the old system most of these men were recruited through the Employment Bureau of the Company from candidates who assembled in the yard, the final selection being made by the head of the department often on the recommendation of the foreman. Some mechanical apprentices from the Government technical schools were also taken in for further training as apprentices and employed in the works on satisfactory completion of their training. Thirty-nine Bihar boys were sent for training under this old system between the years 1926 and 1930, of whom 24 found employment in the Company.

137. Under the revised scheme brought into force in 1932, these posts are filled up, as far as possible, by C class or junior apprentices trained in the local technical institute. The minimum qualification for admission is middle English and the course which extends over 5 years, is similar to the Industrial Diploma course in the Government technical schools. These junior apprentices, on satisfactory completion of their training, are appointed to permanent posts on a salary of Rs. 1-8-0 to Rs. 2-8-0 per day according to qualification.

138. In the matter of recruitment of these C class apprentices, Bihar boys have done better. Out of 325 apprentices admitted from all provinces since 1932, 102 are from Bihar and Orissa. The proportion of local men has also been increased

steadily as will be seen from the following statement :—

Year.			Total number selected from all provinces.	Total number selected from Bihar and Orissa.
1932	...	..	50	13
1933	..	..	50	16
1934	...	..	75	15
1935	...	..	75	25
1936	..	..	75	33
			325	102
	Total	...	325	102

139. We were told that in filling up vacancies in these and other posts, it has been the policy of the Company to give preference to the sons and relations of present employees. It was also reported to us that there was a growing tendency among the employees of the Company, who did not belong to the province, to settle down in Jamshedpur by building houses of their own according to a building scheme started by the Company. It was suggested by the representatives of the Company that these men should be treated as Biharis in the matter of employment as otherwise they would go to swell the number of unemployed in the province. We recognise the force of this argument, but it has come to our notice that this privilege is extended to outside and distant relations resulting in the importation of labour into an industrial area where there is already a surplus. From the actual figures supplied during our inquiry it transpired that only 18 per cent of the new hands appointed in the period from August 1934 to April 1936 were sons and relations of old employees. This shows that a large proportion of outsiders are employed who have had no previous connection with the Steel Company. We were also told that there is sometimes a crowd of one thousand men waiting in the yard when a vacancy is announced. The presence of such a large surplus of imported labour, which is generally unemployed, is a source of trouble to the Company and of danger to the peace of the town. We feel that the Company should take steps to check this flow of surplus labour to Jamshedpur.

140. Although under the present revised system of recruitment, it is proposed to fill all the junior technical posts from the C class apprentices, we find that in practice this will not be possible. The number of vacancies is more than the technical

institute can turn out and there will be the necessity of simultaneous direct recruitment of additional hands. We recommend that the Company should be approached to fill these surplus vacancies, as far as possible, from boys trained in the Government technical institutions. The local representatives of the Company were agreeable to this suggestion and steps should be taken to establish closer contact between the Employment Bureau of the Company and the Information Bureau attached to the Department of Industries. The Company should be requested to advertise their vacancies in local papers and to give timely information to the Government Information Bureau so that the latter might be able to recommend suitable candidates.

141. In order that the Industrial Diploma boys may be better suited for employment by the Company, we recommend that they should be sent for practical training in the Iron and Steel Works for a suitable period. Facilities are offered by the Company for training students from the universities and technical institutions in other provinces, and the local representatives of the Company expressed their willingness to give similar facilities to the Industrial Diploma students in Bihar.

Night school.

142. In addition to the apprentice classes mentioned above, there is a night school attached to the Technical Institute at Jamshedpur. This school is open to the employees of the Tata Iron and Steel Company and other subsidiary companies situated at or near Jamshedpur. The Night School enables junior mechanics working in these factories to obtain higher training with a view to better their prospects. The local Government makes a contribution of Rs. 150 a month towards its maintenance.

Clerical and other posts.

143. There are 1,199 posts in the Company of clerks, typists, stenographers, time-keepers, telephone operators, sanitary inspectors, tahsildars, etc., of whom only 175 posts are held by men from Bihar and Orissa. As the qualification for these posts is the ordinary Matriculation, it cannot be said that our youngmen are not qualified for these vacancies. Here too, we recommend that the Employment Bureau of the Company should be requested to co-operate with the Government Information Bureau in filling up vacancies. It transpired during our enquiry that for clerical posts in the Metallurgical Department of the Company, some scientific training was considered useful.

The Company had difficulty in the past in finding properly qualified candidates for these vacancies. As there are several I. Sc. and B. Sc. applicants registered in the Government Information Bureau, the Company is likely to benefit by notifying vacancies to this agency.

Chemists.

144. There are 71 chemists working in this Company, of whom only 5 belong to Bihar and Orissa. Most of these chemists have been recruited from the sons and relations of employees and they have only a pass degree in science. An ordinary graduate has no knowledge of applied chemistry, and it was admitted that an honours degree in Science or M. Sc. in Chemistry would be preferable as a man with the higher qualifications would be able to pick up the work more easily. This is another line in which we feel that the Government Information Bureau may be of service in recommending suitable candidates to the Company. In order that our candidates may be better qualified for future vacancies, we recommend that a few selected chemists should be granted suitable stipends for six months' practical training in these works, the number of stipends depending on the possibility of absorption in this industry.

Civil engineering staff.

145. There are 74 posts of civil engineers, overseers and sub-overseers in the Company, of which only 12 are from Bihar and Orissa. As there are large numbers of such men turned out by the Bihar College of Engineering, we should very much like more local men to be taken in these posts. We are glad to note that the Company has already been co-operating with the Information Bureau under the Industries Department in filling up these vacancies.

Ore mines.

146. The Tata Iron and Steel Company also owns ore mines and quarries at Noamundi, Kendadih and Belpahar. The number of posts in these mines and quarries carrying a pay of Rs. 20 per month and above and the different qualifications required are shown below :—

Post.	Qualification.	Number of men employed.	Number of Bihar and Orissa men employed.
Managers, mines foremen and mining engineers.	Degree or Diploma in Mining.	11	2

Post.	Qualification.	Number of men employed.	Number of Bihar and Orissa men employed.
Engineers and mechanics.	Graduates in mechanical and electrical engineering.	2	1
	Diploma or certificate in mechanical and electrical engineering.	78	39
Clerks	Matriculation	17	1
Miscellaneous posts, including medical and sanitary staff, etc.	..	17	5
Total ..		125	48

Out of 125 persons engaged by the Company, 48 are from Bihar and Orissa. The number of men from Bihar proper is 26. The method of recruitment is the same as in the case of the company's works at Jamshedpur, except in the case of the managers, mines foremen and mining engineers who require a degree or diploma in mining and are recruited direct. Out of 11 men holding senior mining posts, only one comes from Bihar and one from Orissa. There is a large demand for men with mining qualification in this area as well as in the coal mines but we shall make our recommendations in this connection when we deal with the coal industry.

The Tinsplate Company of India, Limited.

147. This is the most important of the subsidiary companies at Jamshedpur. The managing agents of this company are Messrs. Shaw Wallace and Company of Calcutta. The factory obtains its raw materials from the Tata Iron and Steel Company and turns them into tinsplate. It produces practically the whole consumption of tin in India. The various posts in the company carrying a pay of Rs. 20 and more are given below :—

Mechanical engineers	..	..	33
Civil engineering staff	..	..	8
Foremen and mechanics	..	..	2,672
Medical posts	..	..	11
Chemists	..	..	11
Ministerial and other posts	..	..	178
Total ..		..	2,913

Out of these 2,913 posts, only 327 or 11 per cent are held by Biharis. Out of 104 clerical posts requiring qualifications up to about the Matriculation standard, only 6 are held by local men. The monthly paid staff (other than clerical), which includes engineers, foremen, supervisors, chargehands, electricians, etc., are 228 in number, of whom only 15 come from Bihar. The remaining 2,581 are daily-rated men, including 306 Biharis. For the posts of foremen and mechanics, of which there are as many as 2,672, our Industrial Diploma or similar training may be taken as the requisite qualification.

148. The Biharis are thus very poorly represented. Mr. Henderson, a representative of the Company who was one of our co-opted members, informed us that when the Company was started in 1922, the engineer in charge came from Southern India and brought with him a number of men from the south. The latter in turn brought their own men. The preponderance of outsiders continues because of the recruitment of sons and relations of employees. Most of the labour, both skilled and unskilled, is recruited at the gate. Owing to the proximity of the Steel Company, a sufficient supply of labour of all kinds is available on the spot. Sometimes the Tinsplate Company also recruits men from the apprentice classes of the Jamshedpur Technical Institute or mistries who are on the waiting list of that Company. For the supervisory posts, the Company has been recruiting educated boys and training them in their workshop. Their local representative agreed to take in qualified boys from our technical schools, and also to co-operate with the Information Bureau attached to the Department of Industries. He also expressed his willingness to take a few of our Industrial Diploma students for training, and was of the opinion that, other things being equal, there was no reason why Biharis should not be preferred in the matter of appointment.

The Indian Steel Wire Products, Limited.

149. The Indian Steel Wire Products, Limited, at Jamshedpur which manufactures wires, wire-nails and other wire products from the raw materials obtained from the Steel Company has an interesting history. The Company was originally registered in Bombay in November 1919 and began working at Jamshedpur in 1922 as an associated company of the Tata Iron and Steel Company, Limited. Owing to foreign competition, insufficient capital and other difficulties, this company could not make any headway and became involved in debt. In

1924, the local Government granted a loan of Rs. 5 lakhs under the Bihar and Orissa State Aid to Industries Act and also allowed the Company to issue debentures to the extent of Rs. 2,90,000. The wire-nail industry also enjoyed the privilege of protection granted by the Government of India on the recommendation of the Tariff Board. The Company worked satisfactorily for some time but was again faced with difficulties on account of the depression. Its property was eventually seized by the trustees and sold in 1927 to the present proprietor Mr. Inder Singh, involving a loss of nearly Rs. 2,75,000 to the local Government. The new proprietor, by his perseverance and enterprise, has now made this industry a success. Without tariff protection, however, this industry would not be able to compete with Japan.

150. The various posts in the factory carrying a pay of Rs. 20 and above are given below :—

Mechanical engineers ...	...	...	3
Foremen, mechanics, etc.	...	...	606
Clerks ...	...	...	36
			<hr/>
	Total	...	645
			<hr/>

Out of 645 technical and non-technical men employed in the factory, only 67 come from Bihar. Of the 36 clerical posts, only one is held by a Bihari. To increase the efficiency of the factory, the proprietor brought a number of engineers from Germany and even now three or four Germans are working as foremen. The Indian mechanics and engineers, who have since been trained, are now able to do the work but their efficiency is low and according to the proprietor, it is still profitable for the Company to retain German foremen in spite of their higher pay. For the posts of foremen only graduates or diploma holders in mechanical and electrical engineering are employed. The proprietor informed us that he would be prepared to give a trial to some of the Industrial Diploma students of our technical schools and to give six months' practical training to apprentices nominated by the Department of Industries.

Other subsidiary companies.

151. The number of posts carrying a pay of Rs. 20 and above and the number of local men engaged in the other

subsidiary companies and workshops in Jamshedpur are given below :—

	Number of posts.	Number from Bihar and Orissa.
Tatanagar Foundry	210	90
Indian Cable Company	183	18
East Indian Railway Works	868	310
Bengal Nagpur Railway Loco Shed	139	35
Jamshedpur Engineering and Manufacturing Company.	62	12
Indian Hume Pipe Company	19	9
Tatanagar Chemical Company	6	1
Total	1,487	475

It will be seen that out of 1,487 posts in these companies, only 475 or about 32 per cent are held by men from Bihar and Orissa.

152. In the Tatanagar Iron Foundry, the supervision work has been reduced to a minimum by adopting the unit system under which the workmen are divided into small groups, each group being paid at piece rates and held responsible for rejections. In the Indian Cable Company, most of the employees are recruited from the illiterate mistry class. In the East Indian Railway, and the Bengal Nagpur Railway Workshops, most of the superior hands are recruited through their head offices in Calcutta. The other companies are too small to absorb any appreciable number of educated young men.

Importance of Jamshedpur.

153. Our review of the Tata Iron and Steel Company and its subsidiary industries will indicate the importance of Jamshedpur in connection with the absorption of our educated young men in industry. We realise that the industries of Jamshedpur are of all-India importance and that the initiative came from outside, but the fact remains that these industries are located in Bihar and obtain most of their raw materials from Bihar. They belong, therefore, as much to this province as the Ford Works at Degenham belong to Great Britain, although in origin and conception they are American. The industries of Jamshedpur

have converted a jungle area into a large, modern, industrial town which, with its heterogeneous population and surplus labour, has created a difficult problem for the local Government in regard to the maintenance of law and order. The province can, therefore, legitimately expect assistance from the industries of Jamshedpur in dealing with its problem of unemployment. We are glad to find that the representatives of the industries in Jamshedpur, who gave evidence before us, expressed the fullest sympathy for the claims of this province. We are anxious that full advantage should be taken of this sympathy. We recommend that it should be the constant endeavour of the Director of Industries to secure employment for Biharis at Jamshedpur. The Tata Iron and Steel Company have already agreed to notify vacancies to the Information Bureau attached to the Department of Industries. Wherever possible suitably qualified candidates of the province should be brought to the notice of the Company by the Information Bureau. Much could be achieved by personal contact with the management and we hope that, with the birth of the new constitution, Jamshedpur will be brought into closer relation with the provincial Legislature.

COPPER.

154. This is another major industry of Bihar depending on her mineral resources. The entire industry is in the hands of Indian Copper Corporation, Limited, which owns the copper mines in Mosabani and Dhobani in Singhbhum district. The factory is located at Manbhandar near Ghatsila railway station and is connected with the mines by an aerial ropeway across the river. This industry is of comparatively recent origin. Starting as late as 1930, it has developed rapidly. The output of copper ore from the mines during 1934 was 201,722 tons, which represents the entire production of copper in India, except for a certain quantity of copper matte produced in the smelting of lead-silver ore in Burma.

155. The Corporation engages 1,168 males and 168 females in its works and 2,500 persons in the mines. There are 715 posts, i.e., 652 posts in the works and 63 in the mines, which carry a pay of Rs. 20 or more per month and can be held by educated persons. Of these, only 196 posts are held by Biharis and most of them are of the subordinate rank. Owing to the proximity of Jamshedpur, which is only 35 miles by road from Ghatsila, the Corporation obtains its supply of labour from that area except those requiring special training. This partly accounts for the preponderance of outsiders in the Corporation's works and mines.

Mining engineers, assayers, metallurgists and mechanical engineers.

156. There are 10 posts of mining engineers, 5 of which are held by students who passed out of the Indian School of Mines at Dhanbad and 5 by men with foreign qualifications. There are also 4 assayers, 2 of whom qualified in the above school and 2 are graduates in chemistry. There are 2 metallurgists both of whom qualified in the Benares Hindu University. The Corporation is also giving practical training in metallurgy to some students from that university. There are 23 posts requiring degree or diploma in mechanical and electrical engineering.

157. All the above senior posts are held by outsiders, except 1 or 2 posts of mechanical engineers held by local men. We have separately recommended an increase in the number of scholarships in the Indian School of Mines and the grant of scholarships for studying mechanical and electrical engineering and metallurgy in the Benares Hindu University. That will qualify boys from Bihar for admission into this and other mining industries.

Mechanics.

158. There are about 600 posts of mechanics in the Corporation's works, many of which require training similar to that given in our technical schools. As pointed out above, the surplus hands at Jamshedpur have so far supplied the requirements of this industry. The Corporation is, however, contemplating the establishment of its own technical institute on the lines of the Iron and Steel Company. The representatives of this industry expressed their willingness to try boys who have passed from our technical schools for future vacancies. A few Industrial Diploma boys have already been sent up by the Department of Industries as apprentices in the Corporation's works, and it is hoped that they will be absorbed in the industry on completion of their training. We are glad to note that the Corporation is willing to co-operate with the Government Information Bureau in giving employment to Biharis, provided they are of the right type. We hope the first batch of boys that have been sent up will prove a success and pave the way for further employment of educated young men in these and other posts. These industries which are situated on the extreme border of the province, feel that they are nearer Calcutta than Patna. Only by close co-operation and personal contact will

we succeed in securing employment for Biharis. Our observations in regard to Jamshedpur apply with equal force to this industry.

COAL.

Position of industry.

159. This is another very important industry of Bihar. In spite of severe depression, the Jharia coalfields produced 12,322,161 tons of coal during 1934, which was roughly about 60 per cent of the total output of coal in British India.

160. The statement compiled by us shows that there are about 3,600 posts carrying a pay of Rs. 20 and above in the coal mines, of which about 1,400 or 40 per cent are held by men from Bihar and Orissa. As many of the collieries did not furnish the necessary data, this statement has been prepared by a method of sampling and can only be accepted as an approximate estimate. The poor representation of Biharis in the coal mines is due to the fact that the supervisory and clerical staff engaged by the collieries originally consisted mostly of outsiders and these in turn brought their sons and relations. Here too, Biharis have found it difficult to get a footing.

161. The prospect of this industry is rather gloomy at present. Owing to the continued depression in the coal trade, the collieries have had to curtail their activities considerably of late, with the result that a number of retrenched personnel are already on the waiting list in each colliery who have to be provided before any new hands can be employed. The colliery owners apprehend a further decrease in the coal trade as a result of the action taken by the Central Government to ensure greater safety in the Jharia mines. The new legislation enforcing the wider use of safety lamps, mechanical ventilation, stone dusting or watering before blasting, stoppage of working in seams where there is a danger of fire, etc., though necessary, will raise the cost of production. We were told that Indian coal was already losing ground in Bombay, Karachi, Colombo, and Singapore where South African coal was selling at Re. 1 a ton cheaper than Jharia coal. A complaint was also made regarding unfavourable railway freight which retarded the development of the coke industry. We are informed that some of the smaller collieries were in danger of having to close down. This would result in increased unemployment, particularly in the lower grades. We view with apprehension the possibility of such a catastrophe in the coal trade, and would, therefore, recommend that the difficulties facing the coal industry in the province should be carefully examined by the Central Bureau of Industrial

Intelligence and Research, which includes representatives of the local Government and the departments of the Government of India concerned, so that the industry may have a fair field to flourish.

Managers and assistant managers.

162. We will now proceed to deal with the different classes of posts in the collieries. There are over 254 posts of managers and assistant managers in the Jharia coal mines. In spite of the depression in the coal trade, the number of these supervisory posts is expected to increase with the introduction of stringent safety measures. The iron, copper and mica mines also require the services of this class of men. The annual demand in Bihar alone may, therefore, be estimated at not less than 10 to 15 certified managers, besides the demand from the mines in other parts of India which is also supplied by the Indian School of Mines at Dhanbad. There are very few Biharis holding the posts of managers and assistant managers. According to the Chief Inspector of Mines and other witnesses examined, the graduates from the Indian School of Mines, as also the certified managers from the Evening Mining Classes, have no difficulty in finding employment. In fact there has lately been a shortage of qualified men for these supervisory posts, the demand for whom has actually increased. Recently the Indian School of Mines as well as the Information Bureau were unable to supply qualified candidates on requisition for four or five posts from the industries in this province.

163. We recommend the following measures :—

- (1) The number of Bihar scholarships at the Indian School of Mines should be increased from 1 to 4. Bengal is already granting four scholarships each year, which partly accounts for the large number of Bengalis in the superior posts in the mines.
- (2) The minimum qualification of the Bihar stipendiaries in the Evening Mining Classes should be raised from Matriculation to I. Sc. Our enquiry shows that boys with better qualifications, such as B. Sc. and I. Sc., are more successful in obtaining Manager's certificates and higher appointments, whereas matriculates are hardly able to go beyond the stage of overmen. Out of 109 Bihar and Orissa stipendiaries who joined the Evening Mining Classes since 1923, only 6 boys have obtained the Manager's certificates and every one of them was either a B. Sc. or an I. Sc.

- (3) The number of stipends granted in the Evening Mining Classes which is 10 at present, need not be increased immediately but the value of the stipend should be increased to Rs. 20 or 25, in consultation with the Mining Education Advisory Board, to attract better candidates. Owing to the depression in the trade, even the best collieries are no longer willing to accept paid apprentices and the students have to depend largely on their stipends. The present stipend of Rs. 12-8-0 is inadequate for this purpose.

Surveyors.

164. Out of about 123 surveyors working in the coal mines, there is hardly any belonging to the province. The existing arrangement for training surveyors at the Evening Mining Classes is to give them ten lectures in theory spread over 2½ months. In addition to the regular students, some candidates, who are matriculates or under-matriculates, enter the mines as apprentices and attend these classes in the evenings. We agree with the Mining Lecturer that the present arrangement is quite inadequate, and that a separate and complete course of surveying should be introduced in this institution. There should be a two years' course for matriculates leading up to the examination in mine surveying in City and Guilds of the London Institute. This period may be reduced by one year for boys who have already qualified in subordinate civil engineering. It will probably be necessary to appoint a separate lecturer in surveying for this purpose. The details of the scheme should be drawn up in consultation with the Board of Examiners of the Mining Examination.

Sirdars and overmen.

165. There are over 1,000 sirdars and overmen working in the coal mines. Sirdars are of two classes. The first is illiterate and consists of promoted miners. They are mostly Biharis and are appointed to recruit and control labour. The second class of sirdars are literate. They are generally under-matriculates and often relations of employees who are taken in as apprentices. At present they are mostly men who come from outside the province. Sirdars of this class start as apprentices on about Rs. 15 and rise to the post of overmen on Rs. 30 to Rs. 50. These posts might normally absorb some of the local middle-passed boys; but there are a large number of

retrenched hands already available in the mines and we see no immediate prospect of employment of new hands until there is an improvement in the industry. When conditions improve, young men may be encouraged to join the mines as apprentices. The position should, however, be reviewed when the new legislation comes into force, as this may involve an increase in the number of sirdars employed in mines.

Mechanics and electricians.

166. There are over 800 mechanics and foremen engaged in the coal mines drawing a monthly salary of Rs. 20 and above. There is a fair representation of Biharis in this line. The present incumbents are mostly practical men of the mistry class. The Industrial Diploma boys are considered suitable for these posts, but their chance of absorption is small in the present condition of the coal trade, except in the case of those who have specialised in the power house. Steps should be taken to give practical training every year to a few selected students from the technical schools in the coal mines. The Department of Industries may also draw the attention of the collieries to the desirability of giving preference to students holding the Industrial Diploma of a technical school in Bihar in future appointments of mechanical apprentices in view of their better qualification and suitability.

Clerical posts.

167. There are over 1,100 clerical posts in this industry, of which only a small proportion are held by local men. The reason for this poor representation is the same as at Jamshedpur. There appears to be no immediate prospect of absorbing more Biharis in these posts, but we feel that as the number of local men in the supervisory posts increases the number of Biharis in clerical posts will also increase automatically.

Chemists.

168. There is very little immediate prospect for chemists in the coal industry as they are at present required only in the coke plants of which there are only four in the coalfields, the total number of chemists employed in these coke plants being about 15. We do not, therefore, consider it necessary to make arrangements for special training of chemists in this industry.

Doctors and compounders.

169. There are about 90 doctors and 50 compounders working in the collieries, of which only about 17 per cent are

from Bihar and Orissa. In view of the fact that a large number of qualified men are available in the province, we recommend that the Mines Board of Health should be approached to give preference to Biharis in the matter of future appointments.

MICA.

170. Bihar is the home of the mica industry. During the year 1934, 55,555 cwt. of mica was raised in India, of which only 9,189 cwt. was raised in Madras and 378 cwt. in Rajputana, and the remaining 45,979 cwt. was raised in Bihar.

171. The mica industry, which was going through a period of depression until recently, is now showing signs of improvement. The increasing use of electrical machineries has resulted in an increased demand for mica and is largely responsible for the revival. There are about 150 mica mines working in this province. The number of various posts in the mica mines is estimated as below :—

Designation of posts.	Pay.	Approximate number of persons employed in the mica mines of Hazaribagh, Gaya, and Monghyr.
	Rs.	
MINES.		
Manager in charge of mines	.. 25 to 50	150
Assistant ... ..	... 20 to 40	250
Overman ... ..	... 15 to 30	300
MACHINERY.		
Engineer ... ..	... ..	..
Fitter mistry	— 20 to 60	100
Engine compressor and pump driver	20 to 35	75
Car and lorry driver and mechanic	20 to 40	50
FACTORY.		
Factory in charge ... ..	... 25 to 50	200
Factory Assistant ... ..	... 20 to 40	250
Sorter	— 20 to 30	200
OFFICE STAFF.		
Accountant ... ..	... 20 to 40	50
Clerk	— 20 to 40	50
	Total	1,675

Owing to the scattered nature of the mica mines, it was not possible to collect the exact data showing the number of posts in this industry, and the above statement, which was kindly prepared by the local representatives of the mica industry, may be taken as a fairly correct estimate. The scale of pay for the different posts shown in the statement has been intentionally kept on the low side so as not to give an exaggerated idea of the prospects. Some of the larger companies have a much more liberal scale, but the smaller companies pay even less than is shown in the statement.

172. We found it still more difficult to estimate the number of Biharis working in the mica mines and factories, but judging from the data supplied by some of the leading companies, we may assume that about half the number are local men and the rest are outsiders. We generally found that the Biharis formed a fair proportion of the employees engaged on the machinery, but the proportion of local men engaged as managers, assistant managers, factory assistants and clerks was surprisingly small. Here also the reason for the poor representation of Biharis is explained by the fact that most of the mines are owned by outsiders who brought their own men when the industry was started. The latter in turn have brought their relations and friends to fill vacancies as they occur. The starting pay being generally low and the conditions not particularly congenial, service in the mica mines is not attractive, but there is no difficulty in recruiting men from other provinces, such as Bengal, where the struggle for existence is greater.

Managers, assistant managers and overmen.

173. These are recruited from the educated classes. Young men start as apprentices and rise to the post of overmen, assistant managers, and managers as they gain experience, except in the case of one or two of the largest mines who have lately engaged a few hands trained in the Indian School of Mines for the more senior posts. There is at present no system of training candidates for these posts. The recent developments in mica mines necessitate more intensive and deep working. The need for properly trained men is now being felt by the industry. The local representatives are in favour of a scheme for training young men in mica mining on the lines of the Evening Mining Classes in the Jharia coalfields. For the 700 posts of this class in the mica mines, we may expect an annual vacancy of at least 25 men every year. This is sufficient to justify a training class of the nature contemplated. The

possibility of running a special section for mica mining in the Evening Mining Classes at Jharia, by adding an extra lecturer for mica mining, was considered. This would involve six months' theoretical training at Jharia supplemented by six months' practical training in the mica mines every year. We have since discussed this question with the Chief Inspector of Mines and the Lecturer of the Evening Mining Classes at Jharia, who favour a separate class for mica mining at Kodarma, as this would require a simpler training and a simultaneous theoretical and practical training is considered more suitable. We are satisfied as to the necessity for a mining class for the mica fields and we recommend that a mica mining class be established at a suitable centre, the details of which may be worked out by the Department of Industries in consultation with the Chief Inspector of Mines. In the beginning ten or fifteen students should be taken every year who should be given stipends by Government for the period of their training. The number may be increased later as the demand for men trained in the Evening Mining Classes establishes itself. We are glad to note that the representatives of the leading mica mines of the area, Messrs. Chaturam Horilram and Company, Limited, Messrs. F. F. Chrestien and Company, Limited, and Messrs. Chotanagpur Mica Syndicate, Limited, are willing to give a small remuneration to the students during the course of their training in their respective mines, and the other representatives of the mica companies were prepared to consider the matter favourably.

Engineers and mechanics.

174. Most of the mechanics engaged in the mines are practical men of the mistry class who have been trained in the mines. With the increasing use of machinery, the necessity of engaging properly trained men is being felt by the industry, and some of the leading mica mines have been employing qualified mechanics with a diploma in mechanical and electrical engineering. The leading Indian mica company—Messrs. Chaturam Horilram and Company, Limited,—have also recently engaged some of the Industrial Diploma boys from our technical schools. We found that there is a good opening in these mica mines for students from our technical schools holding Industrial Diploma or charge-hand certificates. We recommend that a suitable number of boys from the technical schools should be sent to the mica mines for their practical training with a view to their absorption in this industry. This will give them not only the necessary practical education but also an experience of the conditions in the mines.

Factory assistants and sorters.

175. The present incumbents of these posts are mostly from Bengal. While the sorters are generally illiterate, a certain number of educated boys who have read up to the Matriculation or the middle standard are also taken as apprentice-sorters by some of the larger companies with the prospect of promotion to the more senior posts. The apprentices are given a small starting pay of Rs. 10 to Rs. 15 to learn the work and to show their capacity to control labour. Recruitment is generally made from young men who come to the factories in search of employment. The local representatives of some of the leading factories pointed out that young men of the province rarely come in search of these jobs. Messrs. F. F. Chrestien and Company, Limited, who are at the present moment employing a number of apprentices (including one from Bihar) in their factory, were willing to take a few local apprentices on the recommendation of the Department of Industries. The other companies, who are not unfavourable to the idea, may also be induced to take in some probationers from Bihar. This is an opening which may be availed of by under-matriculats who are badly in need of employment. We recommend that the Department of Industries should endeavour to depute some of the unemployed under-matriculats every year to the mica mines as apprentices.

Clerical staff.

176. The clerical staff of mica mines is comparatively small, being employed only by the larger companies. A few firms require clerks qualified in typewriting and accountancy. The Information Bureau attached to the Department of Industries should establish contact with these firms and help local men to secure these appointments.

SUGAR.

177. This is the most important industry depending on agriculture. Sugarcane is the principal cash crop of Bihar, and the development of the industry has led to a substantial increase in the cultivation of this crop. The area under sugarcane in 1934-35 was estimated to be 445,000 acres, which represented an increase of 55.1 per cent over the average of previous five years. The corresponding increase in the yield of raw sugar is estimated to be as high as 117.8 per cent. During this year, the sugar factories in Bihar employed over 16 thousand persons and crushed 76 million maunds of sugarcane. Taking five annas per maund as the price of cane, a sum of over two crores of

rupees was paid to the agriculturists of Bihar. The development of the sugar industry has thus not only provided direct employment to a large number of men, but has also helped to improve the condition of the agriculturists—a factor which, as we have previously pointed out, is most important in preventing migration to towns.

178. The expansion of the sugar industry is due entirely to the protective tariff on sugar since 1932. From 12 factories in Bihar in 1931-32, the number has rapidly increased to 34 and two more mills are under contemplation. There is, however, a limited scope for further expansion of the industry, particularly in North Bihar which accounts for 29 out of the 34 sugar mills of the province. India is already producing 50 per cent of her consumption of sugar and the import of foreign sugar has dropped from 939,600 tons in 1929-30 to 222,900 tons in 1934-35. The industry is not yet as efficiently organised as the other sugar producing countries. Java, for instance, is far ahead of India both in sugarcane cultivation and in the manufacture of sugar. Without protection Java sugar would soon recapture the Indian market. The sugar technologist of the Imperial Council of Agricultural Research issued a warning last year against excessive expansion and emphasised the importance of increasing the efficiency of the existing factories by additions and improvements. We are glad to note that economic factors have helped to bring about the desired check. In Bihar, while seven factories were added in 1932-33 and fourteen in 1933-34, only one factory was added in 1934-35. It is obvious that future progress must lie mainly in improved machinery and better cultivation to reduce the cost of production. As a matter of fact, some factories have actually had to reduce their staff to bring down their cost of manufacture. In considering the possibility of the absorption of our educated men in this industry, we have to confine ourselves to the question of their training with a view to their finding employment in the existing sugar mills.

Employment in sugar industry.

179. There are 3,655 posts carrying a pay of Rs. 20 and above in the sugar factories of the province, of which 2,366 or roughly two-thirds are held by men from Bihar and Orissa. The details of these posts and the number of local men employed are given below :—

Nature of post.	Number of Bihar and Orissa men.	Total number of posts.
Managers	8	76
Engineers	5	39

Nature of post.	Number of Bihar and Orissa men.	Total number of posts.
Chemists, analysts and manufacturers.	61	176
Panmen	192	303
Foremen	23	80 (22 draw above Rs. 100 per month.)
Mistries, fitters and turners	1,252	1,456 (103 draw above Rs. 50 per month.)
Clerical and other posts ..	825	1,525
Total ..	2,366	3,655

Most of the superior posts are held by men from other provinces, who also hold a large share of the clerical posts.

Managers.

180. A high degree of efficiency and personality is required for the post of a manager. No arrangement for training managers is considered necessary, as experienced men of proved ability rise to these posts from the lower grades.

Engineers.

181. The qualification required is five years' apprenticeship in first rate engineering works in addition to the mechanical engineering degree. No special training in sugar mills is considered necessary as they learn the technique of sugar machinery while working as shift or assistant engineers. Here is another opening for mechanical engineers whose services are required throughout the year.

Chemists and manufacturers.

182. The present arrangement of training sugar technologists in the Harcourt Butler Technological Institute, Cawnpore and sugar chemists in the Science College, Patna, followed by one year's apprenticeship in a factory, is considered sufficient. The sugar factories should be approached to appoint such trained hands in the event of future vacancies of assistant chemists and

supervisors. The annual demand may be estimated at 6 to 8 men. As there are signs of unemployment among trained chemists and our attention has been drawn to the exploitation of these chemists by some factories, who employ a number of temporary chemists on very poor pay and discharge them in the off-season, we consider that the present arrangement of training two sugar chemists in the Science College and one sugar technologist in the Harcourt Butler Technological Institute every year is sufficient. There is, however, a shortage of sugar technologists with higher foreign training for holding responsible posts. Recently the Information Bureau had to refuse two such requisitions. We, therefore, recommend the grant of one or two scholarships for foreign training in sugar technology.

Panmen.

183. The pay of a good panman is as high as Rs. 200 per month and most of them are practically illiterate. While this is considered a very important line for educated young men, the experts are of opinion that the number and pay of such posts are likely to be reduced in future owing to the introduction of improved machinery which has made the processes more mechanical. The demand will, however, continue for some time, and we recommend that selected young men, preferably with I.Sc. qualification, might be given two years' training in the larger factories. We also recommend the grant of one or two Government stipends for training panmen in the Harcourt Butler Technological Institute.

Mechanics.

184. Most of the present mechanics are of the mistry class and belong to the province. The foremen are, however, largely outsiders. The factories appreciate the advantage of engaging educated and trained hands as mechanics, who will also have better opportunities of rising to supervisory posts. They consider the present Industrial Diploma to be a suitable qualification for future recruitment, provided the students have also served as apprentices in a factory. We have separately recommended that the Industrial Diploma boys should be given factory training in this and other industries.

Subsidiary industries.

185. We have considered the possibilities of starting subsidiary industries. The sweet industry, which was tried by the

Marhowrah Sugar Works, has not been a success. Production of power alcohol from molasses is not paying with the present duty. We were informed by experts that the manufacture of tiles and straw boards from bagasse might be successful. This and the possibility of manufacturing cattle food and road oil from molasses require investigation by Government.

Employment of casual staff during off-season.

186. A large proportion of the staff in sugar factories engaged as assistant and shift chemists, supervisors, weighment and payment clerks, etc., are discharged regularly in the off-season. This causes hardship and a sense of uncertainty while the factories lose in efficiency by the frequent change of employees. It is the unanimous opinion of experts that even with the best machinery and the most economic unit of production, Indian sugar cannot compete on equal terms with foreign sugar on account of the inefficient cultivation and the poor quality of sugarcane. Land is deteriorating without scientific manuring and the efforts made to improve the crop are quite inadequate. It is only by close co-operation between the growers, manufacturers and the Department of Agriculture that we can expect to bring about the necessary improvement on which the future of the industry depends. We, therefore, recommend that all seasonal staff employed in sugar factories should be made permanent and engaged in the off-season in propaganda work and distribution of seeds and manure, with a view to improve the quality of cane and its cultivation. The salary now paid to the seasonal staff may be spread over the whole year with a small addition or bonus, so that the extra cost to the factories will be small compared to the benefits. The representatives of some of the leading factories examined by us were in favour of this recommendation which will not only help to bring about an improvement in sugarcane cultivation but also establish closer contact and healthier relations between sugar factories and cane growers.

OTHER LARGE INDUSTRIES.

Lac industry.

187. This is another important industry connected with agriculture. India produces 90 per cent of the world consumption of lac, the remaining 10 per cent being produced in Ceylon, Java, the Federated Malay States, Indo-China and Siam. This province's share is over half the total Indian production. The rearing of lac is an important subsidiary occupation of the agriculturists in Chota Nagpur. The industry has been badly

hit by the production of synthetic resin (such as bakelite and other products) and also for want of standardisation of shellac and by cornering in foreign markets. Fortunately, there are certain large industries, e.g., manufacture of gramophone records, coating of shells (ammunition industry), electrical industries requiring a high degree of insulation, manufacture of high class varnishes (French polish), etc., which cannot do without shellac. The present consumption of shellac by the various industries is roughly as below :—

Gramophone records	..	..	40 per cent.
Hat industry	..	..	10 ..
Electrical and ammunition industries	..	..	20 to 25 per cent.
Varnishes	..	..	10 per cent.
Sealing wax, toys, bangles, etc.	..	..	15 to 20 per cent.

Shellac, which was at one time selling as high as Rs. 70 to 75 per maund, is now selling at Rs. 20 to 25 per maund. There are, however, signs of revival, and Russia has lately been asking for a large supply of shellac for her electrical and ammunition industries.

188. The recent researches in the Lac Research Institute at Namkum are expected to have far reaching effects on the industry by providing an independent market for lac in India. Apart from the experiments in varnish manufacture, the institute has been largely successful in producing non-breakable crockery by pressure-moulding of lac and the cheap by-product *kiri*. This experiment should enable India to set up an important pressure-moulding industry corresponding to the bakelite industry in Europe and Japan. This industry, if established, will offer considerable scope for the employment of educated young men as it can be carried on in small or large units along with pressure-moulding of other substances such as papier mache, casein plastics, etc., besides bakelite. Experiments at the Lac Research Institute indicate that the manufacture of shoe-dressing and varnish can be undertaken on a small scale by some educated young men. We recommend that a few stipends should be granted to selected science students for training in pressure-moulding of lac and preparation of varnish and shoe-dressing at the Lac Research Institute. They can then set up small industries in the larger towns and produce articles of common consumption having a local market.

Employment in shellac factories.

189. There are 18 shellac factories in the province employing about 1,300 persons. Most of them are uneducated and

there is very little opening for educated young men in these factories. It was, however, brought to our notice that a number of educated young men could be employed by the factories as agents for buying stick lac. This work is at present in the hands of *arkatdars* who are mostly outsiders. The usual commission is annas 4 per maund and an agent engaged by a factory is reported to have earned as much as Rs. 700 in the course of five months. One of the leading factories expressed its willingness to give a trial to one or two apprentices on a subsistence allowance and then engage them as purchasing agents on a small pay plus commission. The other factories may also be induced to follow a similar practice.

Tobacco industry.

190. Manufacture of cigarette was at one time a fairly important industry, particularly in North Bihar. It appears that by the increasing use of Virginian tobacco, this industry is losing ground and tobacco cultivation is decreasing in consequence. The local tobacco is now used largely in making *biris* and country tobaccos which give a very poor return to the petty manufacturer and the agriculturist. The only cigarette factory of any importance is the Tobacco Manufacturers (India), Limited, at Monghyr which uses a fair amount of imported tobacco for blending. As tobacco is a valuable crop and the land here has been found to be quite suitable for its growth, we are of the opinion that the Agricultural Department should carry out experiments to introduce new and improved varieties of this crop.

191. The Tobacco Manufacturers (India), Limited, employs over 1,500 persons. An up-to-date printing factory is attached to the main factory for printing labels, etc. Besides the senior supervisory staff consisting of Europeans, there are 160 posts in the factory carrying a pay of Rs. 20 to Rs. 275 per month. In the main factory, there are 36 mechanics, who are mostly of the mistry class and belong to the province. They were recruited locally and trained in the workshop. The Company is willing to recruit some Industrial Diploma boys for employment in the workshop with a view to promote them to the supervisory posts. In the printing shop, there are 32 posts, including apprentices, of which 10 are held by men of other provinces. The Company agreed to recruit some local apprentices for future vacancies in this department. Boys engaged in printing work should be strong in English and those engaged in photo-printing processes should have an elementary knowledge of physics and chemistry. All apprentices should be prepared

to do manual labour. There are 91 clerks appointed in the factory, of whom 20 are non-Biharis. The qualifications required of the clerical staff are good handwriting, knowledge of decimal calculations and a working knowledge of foreign exchange. The local representatives of the Company complained that Bihari candidates did not generally satisfy these requirements. The Company has been co-operating with the Government Information Bureau, and we hope that the latter will be able to find suitable local candidates for future vacancies in these and other posts.

Sone Valley Portland Cement Company.

192. This Company manufactures cement from the limestone rocks in the Rohtas hills, which are quarried and brought across the Sone by an overhead ropeway to the cement works at Japla. [About 700 persons are employed in the works besides those working in the quarries. Besides the senior supervisory posts, there are 157 posts in the Company carrying a pay of Rs. 20 or more, the details of which are given below :—

Nature of posts.		Number of posts.	Number of Bihar and Orissa men employed.
Supervisory	Engineers and foremen ..	14	1
	Chemists	11	6
Mechanics	75	54	
Clerical	48	20	
Other posts	9	Nil.	
Total ..		157	81

193. While about half the posts are held by local men, the proportion of Biharis is very small in the supervisory posts. Only one out of the 14 engineers and foremen is a Bihari, the qualification required being a degree or diploma in mechanical and electrical engineering. The small number of Bihar and Orissa men in clerical and other posts is explained by the fact that recruitment is generally done by the Company's head office in Calcutta. We recommend that the Government Information Bureau should establish closer contact with this Company and endeavour to secure the admission of a larger number of qualified Biharis in their works.

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to do manual labour. There are 91 clerks appointed in the factory, of whom 20 are non-Biharis. The qualifications required of the clerical staff are good handwriting, knowledge of decimal calculations and a working knowledge of foreign exchange. The local representatives of the Company complained that Bibari candidates did not generally satisfy these requirements. The Company has been co-operating with the Government Information Bureau, and we hope that the latter will be able to find suitable local candidates for future vacancies in these and other posts.

Sone Valley Portland Cement Company.

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ENGINEERING WORKS.

East Indian Railway Works, Jamalpur.

194. This is the largest engineering works in the province, employing about 8 thousand persons, most of whom belong to the province or have settled down here. The senior mechanical posts are filled by apprentice-mechanics trained at the Jamalpur Technical School, in which one-third of the total seats for Indians are reserved for Bihari candidates in accordance with the arrangement with the local Government. For the junior mechanical posts also, the Company has been trying to train up literate men as far as possible. The minimum qualification for these trade-apprentices is lower primary and the sons and relations of the present employees are given preference. Other things being equal, boys with a little higher education are preferred. About 30 per cent of the candidates at the qualifying examination last year were middle passed boys, including 3 or 4 matriculates. Owing to retrenchment and the introduction of labour-saving machinery, about 2,000 old hands have been thrown out of employment in these works since 1930-31. Most of the retrenched hands have to be reabsorbed before new men are appointed. Consequently, the admission of boys into the trade-apprentice classes has been reduced from about 120 to about 70 per year.

Kumardhubi Engineering Works, Limited.

195. More than 1,000 persons are employed in these works for the manufacture of structural steel and iron and steel castings. Of the 82 posts in the senior ranks drawing an average pay of Rs. 80 per month, only 14 are held by Biharis. In the machine shop and foundry, there are 351 men drawing an average salary of about Rs. 30 per month, of whom 136 are domiciled in Bihar. Out of 84 clerical posts in the Company, only 18 are held by local men. The poor representation of Biharis in these works is partly due to the fact that they are situated on the borders of Bengal. While the Company prefers to recruit men with some education as apprentices, it insists on their starting at the bottom and expects them to work their way up. The men recruited by the Company have no previous training and are paid 6 to 8 annas per day in the first year, after which they are given a starting pay of Rs. 25 a month, if found satisfactory. The Information Bureau should make every endeavour to induce this Company to accept as apprentices young under-matriculates from Bihar who may be willing to make a small beginning.

Saran Engineering Works, Marhowrah.

196. These works manufacture sugar machinery and are attached to the sugar factory of Messrs. Bogg Sutherland and Company at Marhowrah. There are 150 posts in the works carrying a pay of Rs. 20 and above, about 70 per cent of which are held by local men. The superior posts requiring a degree or diploma in mechanical engineering are, however, all held by outsiders. Here also the Company trains up sons and relations of its employees for mechanical posts and would like them to be literate. The local representative of the Company was willing to send these boys to the technical schools first before absorbing them in the works.

Messrs. Arthur Butler and Company, Ltd., Muzaaffarpur.

197. The principal activities of this firm consists in building, repair of sugar machinery, including manufacture of spare parts, and motor repairs. There are 83 posts in the Company carrying a pay of Rs. 20 and above. Here also, except in the superior mechanical engineering posts, the percentage of Biharis is large. The workshop takes five apprentices every year in the machine shop and four apprentices every year in the motor garage, for a three years' course in each case. The stipends paid are Rs. 5, Rs. 10 and Rs. 15-20 in the 1st, 2nd and 3rd years respectively. This Company is willing to take in senior boys from the Tirhut Technical Institute for practical training in sugar machinery and motor mechanics if classes are provided in the Tirhut Technical Institute for their own apprentices. We consider that such an arrangement is desirable and we recommend that Government should examine the possibility of arranging for the theoretical training of outside apprentices in the Tirhut Technical Institute.

Milling industry.

198. The milling industry of Bihar may be divided into four classes. Their details are given below :—

Nature of mill.	Number of mills.	Persons employed.
Rice mills	.. 84	4,191
Oil mills	.. 29	1,600
Flour mills	.. 4	411
Dal mills	.. 3	84
Total	.. 120	6,286

Eleven of these mills were established with State-aid under the State-Aid to Industries Act. In addition to the mills shown

in the above statement, there are numerous small mills for which figures of employment are not available and in which there is no scope for the employment of educated young men. There are 1,242 posts in the above mills carrying a pay of Rs. 20 and above, the details of which are given below :—

Managers.

There are 90 posts of managers and supervisors. The pay varies from Rs. 30 to Rs. 75 per month. They are generally held by the proprietors themselves or by their relatives.

Mechanics.

There are 963 posts of mechanics. The pay varies from Rs. 20 to Rs. 70 per month. The present employees are mostly of the mistry class having practical training in the mills. A large proportion of them belong to Bihar. Young men holding chargehand's or journeyman's certificates of our technical institutions are suitable for these posts. Arrangements may be made for the practical training of a few such students from the technical schools in these mills with a view to their future employment.

Clerks.

There are 189 posts of clerks on pay varying from Rs. 25 to Rs. 40 for which matriculates and under-matriculates are eligible. A large proportion of these posts are held by men from other provinces. This is because the proprietors, who are mostly outsiders, prefer to employ their own men.

Cloth mill.

199. The Bihar Cotton Mills, recently started at Phulwari Sbarif in the district of Patna, is the only cloth mill in this province. It is handicapped for lack of funds, but efforts are being made to make a small beginning in the manufacture of cloth. The machinery is second-hand. In the absence of a spinning machine the firm has to import yarn, which increases the cost of manufacture. If the Company is able to raise necessary funds to carry on the work successfully, it is expected to provide employment to a number of educated young men.

Hosiery industry.

200. In 1929, a hosiery machine costing Rs. 20,000 was supplied by Government to Seth Ramdas Bhowanji of Jharia on the hire-purchase system under the State-Aid to Industries Act. The

factory made a good start, but an unfortunate mine subsidence in 1930 resulted in the death of the proprietor and the building was damaged. The machine was then sold by Government at a loss of about Rs. 10,000. The industry has its possibilities and it remains for some other enterprising capitalist to revive it.

Button factory.

201. A button factory was started in 1929 at Mehsi in Muzaffarpur district with State-aid and a button-making machine costing Rs. 8,600 was supplied by Government on the hire-purchase system. The industry could not face foreign competition and failed mainly on account of insufficient working capital and lack of trained labour. The proprietor, however, still continues to make buttons on a cottage-industry scale. According to the investigation of an expert appointed by the Department of Industries, there is a scope for the manufacture of mother-of-pearl buttons, but up-to-date machinery and adequate capital must be forthcoming before the industry can be successful.

Glass industry.

202. Bihar is rich in raw materials for the manufacture of glass. Large deposits of first class sand and felspar suitable for the manufacture of glass are available in the province which can also provide the coal required for fuel and fire clay and fire bricks for the construction of glass furnaces. Bihar has unfortunately not taken advantage of these natural facilities, and although there are 62 glass factories working in India, not a single factory has been started in this province. Glass blowing as a cottage industry still survives in certain parts of Bihar, but the articles are made from broken and scrap glass and there is no proper glass manufacture. The large demand for glass in this province is apparent from the fact that in 1934-35, 76,980 maunds of glass and glasswares were imported into Bihar and Orissa. The Industrial Research Bureau under the Government of India has kindly agreed to take up the examination of sand and felspar deposits in this province at the instance of the local Department of Industries. If the results are satisfactory, Government should foster this industry either by the establishment of a demonstration factory, as in Mysore, or by the grant of State aid.

Match industry.

203. This is another industry in which Bihar has apparent natural facilities on account of her forests and the supply of

cheap labour. Past experience has not, however, been encouraging. In 1925 a demonstration match factory was started by the Department of Industries with a working capital of Rs. 80,000 which was supplemented by a further sum of Rs. 24,000 in the following year. Owing to the supply of wood not being of proper quality, the lack of skilled labour and the fall in the price of matches, the factory failed in 1927. Before a fresh attempt is made to start this industry in Bihar, it is necessary that a careful survey should be made of the local consumption of matches and the suitability of local timber.

Paper industry.

204. Bihar is rich in raw materials, such as bamboo and *sabai* grass, for the manufacture of paper pulp. Unfortunately, however, most of the available raw materials have been leased out to paper mills outside the province and there are not enough raw materials for starting a mill in Bihar. A certain quantity of paper is made as a cottage industry in some parts of the province but this has little chance of competing with the mills.

The Information Bureau has been in correspondence with the paper mills, taking their supply of raw materials from our jungles, with a view to find employment for our educated young men in this industry. The result has not been encouraging, and only two or three boys of the province have so far been absorbed in the paper mills. In renewing the leases granted by the Forest Department or in considering any fresh lease for a supplementary area, Government should consider the possibility of imposing a condition that a suitable number of Bihar apprentices will be taken in the paper mills obtaining their supplies from this province.

Sheet-metal industry.

205. There is a scope for the sheet-metal industry as a small subsidiary industry to the iron industry at Jamshedpur. Sheet-scrap from the Tata Iron and Steel Company, can be converted into bowls, buckets, pans, bath tubs, tanks, steel trunks, etc. The capital required is not large and it should be possible for some of our technically trained boys to take to this line.

CHAPTER IX.

COTTAGE INDUSTRIES.

206. We have referred to the importance of cottage industries in a country which is mainly agricultural and which has a large surplus rural population. We have also pointed out that our small village industries are finding it increasingly difficult to compete with the factory and mass production. Originally, cottage industries were intended to provide only for local wants. With the isolation of the countryside there was little fear of outside competition and the cottage worker continued undisturbed from outside. This is no longer possible with the rapid development of communications. Lack of finish, higher cost of production and failure to secure outside markets have led to stagnation and decay. It would seem at first sight, that cottage industries have little hope of survival in the unequal struggle with the modern factory. We do not, however, consider that we need take such a gloomy view of the future of cottage industries. Even in highly industrialised countries cottage industries have shown signs of survival and healthy development side by side with large-scale industries. According to the Census Report of 1931, there are about one million people of this province dependent on such industries as their principal or subsidiary occupation, while the statistics of the handloom industry indicate that it has not lost ground in spite of the rapid development of cotton mills.

Need for organisation.

207. The success of cottage industries now depends on efficient organisation. The cottage worker is able to begin with a small capital and to utilise the available spare time of all the members of his family. This is the main advantage, but it is also a source of weakness. Individually, his position is weak, he has to pay more for his raw materials and, owing to the lack of marketing facilities, he falls an easy prey to the *mahajan* or money-lender, who finances him. Working in isolation and without proper advice, he continues with the primitive methods of manufacture and refuses to adopt improved appliances which can reduce the cost of manufacture. There is, however, no reason why cottage industries should continue in isolated units divorced from efficiency. Properly organised, the cottage worker can secure raw materials at more favourable rates, he can be taught to manufacture his goods at a lower cost and he can also be relieved to a considerable extent of the anxieties of marketing.

The advantages of organisation and efficiency are clearly demonstrated by the results achieved by the local Government in their efforts to promote the handloom industry.

Scope of employment in cottage industries.

208. From our point of view the development of cottage industries assumes special importance. If we are to check the drift from the countryside to the towns which, as we have shown, is responsible for the growing evil of unemployment amongst the educated classes, it is necessary that some occupation subsidiary to agriculture should be found for the rural population. The development of cottage industries will not only help our agriculturists to supplement their income, but will also remove the temptation for their children to drift to secondary schools and towns in search of prospects which are illusive. We have dealt with this aspect of cottage industries in an earlier chapter and we now proceed to examine how far cottage industries can provide whole-time occupation for our educated young men who are unemployed. We are satisfied that there are distinct possibilities in this direction of which advantage can be taken by young men with initiative and enterprise. We shall deal briefly with the industries which, in our view, can be run successfully on a small scale in the worker's home, but before proceeding further it is necessary to sound a note of warning. The cottage worker must be prepared to face difficulties, to be resourceful and to be persevering. Above all he must be content with a modest income which, however, should not be despised because it is certainly better than unemployment or the low wages often paid to clerks. It is in the organisation of cottage industries, the importance of which has already been stressed, that our educated young men can play a leading part. He can work on his own and also bring within his organisation the illiterate cottage worker. In this way he can help the latter with benefit to himself. The hardships and initial disappointments of working a cottage industry have, therefore, an ample compensation.

Weaving.

209. Handweaving is the premier cottage industry of this province. According to the estimate of the Department of Industries, there are 1·8 lakhs of handlooms and about .5 lakhs of weavers in Bihar and Orissa. They supply about one-third of our total requirement of cloth. As we have remarked before, in spite of competition from the cotton mills, the handloom

industry has been able to maintain its position and even to record a steady advance. The economic importance of this ancient industry and the scope which it offers for the employment of educated middle classes in its re-organisation was recognised by Government as long ago as 1911 when steps were taken to establish weaving schools in important centres. With the establishment of a separate Department of Industries in 1920 and the employment of qualified technical staff and demonstration parties, the handweaving industry received substantial impetus. Since then, about 88,500 fly-shuttle looms have been introduced and weavers have been trained to weave finer counts of yarn besides art textiles. With a view to find wider markets for Bihar art textiles, a commercial department known as the Purdah Manufacturing Section was introduced in the Cottage Industries Institute at Gulzarbagh in 1925-26. The articles are manufactured through master weavers and weavers' co-operative societies and marketed through the Department of Industries. This commercial section has been successful in establishing a market for Bihar art textiles in foreign countries. From a small beginning of about Rs. 4,000, the business of the Purdah Section has expanded to about Rs. 1½ lakhs. During 1935-36 it recorded a net profit of Rs. 27,000. The market for art textiles is, however, limited and a substantial improvement of the industry can only be brought about by organising the production and marketing of staple goods which are of general local consumption. With the help of the Government of India grant recently sanctioned for the development of the handloom industry, the old Purdah Section has been merged in a new Marketing Organisation which includes not only art textiles but also a large variety of staple goods having a local demand. Under this scheme, selected staple goods of improved design and approved quality are manufactured through the agency of master weavers and weavers' co-operative societies. They are then finished at the central emporium at Gulzarbagh and sold through agents and sales depots within and outside the province. If the scheme succeeds, there is a possibility of the absorption of a fairly large number of educated men as organisers or master weavers. Mr. K. S. Rao, the Textile Expert, stated before us that three or four thousand of our educated young men could be so absorbed, but we feel that his estimate is somewhat optimistic and pre-supposes a ready market for the goods and considerable initiative on the part of the organisers. We do not, however, doubt that there is scope for the employment of some educated young men in this line provided they take the necessary training at the Cottage Industries Institute and are prepared for hard work.

Wool weaving.

210. This is a branch of handweaving industry which also offers some prospects for our educated young men. The Bihar sheep is considered one of the best of the indigenous types in India. According to agricultural statistics, there are over one million sheep in Bihar which yield about 40,000 maunds of wool per year. The value of woollen goods produced by the woolweavers is estimated at about Rs. 18 lakhs. Spinning of wool and weaving of blankets and carpets are mainly confined to the districts of Gaya, Shahabad and Palamau. At present the industry is carried on in a very crude form, both in the matter of appliances and designs. The Wool Weaving Institute at Gaya, started by the local district board in 1922 and taken over by the Department of Industries in 1925, trains educated young men in the use of improved looms and better designs. In the course of the last fourteen years, a number of young men, especially of the professional class of blanket-weavers, have been trained in the use of modern weaving appliances, in dyeing wool and in designing and weaving blankets, rugs, *lohis* and coatings. A demonstration party has also been recently introduced by the local Government with the idea of introducing improved wool-weaving among the *ganderies* or the professional woolweavers. There is scope for educated young men trained in the institute to work as middlemen or to start blanket-weaving factories by engaging a number of trained *ganderies*. The Marketing Organisation under the Department of Industries can help in supplying the raw materials and disposing of the goods. The future of the industry also lies in adequate steps being taken for the improvement of Bihar wool, and we recommend that the possibility of introducing a scheme for the improvement of sheepbreeding should be considered by Government.

Sericulture and silk weaving.

211. The importance of this industry arises from the fact that Bihar and Orissa have a monopoly of tasar silk and produce practically the entire Indian output of this material. According to the census of 1911, about 170,000 people in Bihar and Orissa were engaged in the rearing, collecting, twisting and weaving of tasar, and although no later data are available, the rearing of tasar cocoons is still an important subsidiary industry of the agriculturists of Chota Nagpur and Santal Parganas. The recent efforts of the Department of Industries show that sericulture has also considerable scope for development in this province. Unfortunately the indigenous silk industry of Bhagalpur is

dying out and the weavers are taking to imported silk. Tasar and eri weaving is still carried on to a certain extent in Bhagalpur and Manbhum districts, and the Department of Industries is trying to find increasing use for local tasar and eri. With the object of improving eri and tasar silks, seed supply and research stations have been started at Chaibasa and Ranchi with grants from the Government of India. According to Mr. M. N. De, Superintendent of the Bhagalpur Silk Institute, educated young men trained in the institute can run sericultural farms at a profit. In addition to rearing eri and mulberry silk on about one acre of land, they should run a few looms for the manufacture of silk goods. Mr. De estimates that with a capital of Rs. 800 it should be possible to earn an income of not less than Rs. 50 a month from this industry. A passed student of the Bhagalpur Silk Institute, who started a silk-weaving factory, was examined by the Bhagalpur sub-committee. He stated that he was earning Rs. 60 per month from an investment of Rs. 900. There are several other instances of passed students of the Silk Institute earning a living by running small silk factories with two or three handlooms.

Power looms in Bhagalpur.

212. Another interesting feature of the development of silk industry in Bhagalpur is the use of power looms in small units worked by electric power supplied by the Electric Supply Company. An enterprising firm of this place, which made a start with only 5 power looms in 1929, has recently enlarged its factory and is now working with 60 looms. Encouraged by the success of this firm, two more factories have been started with 16 and 2 power looms respectively. This small scale power-loom industry is eminently suited to the means and business capacity of our middle class boys. It is reported that in Mysore over 1,500 of these mills have come into existence in the course of the last sixteen years, which are being worked in small units of 2 to 30 looms with the help of cheap electric power provided by the State. The progress of this industry in Bihar can be accelerated if it can be supplied with cheap electric power as in Mysore and Japan. Mr. Rao estimates that by the working of two power looms, requiring an investment of about Rs. 3,000, it should be possible to earn not less than Rs. 75 per month. This may provide an excellent opening for educated young men trained in the Bhagalpur Silk Institute.

Dyeing and printing.

213. Allied to weaving is the dyeing and printing industry, which has considerable scope in this province. The printing of

silk fabrics was introduced in Bhagalpur in 1929, and the industry has been so successful that in the course of the last 7 years over fifty factories have sprung up in this town, which employ about 500 dyers and printers. The average income of the workers is reported to be Rs. 25 to Rs. 30 per month. Several young men trained in the textile institutes at Patna and Bhagalpur have found employment in this new industry. One of the most successful of these students, who started his work in 1929 with a small capital of Rs. 200, has subsequently increased his capital to Rs. 2,000 and is said to be earning over Rs. 100 per month. He is also providing work in his factory for about 25 skilled workmen. The dyeing and printing industry can absorb a number of educated young men in other parts of the province. Attempt is being made by the Industries Department to set up such an industry in Patna by engaging the passed students of the Cottage Industries Institute to produce goods for the Marketing Organisation. It is also being introduced in Gaya for producing printed and coloured silk *saris* which are bought by pilgrims. The connected industry of dyeing and cleaning has also some prospect in large towns.

Hosiery.

214. Hosiery as a purely cottage industry does not yield a sufficient income, but if the industry is organised in small units each producing a variety of articles with the help of knitting machines and skilled labour, it offers scope for the employment of some educated young men who are able to make a beginning with a small capital.

Tanning.

215. This is a natural industry of Bihar which is not fully developed. The best Indian hides come from Bihar. About 4 lakh maunds of hides and skins are exported annually from Bihar and Orissa. The raw hides taken from Bihar are tanned in Madras and other provinces and exported to England at considerable profit. The Cawnpore Tannery, which is one of the largest tanneries in India, uses 30 to 40 per cent of Bihar hides. According to Mr. B. M. Das, Superintendent of the Bengal Tanning Institute, there is considerable scope for starting small factories in Bihar for producing half-tanned leather. The experience of half-tanning industry in Madras shows that for this industry a small-scale factory is more suitable than a large-scale factory. A small factory could be established with a minimum capital of Rs. 2,000. At present the local Government is sending two scholars every year to the Bengal

Tanning Institute for training in the chemistry and technology of tanning. Some of the boys trained in the Bengal Tanning Institute should be encouraged to open half-tanned leather factories either with their own capital or with State aid. There is also scope for the establishment of a large scale tannery in this province and private enterprise in this direction should be encouraged. We also consider it necessary that curing and tanning demonstration parties should be introduced with a view to improve the quality and to reduce wastage of leather cured and tanned by dealers and *chamars*. The importance of teaching scientific methods to these classes can be judged by the fact that besides a large number of dealers in hides and skins, there are over 1,200,000 *chamars* in Bihar according to the last census. The value of the hides handled by these men must be considerable.

Shoe-making.

216. This is another connected industry which provides some scope for the employment of educated young men. According to Mr. Das, the uppers of shoes can be better made by the educated men trained in this profession than by uneducated *mochis*. The latter could be employed in making soles of shoes and for stitching. This is the system on which the Chinese have been working so successfully in Calcutta against machine competition. According to the estimate of Mr. S. C. Mitter (in his Recovery Plan of Bengal), there are 800 Chinamen earning a living in Calcutta by engaging 6,000 Bihari *mochis* under them. There is no reason why the educated Bihari should not be able to organise similarly the labour which is available on the spot. There are about 50,000 leather workers in this province whose labours may be turned to better account by proper organisation. Mr. Das pointed out that power factories cannot compete with hand-work in this particular line because of the variety of tastes and designs. This is also proved by the fact that a large quantity of hand-made shoes are imported from the United Provinces and Bengal into this province. The Bengal scheme of training educated young men in shoe-making is reported to be working satisfactorily. The artisan classes attached to the Tirhut Technical Institute and the Ranchi Technical School provide training in shoe-making and manufacture of leather goods. Some educated young men may be encouraged to join these classes with a view to take up this line. We also recommend that demonstration parties should be introduced for improving the standard of work of the *mochis*, who could be employed in small factories started by educated young men trained in shoe-making.

Glazed pottery.

217. Bihar is rich in raw materials necessary for this industry. A young man from Bengal, who set up his own pottery works at Nirsachati in Manbhum a few years ago with a small capital, is now making a reasonably good income. He has experienced no difficulty in marketing his goods. The local Government have recently introduced a section in the Cottage Industries Institute for training educated young men in glazed pottery. This is another industry included in the Bengal Unemployment Scheme for training educated young men. A small beginning can be made in this industry with a capital of Rs. 500 to Rs. 1,000. As the industry succeeds, we hope that larger pottery works will spring up in the province. We recommend that the Department of Industries should help a few educated young men with the necessary capital to take up this line.

Cane-work and basketry.

218. This is another industry in which an educated young man can make a fair profit by engaging skilled workmen under him. A section has also been introduced this year in the Cottage Industries Institute to provide the necessary training. The Industries Department has been successful in exporting large quantities of palm leaf and *kaincha* baskets to England. The coal mines of Jharia also require a large supply of strong baskets, which are mostly imported from outside. There is thus a demand for such articles in India and abroad.

Toy-making.

219. This industry has little scope by itself to provide a suitable income for an educated young man. A passed student of the Cottage Industries Institute stated before us that he was not earning more than Rs. 12 per month by selling his toys. At present the Cottage Industries Institute trains boys mainly in the manufacture of cardboard and wooden toys. The industry has to face severe competition from cheap Japanese toys. We are of the opinion that manufacture of celluloid toys can be introduced with advantage. Combined with some other small industry, such as picture-framing, glass-silvering, hat-making or cane and basket work, toy-making will provide some scope for the employment of educated young men.

Brass and bell-metal work.

220. At one time, brass and bell-metal work was an important cottage industry of Bihar. The census reports show

that while 21,000 men were engaged in this work in Bihar in 1921, only 6,000 depended on this industry in 1931. The decrease is mainly due to the fact that the workers are in the hands of *mahajans* and have no initiative to improve their designs to suit modern tastes. It is true that brass and bell-metal articles are being largely replaced by cheap aluminium and enamel goods, but they have a special demand among orthodox Hindus who prefer them to aluminium or enamel. The fact that brass and bell-metal goods are imported into this province from Bengal and the United Provinces shows that the local supply is insufficient. There is thus room for the development of the industry not only to meet the local demand but also to replace some of the shoddy articles that have taken their place for want of proper organisation and scientific manufacture. Bengal has taken up the development of this cottage industry in right earnest, and it has been selected as one of the industries for the training of educated young men under the Bengal Unemployment Relief Scheme. According to Mr. S. C. Mitter, the articles can be made lighter and brighter and, at the same time, cheaper by using suitable alloys. The capital required is small, and an educated young man trained in this industry can introduce improved designs and manufacture articles which will have a ready market. He can also increase his output either by engaging some artisans directly under him or by getting them to produce the rough articles which he can finish in his workshop. This is another industry where the use of cheap electric power will help to increase the outturn and reduce the cost. We recommend that training in the bell-metal industry should be provided in the province.

Cabinet-making.

221. Although there are about 50,000 wood workers in this province, there is a dearth of good cabinet makers even in a town like Patna. Most of the high class furniture used in offices and private houses is imported from outside, and any one desiring to make good furniture locally has to import Chinese workmen from Bengal. The technical schools give training in carpentry as a part of the course but very few of the students specialise in this line. We recommend that selected boys from technical schools, who show a special aptitude for carpentry, should be given facilities for higher training in wood-work and cabinet-making, especially in veneering, gluing, polishing, upholstering and all the higher techniques of the craft. They should be granted stipends for joining some well-known firms or specialised institutions outside the province.

Cutlery.

222. The districts of Manbhum and Monghyr were at one time famous for their cutlery and for the manufacture of swords and guns. Even now about 4,000 people are engaged in cutlery and sword-making in Manbhum, but their condition is not satisfactory. This is partly because of the difficulty in marketing and the lack of finish in their goods, but mainly because of cheap foreign competition. Cutlery-making is one of the cottage industries included in the Bengal Unemployment Relief Scheme and is reported to be working satisfactorily, but the Bihar experience has not been altogether encouraging. A Bihari student trained in England has set up a factory at Purulia but he has difficulty in disposing of his goods in spite of the improved methods of manufacture. This industry has been more successful in Bengal which has a ready market in Calcutta and in the tea gardens. In Bihar the industry has limited scope as the markets are scattered. There is, however, no reason why it should not be successful at central places like Patna, Bhagalpur, etc., provided improved finish and designs are introduced. The factory at Purulia used to get orders for garden knives from Assam. This has since been given to a Bengal agency and the proprietor has opened a shop in Calcutta for disposing of his goods. To reduce the cost of production, he has introduced the system of getting the rough work done by the *lohars* of Purulia and Jhalda and getting the articles finished in his workshop. The result of this enterprise will be of interest for the future of the industry.

Umbrella-making.

223. This is a cottage industry which has some prospect. In Bengal, it is being tried under the Unemployment Relief Scheme. The umbrella is an article of common use, but the only point that we have to consider is if bamboos of the requisite type and quality are available in Bihar. If investigation proves that the necessary raw material can be made available, it may be a good supplement to the cane and basketry section in the Cottage Industries Institute.

Tailoring.

224. This is an industrial profession which is apparently popular with the educated classes. The Department of Industries was frequently receiving applications for stipends for training in tailoring outside the province, and in the last eight years, 84 stipends were granted for this purpose. It appears that most of the boys trained in this line have been able to set up

an independent business. Government have recently introduced a new section in the Cottage Industries Institute at Gulzarbagh to teach this handicraft. The demand for admission may be judged by the fact that 300 candidates applied for the 12 seats in the institute. There is scope for tailoring in the larger towns. Even in towns like Patna and Ranchi, the number of good tailors is limited and they are mostly outsiders. With the increase in the standard of living, the demand for good tailoring has risen, and we believe that boys trained in this line have fair prospects.

Chemical industries.

225. Mr. Muhammad Hussain, Assistant Professor of applied chemistry at the Science Collège, has given us an interesting memorandum on the prospects of chemical industries on cottage lines. We have also had the benefit of the advice of our colleague, Professor Khan, who has been dealing with the subject for some time. We agree with their view that there is scope for the manufacture on a cottage or small scale of selected chemical products like soap, hair oil, etc., of which there is a local demand and for which most of the raw materials are available in Bihar. Manufacture of washing soap, in particular, has distinct possibilities. Under the present arrangement, the Industrial Chemistry Section attached to the Science College trains a few educated young men every year in the manufacture of soap, besides giving advice to those who wish to prepare other chemical products. As a result, a number of small factories manufacturing mainly washing soap has sprung up all over the province, and they are reported to be doing satisfactory business. The Benares Hindu University has also introduced a section for teaching the manufacture of soap, oils, face cream, perfumery, disinfectants, boot polish, heel balls, sealing wax, cork tops, carbon paper, etc., with a fair amount of success. The Bekar Bandhab Samity of Bengal has also taken up the manufacture of some of these products on cottage lines by unemployed young men, and their local representative stated to us that the sale of these goods on a commission basis was providing a small income to some educated Bengali youths who had no better occupation. While there is a fair prospect of some of these industries being developed in this province and providing subsidiary or whole-time occupation for some of our educated young men, we consider that it is necessary to proceed cautiously in view of the difficulties that they may have to face in the matter of marketing. There is a danger to health in using impure chemical products, and the consumer

will naturally be suspicious of using articles produced by the small manufacturer. Mr. Hussain suggested the formation of a central institute for controlling the manufacture and marketing of these articles, but we are of the opinion that such a step would be premature. It is necessary to be sure of the demand before starting an organization of this nature. It would be better to encourage individual students trained in this line to begin on a small scale in the larger towns of the province.

Expansion of Industrial Chemistry Section.

226. We recommend the expansion of the Industrial Chemistry Section under the Department of Industries for training boys in the manufacture of soap and other selected chemical products which have a ready market. To meet the objection that people without some scientific knowledge are not expected to be able to ensure the purity of articles manufactured, the standard of admission to these classes should be raised, if suitably qualified candidates apply in adequate numbers. We consider that the present arrangement, by which the industrial chemistry department forms a part of the Science College, is of great advantage to all concerned. It helps to give an industrial bias to the students of the Science College and induces the professors and research workers of the college to direct their attention to the solution of industrial problems and to the application of science to the more practical problems of life. The Department of Industries can make use of the facilities provided at the Science College for obtaining scientific advice on industrial matters. The small manufacturers also benefit as they can obtain scientific advice for the improvement of their processes, and can have their products tested. We recommend that this association of the Science College with the Department of Industries should be maintained and developed. Chemistry of oils, fats and sugar should continue to be taught at the Science College, for which a proper staff should be appointed, and the college should also, if possible, provide necessary accommodation for the expansion of the classes in small chemical industries.

227. It was suggested to us that it might be advantageous to introduce a degree course in applied chemistry, which would supply men qualified to run the chemical industries on a large scale. Students with a degree in this subject will also be able to find employment in other industries requiring a knowledge of

applied chemistry, such as sugar, cement, iron, etc. The course would be as follows :—

- (1) chemistry up to B. Sc. pass standard ;
- (2) applied chemistry, with specialisation in one subject, such as (a) sugar, (b) oil, soaps, etc., (c) pharmaceuticals, (d) metallurgy, etc.;
- (3) factory training for six months in one of the industries shown in (2) ; and
- (4) chemical engineering.

(1) and (2) can be taught in the Science College and (4) in the Engineering College. We are not, however, satisfied that the existing demand for such men is sufficient to justify the additional heavy expenditure which will be necessary. We, however, recommend that promising boys should be granted stipends for training in industrial chemistry and chemical engineering at the Benares Hindu University or at any other suitable institution outside the province. If the employment of these men proves that they are in great demand, the question of introducing a degree course in applied chemistry may be considered. A proposal which we shall make later regarding the introduction of the mechanical and electrical engineering degree at the Bihar College of Engineering will facilitate the introduction of this course when its necessity is established.

Other cottage industries.

228. The prospects of plastic-moulding and preparation of varnish as a cottage or small industry have been dealt with under lac industry. The preparation of bark-dyes for use in the silk industry, according to the formula invented by Mr. M. N. De of the Bhagalpur Silk Institute, may provide some opening for a few enterprising youths. The celluloid industry, which has made such rapid strides in Bengal of late, is another small industry which can be profitably taken up by some educated young men.

CHAPTER X.

TECHNICAL EDUCATION.

CIVIL ENGINEERING.

Overproduction of civil engineers.

229. Of the technical institutions under the local Government, the Bihar College of Engineering is the most important. It provides a degree as well as a subordinate course in civil engineering, besides the Industrial Diploma course in mechanical and electrical engineering. Our investigation shows that there is considerable overproduction of civil engineers in the province. The posts of this class available in Bihar and Orissa are :—

	Civil engineers.	Subordinate civil engineers (overseers and sub-overseers).
Public Works Department ..	86	342
Other Government departments ..	14	9
District boards and municipalities ..	52	385
	152	736
Total ..	152	736
Annual vacancy at 4 per cent ..	6	29

Adding 10 per cent for business and private employment, the present annual demand may be estimated at 7 graduates and 32 subordinate engineers. Against this, the average annual output from the Bihar College of Engineering and the Orissa School of Engineering is 25 civil engineers and 40 subordinate civil engineers.* In 1933, our colleague, Mr. Coueslant had estimated that of the students turned out since 1928, 71 per cent of the graduates and 63 per cent of the subordinates were unemployed. Since then a large number of engineers have found temporary employment in the earthquake reconstruction work and very few of the local engineers are now actually unemployed. But the completion of this work is expected to result in severe unemployment. It is, therefore, very necessary to find other sources of employment for our civil engineers and to restrict the supply.

Benefit of ladder promotion in the Public Works Department.

230. We find that most of the superior engineering posts under the Public Works Department are held by outsiders because the degree course in the Bihar College of Engineering is of comparatively recent origin and very few Biharis possess the necessary experience to qualify for the senior posts. As a solution of the difficulty, we recommend that the senior posts in the Public Works Department should be filled up by ladder

*Appendix VI.

promotion whenever possible, the new hands being recruited in the juniormost grades for which sufficient qualified local candidates are available. Besides giving a better chance to the local men, this will provide an added incentive and better prospect to the young engineer who would, in consequence, be prepared to start even on a low salary. It was pointed out by the Chief Engineer that the difficulty in applying the rule wholesale arose from the fact that subordinate engineers, who had risen to higher ranks, were not qualified enough to be promoted beyond a certain stage. We consider that this difficulty can be obviated in future by prescribing the degree as the minimum qualification even for overseers, and keeping only one distinct rank of subordinates for those holding the subordinate civil engineering diploma, who would begin as sub-overseers and would be entitled to rise only up to the overseer stage on proof of exceptional merits.

Removal of subordinate civil engineering classes from the Bihar College of Engineering to Bhagalpur.

231. We have considered the possibility of abolishing the subordinate civil engineering course altogether and turning out only graduates who would start at the bottom and be eligible for promotion to the highest ranks. The objection to such a measure is that the local bodies will always be in need of cheap civil engineers, and there is not enough prospect there of a rise for a graduate to start low and work his way up, unless there be a combined engineering service for all the local bodies. Some cheap subordinate engineers are also useful in the Public Works Department to do the routine supervision of labour and petty works, preliminary enquiries, etc. The province must, therefore, produce a certain number of subordinate civil engineers, but the sizes of these subordinate engineering classes should be adjusted according to our needs. We do not see any necessity of producing an intermediate class of subordinate engineers, and we recommend that the present arrangement of granting a sub-overseer's certificate at the end of the second year of the subordinate civil engineering course may be discontinued. Even under the present arrangement it is very exceptional for a student to discontinue his studies at this stage. To keep down the cost of engineering education, the subordinate civil engineering classes should be removed to Bhagalpur and, in their place, degree classes in mechanical and electrical engineering, which we are recommending separately, should be introduced in the Bihar College of Engineering. The Bhagalpur technical school may include the subordinate civil engineering as well as the still simpler course suggested previously for sanitary inspectors, road

sarkars, etc. The Industrial Diploma classes, which we are recommending below for Bhagalpur, may also be held in this school.

Employment of qualified engineering staff by local bodies.

232. There is room for better employment of civil engineers in the district boards and municipalities of the province, particularly the latter. Some district boards spend only a small proportion of their allotment on public works on engineering staff. The rules should prescribe a minimum limit for expenditure on engineering establishment. The rules regarding appointment of engineers by district boards were framed at a time when there was no facility for engineering education in this province. While unnecessarily recognising the degrees and diplomas of a number of outside institutions in India, they do not require a minimum residence in the province as a necessary qualification, as in the United Provinces and the Bombay rules. On the other hand, the district engineer has to have five years' experience of important construction work—a qualification which very few of the local graduates may be expected to possess. The result of this is that men of other provinces have to be recruited for these most important posts. These rules should be amended so as to favour the appointment of local men. As regards municipalities, there are some who do not maintain any engineering staff at all and some who do not spend more than $\frac{1}{2}$ per cent of their income on engineering supervision, while the more efficient municipalities like Jamshedpur spend as much as 3 to 4 per cent. In some municipalities the present engineering staff has no knowledge of drainage or water-supply which is so essential in all municipal engineering. The Municipal Engineering Recruitment Rules, issued in Government notification no. 14651-L. S.-G., dated the 19th December 1929, prescribe the qualifications necessary if the pay exceeds certain limits, but they do not insist on the appointment of qualified men or on the grant of the prescribed pay to the holders of the posts. So that the municipalities can, on the one hand, appoint a person with less or no engineering qualification by keeping the pay sufficiently low and, on the other, they may appoint an engineering graduate on a nominal salary by taking advantage of the present unemployment among them. In the interest of efficiency in the administration of these municipalities and for the better employment of our civil engineers, we recommend that Government should prescribe the number, qualification and pay of the engineering staff to be maintained by each municipality after duly considering its income and the amount of work

involved. The Municipal Act should, if necessary, be amended for this purpose.

Appointment of civil engineers in contract work.

233. In other countries a large proportion of civil engineers are engaged in private contract business. In this province most of the contractors have little or no technical qualification, and the few big firms who engage engineers are outsiders and generally have their own men. The local engineers have thus no opportunity to gain business experience, and capital is, in consequence, shy to come to the help of those who may be willing to start on this new line. To encourage the growth of independent engineering profession and to mitigate unemployment among passed engineers and supervisors, the Government of Madras have, in their order no. MS.1908-W., dated the 31st August 1934*, laid down, as an experimental measure, that for all works under the Public Works Department costing Rs. 15,000 and above, preference will be given, other things being equal, to those contractors who are themselves qualified engineers or who undertake to employ qualified men. Such a measure may result in slightly higher tenders but will ensure better work. We recommend that similar rules should be issued by the Bihar Government in respect of all works under Government and local bodies. The unemployed engineers, who do not possess sufficient capital, should be encouraged to form themselves into associations and pool their capital for securing contract business.

MECHANICAL AND ELECTRICAL ENGINEERING.

Demand for mechanical and electrical engineers.

234. Although there are only 99 posts under Government and local bodies requiring a degree or senior diploma in mechanical and electrical engineering, which would give not more than 3 or 4 vacancies every year, there are over 1,100 posts requiring such qualification in the industries of the province, which would normally require not less than 40 men each year. Only a few Biharis have qualified themselves in this line at the Benares Hindu University, besides a very limited number qualified in England with the help of State scholarships granted in the past. Most of these posts not only in the industries of the province but also under Government are, therefore, held by men of other provinces. As pointed out before, the Tata Iron and Steel Company alone has been recruiting 10 to 12 such men every year, practically all of whom have been outsiders. We, therefore,

* Appendix XIII.

strongly recommend the introduction of a degree course in mechanical and electrical engineering in the Bihar College of Engineering. If it is not possible to obtain recognition from the Patna University for the degree course at once, the College should begin with a senior diploma course to be converted into a degree course at the earliest opportunity. In this connection we may mention that neither the degree nor the senior diploma classes in mechanical and electrical engineering can be started in the Bihar College of Engineering until the subordinate engineering classes are transferred elsewhere, as the present accommodation in the College is insufficient. The University Inspectors have been pressing for the removal of the subordinate engineering classes and the introduction of degree classes in mechanical and electrical engineering in their place. We, therefore, do not anticipate any serious difficulty in the introduction of the degree course provided arrangements are made for proper staff and equipment. Pending the introduction of such a course in the Bihar College of Engineering, stipends should be granted liberally by the local Government for the study of the subject in the Benares Hindu University.

Industrial Diploma (in mechanical and electrical engineering).

235. Industrial Diploma classes were introduced in 1930 in the Bihar College of Engineering, the Ranchi Technical School and the Tirhut Technical Institute, in place of the old apprentice classes. The minimum qualification for admission is Middle Vernacular and boys are given a five years' training in theory and practice in all the essential branches of modern manufacture. The all-round training which is given in these classes is considered particularly suitable for the needs of the province in the present state of her development. The Industrial Diploma, with the chargehand's and journeyman's certificates, meets the demand not only of the largest factories like the Tatas but also of the smaller factories, mines and mills, where a general all-round training is considered more useful than specialised training. It also enables the boys to set up independent repair shops and small industries requiring mechanical knowledge. While endorsing the suitability and usefulness of the Industrial Diploma course, most of the industries of the province emphasised the necessity of giving actual factory training to the senior boys, which would give them experience of the factory conditions and discipline and make them more employable. The representatives of all the industries that we consulted were prepared to

co-operate in this matter. We recommend that arrangements should be made to give factory training to these students in the different industries of the province for a period of one year after completion of their five years' school course. For this purpose, the period of the stipends granted to these boys may be extended by one year, where necessary. This is the system followed in respect of the civil engineering students, who have to undergo one year's practical training in actual works to qualify for their certificates. We also consider that for the benefit of students who may wish to set up independent workshops, facilities for practical training in selected subjects like electroplating, sheet-metal work, aluminium spinning and casting, cutlery, etc., may be provided in the technical schools.

236. We have shown before that there is a vast field for the employment of boys with mechanical qualification in the industries of the province. The present output of only about 100 boys per year from the Government technical schools is quite insufficient to meet the demand. We, therefore, recommend the immediate establishment of a technical school with the Industrial Diploma course at Bhagalpur—a division which has no such school at present. We also recommend that the present artisan classes in the Hazarihagh Reformatory School should be converted into Industrial Diploma classes. There has been a steady decrease in the number of boys sent to the Reformatory School since the introduction of the Bengal Children's Act in Bengal, with the result that this excellent and well-equipped institution for imparting technical education is not fully made use of. To reduce the cost of education in the school and to utilise the existing equipment, Government in their order no. 756-E., dated the 27th February 1923, sanctioned the admission into the school of a limited number of outside boys as trade apprentices for learning various handicrafts. This system has worked successfully and a scheme of expansion of these artisan classes is under the consideration of the managing committee. In view of the fact that there is a great demand for Industrial Diploma boys in the industries of Chota Nagpur, and the Ranchi Technical School cannot admit even one-fifth of the applicants, we are of the opinion that the artisan classes in the Reformatory School may be usefully converted into Industrial Diploma classes with the necessary additional staff and equipment. The Dehri canal workshop at Dehri also has artisan classes for training boys in carpentry, fitting, turning, blacksmithy, painting and moulding. These classes have not proved very satisfactory and the question of introducing

a regular Industrial Diploma course there may also be considered, so that the boys may have a better chance of absorption in the industries of that area.

Bengal apprenticeship scheme.

237. We have examined the apprenticeship scheme which was introduced in Bengal to find better employment for boys in the industries of that province. The Board of Apprenticeship Training in Bengal consists of 11 members from the commerce and industries of the province (including railways and big firms), 3 heads of teaching institutions and 6 members nominated by Government. All the important firms and companies who are affiliated to this board, choose their apprentices according to their requirements from the pass list of the common admission examination held by the board. The boys get their training in a factory or workshop as an apprentice during the day and attend classes in the senior technical schools controlled by the board in the evening. The number of boys who are admitted into the senior technical schools is thus limited to the actual openings for apprenticeship in the various industrial firms. The firms also provide facilities to the promising boys to go up for higher training in mechanical and electrical engineering in the Bengal Engineering College at Sibpur on completion of their apprenticeship, so that they might rise to more responsible posts. This scheme, which has worked so successfully in Bengal, appears to be particularly suitable there on account of the concentration of most of her large industries in the city of Calcutta and its suburbs, so that it is possible to arrange for factory training side by side with theoretical training at a central institute. Such a scheme, however, does not appear to be practicable in Bihar owing to the scattered nature of our industries, but we hope that intimate contact between the Information Bureau and the industries, coupled with the practical training of our boys in the various factories and mines, as suggested above, will serve the necessary purpose.

Bengal unemployment relief scheme.

238. We have also examined the scheme introduced in Bengal to relieve middle class unemployment and considered the possibility of its adoption in this province. Under this scheme, educated young men are taught new and improved processes in eight selected cottage industries which produce articles that are in universal use and have a widespread market all over the province. "The intention is that every young man so trained will work the processes with his own hands so

that he may understand the actual practical difficulties and skill required and may thereafter bring his organising ability to bear in improving the processes now followed by caste workers by employing and instructing them in the improved methods evolved." Instruction is given by means of peripatetic demonstration parties who move from district to district on the requisition of the district industrial associations who have to arrange for the necessary accommodation. The industries chosen together with the period of training in each case are shown below :—

- (1) Jute weaving—4 months.
- (2) Wool weaving—8 months.
- (3) Umbrella making—6 months.
- (4) Boot and shoe making—6 months.
- (5) Pottery manufacture—8 months.
- (6) Cutlery manufacture—8 months.
- (7) Brass and bell-metal works—8 months.
- (8) Soap making—4 months.

In selecting candidates for training, preference is given to applicants who are in a position to invest the capital required for starting the industry after the training period is over. Matriculation is the minimum qualification for admission in each case, except for cutlery and pottery industries for which I.Sc. passed boys are preferred.

239. The scheme, which is reported to be working satisfactorily in Bengal, depends for its success on the existence of a ready market for the articles produced. Bengal is fortunate in this respect in having a number of large towns including Calcutta where these articles can be disposed of without much difficulty. In Bihar, on the other hand, marketing difficulties may stand in the way of any wholesale training of educated young men in such industries. As we have remarked before, it is mainly on account of the difficulty in marketing that the cutlery industry of Jhalda has been showing signs of decay. We are, therefore, of the opinion that it will be advisable for us to proceed more cautiously in setting up educated young men in cottage industries. Selected industries should first be started in or in the vicinity of the larger towns like Patna, Gaya, Bhagalpur, Muzaffarpur, etc. For this purpose it will be better to give a thorough training to the boys at central institutes. The stipends granted by Government will enable promising boys from the interior

to come to the institutes. This centralised system will further enable the heads of the institutions to keep in touch with the passed students and help them in starting the industries. The Department of Industries should also help in disposing of the products either by extending the present marketing organisation or by setting up a separate marketing organisation to dispose of the products of these miscellaneous industries within the province and outside. If experience proves that there is a good market for the articles produced by these cottage industries, the possibility of starting peripatetic demonstration parties on the lines of the Bengal scheme can be considered. As in the case of weaving or tanning, demonstration parties are definitely useful for indigenous industries in training the worker in modern methods. They are also useful in introducing a simple industry capable of general adoption such as sericulture or rope-making. For such industries we are in favour of the introduction of demonstration parties, but for educated young men who have to be the organisers of labour or to deal with an industry with a limited local market, a thorough training at a central institute is considered more suitable for the present.

Certificates of competency of wiremen and persons in charge of boilers.

240. A special wiremen's class was introduced in 1934 at the Cottage Industries Institute, Gulzarbagh, to meet the demand for certified wiremen in the electrical installations of the province. The Industrial Diploma boys, who specialise in power-house work, are also qualified to sit for this certificate examination. The wiremen's class was subsequently discontinued as the Public Works Department did not insist on the certificate of competency as required under the Indian Electricity Rules, 1922. But since the industries are insisting on this certificate, or in its absence appointing certified men from other provinces, we recommend that Government should make early arrangements for the grant of such certificates or authorise the Inspector of Technical Schools to do so. Government might also consider the desirability of partially exempting certain classes of factories from the operation of the rule as has been done by the Government of Bengal in their notification no. 3162-Com., dated the 29th April 1936.* We further recommend that Government should make rules under section 29 of the Indian Boilers Act, 1923, requiring

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boilers to be in charge of persons holding certificates of competency and prescribing the conditions on which such certificates may be granted. This will open out a new avenue for the employment of boys who obtain their Industrial Diploma from our technical schools.

Cottage Industries Institute, Gulzarbagh.

241. We have emphasised the importance of cottage and small industries in mitigating the unemployment of the educated classes and increasing the income of the agriculturists. The Cottage Industries Institute at Gulzarbagh teaches cotton weaving, dyeing, calico printing, carpet and durrie weaving, knitting and toy-making. This year three new sections in cane and basket work, tailoring and pottery have been added to the institute. Till last year, the institute used to admit only 63 students with stipends. For these 63 seats, there were as many as 537 applications for admission in 1934-35. This year the number of stipends has been nearly doubled and the sections enlarged, besides the addition of the new sections mentioned above. Government have also sanctioned the construction of a hostel at a cost of about Rs. 30,000 for the accommodation of students coming from a distance. While welcoming the recent expansion of the institute, we wish to point out that a single institute of this kind is quite insufficient to meet the requirements of the province. We, therefore, recommend the establishment of another Cottage Industries Institute at Pusa, where the lands and buildings vacated by the Imperial Council of Agricultural Research are available for the use of the local Government. The sales depots opened by the Department of Industries can help to dispose of the articles produced by the Pusa institute. We also recommend the inclusion of a few more selected cottage industries which have prospect in Bihar. Brass and bell-metal work, glass silvering and celluloid work may, in our opinion, be introduced with advantage. The possibility of introducing umbrella-making may also be considered. Making of pith hats (*sola topies*) is another industry which offers some prospect. It appears that the Army Department alone consumes as many as 50,000 to 100,000 hats annually and most of its orders are supplied by Calcutta. On a recent enquiry from the Director of Contracts at Simla, with a view to place orders for some of these articles with Bihar firms, the local Department of Industries had to reply that there was no such industry in this province. Apart from the possibility of outside orders, there is an increasing local demand for these hats which is now supplied

mainly by Bengal. The industry is not unknown in this province. Some *padg* makers of Tirhut use pith in making the distinctive head-dress of the Maithil Brahmins. There is also scope for similar use of pith in making turbans for the police force, which will give them additional protection from the sun. We recommend that the possibility of introducing this industry might be considered by Government. The art industries such as wood and ivory carving and inlay work, horn work, enamel and inlay work in brass and silver, etc., have prospect of development in the province. These art industries should be included in a separate section of the Cottage Industries Institute at Gulzarbagh with a proper staff qualified to teach industrial art.

Silk Institute, Bhagalpur.

242. The Bhagalpur Silk Institute trains every year about 40 educated boys, besides some artisans, in the different branches of the silk industry, viz., sericulture, ericulture, dyeing and printing, and silk weaving. We have observed before that educated young men trained in these industries can earn a fair income. The statement furnished by the Superintendent shows that about 80 per cent. of the boys passing out from this institution are profitably employed. The increasing demand for training in this line can be judged from the fact that for the 38 seats in the institute, the number of applications for admission increased from 38 in 1929-30 to 169 in 1934-35. It is also satisfactory to note that admission to this institution is not confined to the stipendiaries and about one-third of the students join the institute without stipend. We recommend that this institute, which has been doing very good work for the development of the silk industry, should be expanded. We have pointed out before that ericulture, which is very suitable as a subsidiary industry for the agriculturist, does not provide sufficient scope to be carried on on a large scale by means of hired labour. It is, therefore, not suitable as an exclusive occupation for an educated young man. Ericulture should be combined with sericulture by one who desires to run a silk farm as a whole-time occupation. We, therefore, recommend that the two courses in ericulture and sericulture, which are now separate, should be combined. Boys trained in this section should also be given the facility for learning weaving if they want to continue their training further, so that those wishing to take up silk farming may be able to run a small factory to supplement their income. Similarly the boys who learn weaving should be given the facility to learn dyeing and printing also, if they so desire,

Training in press work.

243. A class for compositors, letter-press printers and book-binders is attached to the Government Press at Gulzarbagh. Fifteen students are admitted annually in the compositors' class and 10 in each of the letter-press printing and book-binding classes. Most of the book-binders passing out of the school start their own business. There are 400 posts in the Government Press, but at the present moment about 50 per cent of them are held by outsiders who came originally from Bengal when the Press was started in 1912. In addition to this, there are something like 70 private presses in Bihar and Orissa where not less than 100 educated men are employed. There is thus enough scope for the employment of boys passing out from the printing classes. There is, however, a surplus of passed students at present as some of the vacancies in the Government Press are not being filled up lately. There are some supervisory posts such as readers and copy-holders for which the local boys are not properly qualified. This is because most of the boys admitted into the school have read up to the middle English standard and their knowledge of English is not sufficient for them to rise higher. We recommend that some matriculates should be admitted to the compositors' class, who should be given training in the other sections also, so that they may be qualified to hold the supervisory posts in future. We also considered the possibility of training some Industrial Diploma students in press work with a view to turn out press-engineers, but we found that there is not sufficient scope for mechanics in the local presses to arrange for such specialised training.

Half-time vocational schools.

244. The old weaving school at Bihar Sharif, an important weaving centre in the province, was converted into a half-time weaving school in 1926. The object of the school is to give to the boys sufficient training in weaving, side by side with general education up to the middle English standard, so that those passing out of the school are able to earn a living by following this vocation. Boys who show aptitude for cultural education have the option of continuing their studies in high schools, while those who develop special skill in textiles can go up for higher training in the Cottage Industries Institute or in mills. From the occupation statement of the ex-students of the school, it appears that out of 33 boys that passed out of the school since 1929, 21 are engaged in the textile profession, five have gone up for higher training in the line, three have joined high schools and the whereabouts of two are unknown. Of the eight

boys that completed the full course but failed in the final examination, four are engaged in weaving, one has gone up for higher training in the Cottage Industries Institute and three are continuing their studies in high schools.

245. The above result is very encouraging and points to a system of education which may be more widely adopted in the province in respect of this and other industries and agriculture. We recommend that half-time vocational schools should be established in selected centres for teaching the prominent industries of those areas side by side with general education up to the middle English standard. For important agricultural areas, we recommend the establishment of half-time agricultural schools in place of the ordinary middle English schools. Thus, we consider that half-time weaving schools can be established with advantage at other important weaving centres, such as Madhubani, Bhagalpur, Raghunathpur, etc. ; half-time technical schools may be established in the important industrial centres like Jamshedpur, Jharia, Muzaffarpur, Monghyr and Dehri ; and half-time agricultural schools may be tried in important sugarcane areas, such as Darbhanga, Saran, etc., and also in other purely agricultural areas preferably in the neighbourhood of central farms. The half-time technical schools should give training in carpentry, smithy, machine shop, foundry, sheet-metal shop, etc., according to the requirement of each area. The passed boys from these schools would be able to go up for higher training in the technical schools or join the local works as apprentices or start small workshops of their own. Similarly, the passed boys from half-time agricultural schools should be given preference in selecting candidates for higher agricultural training in central farms under the Agricultural Department. The advantage of the system, as compared to the junior technical schools and artisan classes introduced in some provinces, lies in the fact that, while giving a training which is complete by itself to earn a modest living, it does not compel a boy to follow a vocation which is not suited to his temperament and, at the same time, provides unlimited scope to an ambitious young man. Thus while the mediocre boys are qualified to follow the vocation more efficiently in their cottages or factories, instead of swelling the rank of the unemployed, the more promising boys have the option of specialising in the line by higher training or going in for higher general education. Those with a practical bent who wish to graduate in mechanical engineering, textile or agriculture can also do so by joining the colleges after going through the high schools. This elasticity of the system makes it particularly suitable for middle class

boys whose parents would be reluctant to put them in a purely technical school, where, in the absence of cultural education, they will turn out to be mere artisans without any scope for further rise or a change to any other line.

Aided schools.

246. Besides the Jamalpur Technical School and the Jamshedpur Night School mentioned before, there are six aided industrial schools in Bihar, which teach weaving of cotton and silk, carpentry, needlework, etc. Several district boards and private bodies are also trying to establish industrial schools but have not got the necessary funds to make them successful. We consider that there is some scope for these small industrial schools teaching selected handicrafts like weaving, tailoring, basket work, carpentry, tin-smithy, moulding, etc., especially where there is an indigenous cottage industry, and the private enterprises deserve encouragement by means of suitable grants-in-aid from Government. We, however, do not think that these schools, with their elementary training, will be able to give much relief to the unemployed middle class. We are of the opinion that the district boards, instead of frittering their energies on small industrial schools, should concentrate on half-time vocational middle schools. The existing middle English schools in important industrial and agricultural centres can with advantage be converted into half-time vocational schools with the necessary additional expenditure.

Higher training in science and technology.

247. We have pointed out before that there is very little unemployment among the science graduates, who have better prospects than graduates in arts subjects. Graduates in chemistry, in particular, are in great demand, and, as a matter of fact, there is actually a shortage of honours graduates in chemistry who are required by all the large industries of the province. We recommend that greater facility should be provided for training in science, pure and applied. In this connection we wish to point out that there is no arrangement at present for teaching Botany and Zoology which are very necessary for those who want to qualify in agriculture, forestry, medicine, veterinary science and pisciculture. We recommend that provision should be made as early as possible for teaching these subjects in the Science College at Patna.

248. There is no facility in this province for higher training in any of the technical subjects, except civil engineering at the Bihar College of Engineering and mining at the Indian School of Mines, Dhanbad. A limited number of scholarships are granted

for training in textile engineering at the Victoria Jubilee Technical Institute, Bombay, in sugar technology at the Harcourt Butler Technological Institute, Cawnpore, and in tanning at the Bengal Tanning Institute, Calcutta. Government also grant a few miscellaneous stipends for technical training outside the province. The three State technical scholarships which were granted annually in the past, have been suspended on account of financial stringency. We recommend that the State technical scholarships for foreign training should be restored, and scholarships and stipends should be granted more liberally for training in selected technological subjects for which no facility exists in this province.

Vocational bias in education.

249. The present system of education is not suited to practical avocations such as industry or agriculture and creates an undue preference for a literary or clerical profession. The question of educational reconstruction is being dealt with by the Central Advisory Board of Education. In our province the Matriculation Committee appointed by the Senate has also indirectly dealt with the subject. As a Committee we are interested in their recommendations so far as their object is to give a vocational bias to students and divert them to industry and agriculture. Our experience is that boys after they have reached the higher classes of high English schools develop a distaste for manual labour, but not so if they are diverted to the practical line at the middle vernacular or middle English stage. That is why the middle standard has been made the minimum qualification for admission in our technical schools, a standard which we consider to be very suitable. This apparently is also the view of the Central Advisory Board of Education, who have suggested a lower secondary stage, corresponding approximately to the middle stage, which will be complete by itself and at which the boys may be diverted for specialised training in industries, agriculture and other practical subjects. We have read with interest the subjects proposed by the Matriculation Committee for the Matriculation examination. We are in favour of the changes proposed, which will enable boys intending to go up for higher studies in medicine, engineering, science, agriculture, veterinary science, textiles, etc., to take up more useful and practical subjects in their school course. To give effect to this change, we recommend that necessary facility should be provided in all zilla schools for the teaching of science, mechanics and manual training. We further recommend that in order to prepare boys for technical education and to give them a bias for manual work, vocational classes should be made compulsory in all middle and high schools.

CHAPTER XI.

MISCELLANEOUS.

Census of unemployment.

250. We have pointed out before the difficulty of collecting exact and detailed statistics of unemployment among the educated classes. Even with the elaborate staff employed during the last census, it was not possible to collect anything like an approximate data to be of any value. The difficulties of a census of this nature are:—

- (1) unless there be any immediate prospect of employment, people are reluctant to make known their private troubles and difficulties, which may lower them in the eyes of the public ;
- (2) if there be any definite offer of employment, many of those who are already employed would give their names with the hope of bettering their prospects ;
- (3) owing to the difficulty in laying down a simple and precise definition of the term "unemployment" for the guidance of the staff employed in the work, the data collected are likely to be influenced by personal factors and, therefore, unreliable.

Even if the above difficulties were got over by propaganda and by the employment of particularly intelligent staff, and a census was undertaken at considerable expense, the data collected would lose their value within a very short time, especially if a pronounced depression or boom in trade or a catastrophe such as war, flood, famine or earthquake, severe enough to upset the economic equilibrium, intervened. We are, at the same time, of the opinion that for the proper working of any scheme for relieving unemployment, it would be very necessary to be in possession of up-to-date and reliable statistics showing the extent of unemployment among people possessing different qualifications. Such statistics can be more readily obtained by insisting on the educational and technical institutions maintaining an accurate and up-to-date register showing the occupations of all passed students. The old boys' associations of the Science College and the Medical College at Patna, which maintain such registers, could furnish us with details regarding the occupations of all passed students of these institutions and the number that were unemployed. The

technical and industrial institutions under the Department of Industries also maintain such registers and help in providing employment for the passed students. We recommend that all colleges and high schools, technical and industrial institutions, and half-time vocational schools should maintain detailed occupation registers of passed students, either themselves or through old boys' associations. The head of each institution, who will be responsible for the register, should submit an annual report to the Director of Public Instruction and the Government Information Bureau showing the number of passed boys provided for and those unemployed. From these reports, the Information Bureau should compile an annual statement for the information of Government and the public. This will provide us with detailed and up-to-date statistics at all times showing not only the extent of unemployment among boys having different qualifications but also the lines in which young men can be readily absorbed. We have separately recommended that for employment in Government service a certificate from the head of the educational institution should be insisted upon and that the Government Information Bureau should communicate vacancies through the heads of these institutions. These recommendations will serve as an inducement for passed boys to keep in touch with their schools and colleges.

Vocational guidance.

251. With the development of experimental psychology, appointment of career masters for the vocational guidance of children of school-leaving age has come into vogue in several advanced industrial countries. With the increasing unemployment among the educated classes, this subject has also been attracting the attention of the public in India. This science is, however, still in an experimental stage, and we do not feel justified in recommending any wholesale application of its principles in this province which is mainly agricultural. We, however, do think that the science should be developed here by an examination and analysis of the requirements of our industries. We, therefore, recommend that some selected educationist should be trained in Europe in industrial psychology and attached to the staff of the Director of Public Instruction. He should keep in touch with the industries to determine the requirements of each occupation and advise the head masters of schools on modern methods of determining the capacities of children. He should also, in the course of his tours, advise the parents on the suitability of careers for boys of school-leaving age. The headmasters should be encouraged to take

interest in the future of their boys and give them necessary guidance in choosing their vocation. The responsibility of an institution should not cease until a student, who has completed his education or training there, has been suitably provided in life. For this purpose, the head of the institution should remain in close touch with the Government Information Bureau to find out the openings in different industries of the province. If a boy shows special aptitude for the practical line, he should be put in touch with the Information Bureau which can try to provide the necessary facility for his proper technical training.

Government Information Bureau.

252. In order to find better employment for young men with scientific and technical training in the industries of the province and, particularly, to put suitably qualified candidates in touch with employers, the Information Bureau was started by Government, on an experimental basis, for a period of two years with effect from the 1st March 1935, as a part of the office of the Director of Industries. It caters mainly for candidates possessing the following qualifications :—

- (1) B. Sc. degree with honours in a science subject excluding mathematics;
- (2) M. Sc. degree in a science subject excluding mathematics;
- (3) a degree in mechanical, electrical or civil engineering;
- (4) a certificate of subordinate examination in civil engineering;
- (5) Industrial Diploma certificate;
- (6) a final certificate of training in industrial or technical institutions under the department; and
- (7) industrial training outside the province under the advice and guidance of the department.

253. The Bureau maintains registers in which the names and addresses of young men possessing the above qualifications are entered, together with full details regarding their degree or diploma, practical training, previous experience, etc. Up to date, it has registered the names of 741 candidates. Some passed students of the technical institutions of the province who had failed to get their names registered, were also informed of vacancies and provided with suitable jobs when requisitions

befitting their qualifications were received by the Bureau. In special cases where registered candidates did not possess the requisite qualifications, notices inviting applications were sent to schools, colleges and libraries, and also published in the local newspapers. While catering primarily for candidates possessing scientific and technical qualifications, the Bureau has also in a few cases succeeded in securing employment for men with general education in the industries of the province. Industries situated outside but having interest in the province are also approached for accommodating Bihari candidates. Up to date, the Bureau has approached 522 industrial concerns in Bihar and 497 firms situated outside the province. Most of the industries of the province have expressed their sympathy with the object of the Bureau and have offered their co-operation. So far the Bureau has received requisitions for 267 posts. Against this, 143 persons have been provided with employment—66 in permanent service and 77 as apprentices. In 29 cases candidates with requisite qualifications were not available, 8 candidates though selected failed to join the posts, 11 candidates refused to join as apprentices without stipends, in 26 cases the Bureau's recommendations were not accepted, 14 requisitions were subsequently withdrawn by the firms, and 36 cases are pending.

254. The above figures indicate that the Information Bureau has achieved a fair degree of success in the short period of its existence. We strongly recommend that the Bureau should be made permanent and its scope should be enlarged by the inclusion of all posts in industries, including those requiring general qualifications. It should also register the names of candidates trained in agriculture and in *zamindari* work. We do not recommend the inclusion of non-technical posts under Government and local bodies as vacancies in such posts are sufficiently known to the local candidates, and for the subordinate posts, for which candidates of the district are preferred, a central bureau can serve no useful purpose. This would also unnecessarily increase the work of the Bureau without any corresponding advantage. All vacancies in Government departments and local bodies should, however, be communicated to the Bureau, so that it may bring them to the notice of suitably qualified candidates through the educational institutions, if necessary. The Bureau should continue to concentrate on technical posts in industries. In dealing with non-technical posts in industries, it should co-operate with the heads of schools and colleges, who are being advised to keep a register of passed students, instead of keeping a separate and complete register of its own for all such candidates. The Bureau should advise

the students and their guardians as to the prospects in different industries and professions, and, for this purpose, should publish articles for the information of the public. It should also publish an annual report showing how boys with different technical and vocational training have been able to find employment during the year. A copy of this report, together with the statistics showing the extent of unemployment of boys with different qualifications, compiled from the reports of the heads of the institutions, should be sent to every educational institution of the middle and higher standard. To deal with these increased and varied activities, we recommend that the Bureau should be self-contained and be in charge of a whole-time officer under the Department of Industries. This officer should do a certain amount of touring to keep himself in touch with the industries and their requirements and to be able to advise young men as to their future careers.

Industrial survey.

255. We have remarked before that any lasting solution of the problem of middle class unemployment must depend on the development of our industries. We have, therefore, in this report attempted to give a brief survey of the industries based on our observations, the evidence of witnesses and the records of the Department of Industries. But a thorough handling of the subject would necessarily require a detailed industrial and economic survey to find out the necessities of the province, the raw materials available and the industries that can be developed on a large or small scale. The disadvantage of such a survey lies in the fact that it loses much of its value unless it is kept up-to-date by constant revision. On the other hand, we feel that we have already enough materials before us to know that certain industries, such as glass, pottery, leather, paper, soap, sheet-metal, lac plastics, etc., have definite chance of success. We, therefore, think that a more useful purpose will be served by a detailed examination of these particular industries and by investigating the prospects of their development in co-operation with the Central Government, where necessary, than by launching on a detailed industrial survey to find out other fresh industries which we cannot expect to develop immediately. Such survey, in our opinion, can be postponed to a later date when the possibilities of the known industries have been sufficiently exploited. We, however, do think that the Department of Industries should make a systematic effort to keep a record of not only the large industries, but also of the indigenous industries, the raw materials and skilled labour

available, the import, export and consumption of various manufactured commodities, etc., for each area. This work can be undertaken by the Circle Officers of Industries, who can make enquiries in the course of their tours and enter up the details in separate "District books" to be maintained for each district. For this purpose, the Circle Officers may collect much valuable information from the rail and river borne statistics published by Government and from the railway returns showing the import and export of goods, which they should be given the necessary facility to inspect. This will furnish very useful data for the information of the Department of Industries when they want to examine the prospects of a particular industry, and will at the same time build up materials for a detailed survey of the province that may be taken up in future. In preparing "District books" an effort should be made to secure the co-operation of economics students of colleges who may be given a small subsistence allowance for the work.

State aid to industries.

256. Another matter intimately connected with the question of development of industries is the provision of necessary financial assistance. Capital and enterprise do not always go together and nothing but State aid can help to foster a new industry in an industrially backward country where capital is shy and initiative and experience are wanting. Financial help is also necessary to encourage educated young men to take up suitable cottage or small industries or to organise them on modern lines. With these objects, the Bihar and Orissa State Aid to Industries Act was passed by Government in 1923. Provision was made therein for various forms of State aid such as the grant of loan or cash credit, guarantee of dividend, hire-purchase of machinery, etc. So far assistance has been rendered mainly for the development of the large industries. The statement below gives the details of the working of the Act :—

	Loans, cash credit, debentures, etc.	Hire-purchase of machinery.	Total.
Number of cases in which State aid was granted.	5	14	19
Value	RS. 6,25	RS. 2,11	RS. 8,36
Amount realised	{ Principal 2,71	{ 1,57	{ 4,28
	{ Interest 58	{ 36	{ 94
Amount definitely ascertained as bad debts.	{ Principal 3,40	{ 32	{ 3,72
	{ Interest 2	{ 1	{ 3
Amount outstanding	{ Principal 14	{ 22	{ 36
	{ Interest ..	{ 4	{ 4

The figures of bad debts appear very alarming and need further analysis. One concern alone which was heavily financed in the early stages of the working of the Act, when there was little experience to guide the Department of Industries, caused a net loss of Rs. 2,74,000. Another heavy loss of Rs. 55,000 was similarly due to a concern which went into liquidation within three or four years of its working. Excluding these cases which are exceptional, the total loss in twelve years' working of the Act amounts to Rs. 43,000, which is further reduced if the amount of interest earned is taken into consideration. This cannot be said to be considerable when we remember that all State aid for the development of industries must necessarily involve some risk. Unfortunately, as a result of financial stringency, the grant of fresh aid had been suspended by Government for some time and in the current year a small sum of Rs. 4,000 has been provided for helping small and cottage industries. This is considered to be insufficient, and more liberal assistance from Government is urgently required both in pioneering new industries and in helping educated young men to start small factories or workshops on cottage lines and in organising cottage workers.

257. We make the following recommendations regarding financial assistance by Government for the development of industries in this province :—

(1) In order to enable the Board of Industries to carry out a sustained scheme, a special fund for State aid should be created and placed at the disposal of the Board. The present system of annual provision in the budget, with the uncertainty of the amount that may be available in any particular year, is most unsatisfactory.

(2) The hire-purchase system works fairly satisfactorily so far as the smaller industries are concerned, but the Act should be amended to provide for collateral security as a safeguard against loss due to premature termination of the hire-purchase agreement.

(3) It is very risky for the State to finance larger ventures as it is difficult to ensure that a private party has the necessary experience and technical staff and Government cannot maintain special experts merely for the purpose of supervising a particular concern. For developing these large industries, Government should themselves start demonstration or pioneer factories with the help of experts, instead of depending on the capacity and integrity of an individual. These pioneer factories may later be

handed over to private parties on suitable terms. When a new industry has established itself, State aid may be extended to foster further development under proper Government supervision.

(4) State aid should be granted liberally to finance educated young men who have received industrial training in setting up cottage and small industries and in organising the manufacture and marketing of the products of cottage workers. As the immovable property or machinery generally forms only a small proportion of the assets of such business, the Act and the Rules should be amended so as to authorise the acceptance of adequate personal security from a third party.

(5) The interest on loans under the State Aid to Industries Act should be as low as possible, particularly in respect of cottage and small industries.

(6) There should be a larger and more comprehensive expert technical staff under the Department of Industries than there is at present, so that proper assistance may be given to industrialists in need of advice.

(7) Appropriate action should be taken by Government to protect nascent industries from unfair competition.

Concluding remarks.

258. In the discharge of our terms of reference it was necessary, in addition to the memoranda received from witnesses, to collect detailed statistics from different sources such as Government departments, local bodies, industrial establishments and private associations. This involved lengthy correspondence and considerable clerical work in the examination of the statistics and their tabulation. We are grateful to all who co-operated in placing these statistics at our disposal and to our small staff for their ungrudging assistance in dealing with them. The cheerful performance of an arduous task was in keeping with the highest traditions of Government service and we cannot conclude our report without placing on record our full appreciation of the services rendered by each and every member of our staff. To our colleague, Mr. Dhar, who combined the functions of a Secretary with those of a member while continuing in the performance of his duties as Director of Industries, we are under a special obligation and we record our high appreciation of his wide knowledge of industrial problems combined with his patience, tact and capacity for hard work.

The members of the Committee desire to place on record their sense of deep gratitude to the Chairman of the Committee for his untiring patience and extreme courtesy throughout the deliberations of the Unemployment Committee.

S. LALL—*Chairman.*

M. SHAFI*

SAGHIRUL HUQUE

MIHIRNATH RAY

GYANCHAND*

C. N. SINGH

S. N. SAHAY*

L. D. COUESLANT

A. S. KHAN

S. M. DHAR—*Secretary.*

* Subject to a note.

Note by Rai Bahadur Shyamnandan Sahay.

Free and compulsory primary education.

The members of the Committee have generally agreed that the problem of education has to be tackled on various fronts but they have not gone into any great detail as a Central Advisory Board of experts is considering this question on an all-India basis. I agree that it is advisable to rely on that board for suggestions to tackle educational problems but I desire to say here a few words about the introduction of compulsory primary education. In doing so, it will be desirable to consider its bearing upon the question of middle class unemployment. It will be admitted that no Government can find employment, as employees of the State, for all those who are unemployed nor can a Government ignore the question of unemployment and the evil effects thereof. It is, indeed, the duty of the State to create opportunities for service, to open up fresh avenues for the employment of its people and generally so to control and guide the economic and financial policy of the Government, as to mitigate the evil effects of unemployment and harness to useful purpose the enforced idle hours of the people in order to avoid a great waste of national energy. The only avenues open to the unemployed are industries and agriculture. The opening up of new industrial concerns on a large scale has to be ruled out for the present on account of difficulties in finding capital and also on account of unequal competition with world market and the want of protective tariffs in this country.

The one hope for this province lies in agriculture. We have discussed in the report that agriculture is not a paying proposition unless improved methods of farming are resorted to, small industries are taken up as subsidiary to agriculture and the fragmentation of holdings is prevented. The ignorance of the agriculturist and his conservatism have become proverbial and unless immediate steps are taken to remedy this evil, it will not be possible to make any headway in the improvement of the economic condition of this province.

The Government of India and the provincial Governments have spent crores of rupees on agricultural research and on propaganda for improved cultivation but one shudders to note the utter failure of the agriculturist to adapt himself to new ideas and the consequent waste of crores of rupees, at least so far as any benefit to the present day agriculturists, is concerned. One has to pause and consider why this is so? And the only answer is the ignorance due to illiteracy of the vast bulk of the agriculturist. The pamphlet and bulletins of the Agricultural Department, the research institution and similar other institutions may have all been meant for the agriculturist, but is he equipped to study and follow it? What is the use of blaming him for not acting up to the advice given if he has not developed the mentality to appreciate it. I would therefore suggest the educating of the young agriculturist at least to the extent to enable him to follow the results of agricultural research and then put the results into practice himself. The ignorance of the guardians necessitates the introduction of compulsion by the State for the purpose of educating

their children and the appalling poverty of the masses necessitates the imparting of education being made free. This will involve a great deal of expenditure but such an expenditure is essential to bring into good use the crores spent in the past and many more crores likely to be spent in the future on agricultural reforms and other items of improvement of the countryside.

I am sure that when the results of modern research are applied to agriculture and intelligent as opposed to crude and stereotyped farming is done, it will lead positively to agriculture becoming a paying proposition and when that is so I am equally sure that it will not require the report of an unemployment committee to divert the educated unemployed back to agriculture and there will lie the salvation of the country and the solution of the problem of unemployment.

I would therefore draw the attention of the authorities to the immediate need of introducing free and compulsory primary education. This will require a large amount of expenditure and although agreeing on principle, my proposal may be vetted as unsound on financial grounds. My own view is that expenditure on compulsory primary education must be placed much higher in order of precedence and can be classed as important as the maintenance of law and order itself. But that is a matter on which people may honestly hold different views and the condition of the provincial finances is such that it will be futile to expect the introduction of free and compulsory education, out of the present income, perhaps for ever. I have therefore no hesitation in suggesting that an education cess may be levied for this purpose and that should give the Government the funds necessary to launch the scheme. It is nothing new that I am suggesting as the Government of Bengal have already passed an Act to this effect.

I have considered this question in all seriousness and while doing so have not ignored the very important problem of economic depression prevailing at present. I have however come to the conclusion that we shall continue to move in this eternal circle if we do not take a bold step, face the evil and wipe it out, even if it means a sacrifice of a very great magnitude.

The immediate result of this will be a very substantial reduction in the list of the unemployed, for not only a large amount of money but a large band of staff will be required for the introduction of the scheme.

Loans for financing schemes.

The only other point on which I will say a few words relates to our recommendations about financial assistance and other financial commitments that will follow, if our recommendations are given effect to.

Knowing as I do the financial position of our province I apprehend that some of our suggestions may be thrown out on the ground of the financial incapacity of the provincial exchequer to bear the burden. I, therefore, have to suggest that wherever capital expenditure has to be incurred, it will be a wiser policy to raise a loan, specially as money is

available at a cheap rate now-a-days. The last Government of India loan was raised at a very low rate of interest and was over-subscribed in no time. Fortunately for us also all our debts have been wiped out as a result of the Neimeyer Committee Report and the separation of Orissa has saved us from an expenditure of several lakhs of rupees which was spent every year for the administration of Orissa from the revenues of Bihar. The recent financial settlement, as a result of the Neimeyer Committee Report, has further added to our income by several lakhs of rupees every year. There could not therefore be a more favourable occasion even from the financial point of view, for raising loans to finance nation-building schemes.

Of course, the provincial exchequer will have to provide for the interest charges and a certain percentage for losses. This should not be an unbearable burden on the resources of the province and let me hope that the representatives of the people will not grudge voting such a demand.

The Government of the United Provinces of Agra and Oudh has only the other day decided to raise a loan of rupees two crores for the purpose of improving agriculture, etc. Could we not do the same ?

For the support of my proposition, I can do no better than quote Mr. Harold Butler, the Director of the International Labour Office, Geneva :—

“Beneficial results only seem to accrue where public works are financed by loan rather than by taxation. To increase taxation in times of depression is liable to hinder fresh enterprise and thus, in the last resort, tends only to displace men from private industry to employ them on public works. Where, however, money, for which there is no out-let in private investment, can be borrowed at cheap rates for schemes of national development, the volume and velocity of monetary circulation is increased and as a consequence the aggregate amount of employment tends to expand. It is, on this principle, that the large national loans raised in Japan, Sweden and the United States have been justified and appear to have had salutary effects on the economic position, although they involved an unbalanced budget.”

S. N. SAHAY.

Note by Dr. Gyan Chand.

In this note I propose to deal briefly with the points which it is necessary, in my opinion, to keep particularly in view in order to understand the problem of middle class unemployment in Bihar in its true perspective.

At the outset it is necessary for me to state that I am in general agreement with my colleagues in their conclusion that the problem, difficult as it is, can only be solved by a fundamental change in the outlook of the people. The conclusion is implicit in the general argument of the Report and is sound. Social customs and prejudices, which make economic re-adjustments difficult, have to be combated and a correct appreciation acquired of the essentials of the situation. Changes have been and are in progress which render it absolutely essential to rise to a higher level of enterprise and self-help, and though the State has to play its part in finding the solution of the problem, the importance of limitations which are inherent in the present economic conditions has to be duly realised. Our economic progress is being retarded by institutions like the joint-family and caste systems and it is necessary to understand that economic re-adjustment involves corresponding social re-adjustments.

The view is correct, but it is necessary to guard against the conclusion that the problem of unemployment is entirely or mainly due to our un-economic social habits and prejudices. The essence of the problem is that the demand for the services of educated young men is less than their supply. There are opportunities which could be but are not being utilized, but on the whole the gravity of the problem is to be accounted for by the disparity between demand and supply. This may appear to be a trite statement, but it is not. The solution of the problem, if this view is accepted, can be found not by restrictions on or re-distribution of the available supply but by measures calculated to lead to the expansion of demand for the services of educated young men. The importance of this view will be appreciated if I indicate its bearing on the different aspects of the problem.

The first among them is the question of educational reconstruction on which so much stress is laid as a remedy for the evil of unemployment. Our terms of reference have precluded us from dealing with the question of educational reform and I agree with the view expressed in the report that this delimitation of the scope of our enquiry was well-advised. But the view that our educational system is primarily at fault for the inability of so many of our young men to earn a living has been held so widely and for such a long time that it is necessary to point out that it is contrary to the facts of the situation and to the view expressed above that what is needed for the solution of the problem is the expansion of demand for and not the contraction of the supply of educated young men.

Criticism of our educational system on the ground of its being ill-suited to the economic needs of the country is now over half-a-century

old, the Government of India Resolution of 1888 on technical education having been issued on account of the growing volume of opinion that the system of education was creating a disproportionate number of persons possessing a purely literary education. It is not my purpose to defend our educational system against its critics or suggest that educational reform is not urgently called for. The shortcomings of our educational system are many and various and the need for not only increasing the quantity but also improving the quality of education can be taken for granted. But if the question of educational reform is looked at from the point of view of middle class unemployment, the criticism of the existing system appears to be the result of a misapprehension of the whole position. Essentially our educational system is no different from the educational system of the western countries. A student, who completes secondary or university education in the latter, receives better education, but it is the same kind of education and the careers which he is qualified for or can adopt are no other than those for which our educated young men are regarded eligible. Every educational system suffers from the limitations of the economic system, of which it must be an integral part; and the fact that in this province, as in the whole country, Government service has acquired an undue importance as an economic incentive is explained by its economic advantages over the alternative courses open to the educated classes. If there is a rush of candidates not only for the highly-paid Government posts but also for those whose pay and prospects are distinctly meagre, the cause is not that they receive bad education but that there are very few other openings for them. Owing to the progressive decrease of the chances of securing Government service it would not at all be difficult to divert young men to trade, industry and agriculture if the latter could afford them a scope for both making a decent living and using their gifts.

The same consideration has a bearing on the question of giving our education a 'practical' bias. It can do nothing but good to our boys if teaching in several subjects of curriculum has, throughout the course, some relation to local environments. It will stimulate the interest of pupils, show them the bearing of teaching on the facts of every-day life and give a training to both hand and eye. We have already got provision for science and manual training in some schools and it can, with advantage, be extended to others. But in this province practical bias must chiefly mean instruction in the elements of agriculture which is desirable in itself, but the real cause of drift to towns is inability of our young men to support themselves by agriculture and cannot be mitigated by the introduction of agriculture as one of the subjects in middle schools.

There is also misconception on another point connected with the question of bias. The educational system, in my opinion, is unfairly blamed for the aversion of our young men to manual labour and it is suggested that practical bias in education would cure it. The aversion is decreasing under the pressure of economic circumstances, but so far as it still persists, it is due to causes for which the educational system cannot be held responsible. A pronounced prejudice in favour of 'white collar' jobs among middle classes is well-nigh universal and if in India it is

accentuated, it is due to more fundamental causes from which the educational system suffers as much as all other agencies working for social change. The only effect of 'practical' bias, so far as the problem of unemployment is concerned can be to create a pre-disposition for industries and agriculture. But the principal cause of more young men not looking for careers in agriculture and industry is not that they do not like to do so but because they find that the prospects are unattractive and the conditions of work unsatisfactory.

The argument can be carried a step further by considering the question of higher education. The first point which has to be remembered in this connection is that Bihar educationally is a backward province. That is well-known and is borne out by figures given in annexure II. This fact has to be borne in mind in estimating the magnitude of the problem of unemployment. Expansion of education, if the financial difficulties can be overcome, is inevitable and though it will have to be much greater at the lowest stage of education it cannot be confined to it. Broadening of the base will be followed by increase in the demand for higher education and any restriction on this tendency will be neither practicable nor in the interest of the community. Averages of the last five years are an index of the extent of unemployment existing at present, but unless we stand still, they cannot be a basis of a forecast of the position as it will develop in the next ten years. The fact that the position in Bihar is not as serious as in other provinces is a matter for concern and not for congratulation. The position, as it exists, is disquieting but with the development of education it will become much worse and make it necessary to apply more comprehensive measures for its solution.

It can, however, be urged that progress of education will or at least ought to proceed on different lines and if it does, the development of education will not make the problem of unemployment more acute. That amounts to saying that the rush of students to colleges ought to be stopped and the present practice, which accounts for a large number of students joining the university even when they are not fit for it, should be changed. There is no doubt that colleges are full of young men who cannot profit by higher education and the fact is a great drag on development of the latter. But the explanation in this case is again economic and not educational. Knowledge, that university education is a poor investment, has permeated widely among the educated classes and no propaganda is necessary to stop the influx of students into colleges. All that has to be done is to find new outlets for the resources of educated classes and automatically the number of students going in for higher education will decrease. This is truer of law graduates. It is well-known that graduates take the B. L. degree and set up practice in a vast majority of cases only when they fail to get a post in any other line. They know too well that law does not pay, but they join it for want of anything better. Law is really the last resort of the unemployed graduates and those who take it up do so more often in despair of making a living otherwise than in the hope of making large fortunes at the bar.

The disillusionment of educated classes as regards the returns from university and secondary education is, therefore, all but complete and any arbitrary restriction on admissions to colleges, apart from being impracticable, is not necessary. What is necessary is the diversion of young men at the pre-university stage to occupation or vocational institutions. There is a general agreement of opinion on this point, but it is not realised that the extent of diversion must be limited by the economic development of the province. Vocational education is merely a means to an end. It itself can neither create industries nor increase the amount of land per head. The utility of vocational institutions must depend upon their being established in response to already existing demand or in anticipation of one which can be clearly foreseen and has to be provided for. It is well to diversify our education, but diversity which is not justified by economic facts cannot but aggravate the situation by producing highly specialized workers who cannot be absorbed in an undeveloped economic system. Our past experience in this respect has been unhappy. In a short period of twelve years we have produced a large number of well-qualified engineering graduates for whom there is no demand, and, as there is no prospect of creating it, we have been forced to recommend the introduction of a degree or diploma course in mechanical or electrical engineering in the Bihar College of Engineering. There is a very good case for this proposal on educational and administrative grounds, but in considering this proposal it is necessary not to limit our horizon by the conditions of supply and demand in this province. The electrical and mechanical graduates of other institutions in the country are already finding it increasingly hard to find employment and there is a grave risk of our increasing and not reducing unemployment if we do not make allowance for this fact. The case of our engineering graduates is an illustration of the importance of economic considerations in their bearing on vocational education.

The conclusion to which the argument leads is obvious. The problem of unemployment is a problem of economic and not of educational reform. The latter must follow the former and not precede it. Denunciation of our educational system has gone on for a long time and its only result so far has been a confusion of ideas. The essentials of the problem of middle class unemployment are simple. The problem is of maladjustment of economic life. It is not that the number of educated young men has increased too rapidly. The reverse, as a matter of fact, is true. But the development of our economic life has failed to keep pace even with such increase as has taken place. The rate of increase will be greater and not less in the immediate future. Education is a great lever. It makes persons more ambitious and raises their standard of life or rather creates a demand for a higher standard. In India the middle class standard cannot be considered unduly high and a solution of the problem of middle class unemployment must, if it is to be satisfactory, provide for its maintenance. The effect of education is at once stimulating, and disturbing; but it will be more disturbing than stimulating, if the higher expectations, which are raised by education, create a sense of frustration owing to the inability of our young men to rise up to them.

A great deal must depend upon the position of agriculture. Agriculture is our premier industry ; and though the development of industries, large or small, is a matter of primary importance, agriculture is the key industry from the standpoint of the economic prosperity of the country. It is to our agriculture that we must look for raising the standard of living of our people, for finding markets for our manufactured goods and for providing for young men whom public services, trade, industry and professions cannot absorb. According to our finding there are over 17,000 educated young men whose future is a matter of serious concern and there are less than 5,000 posts for them. There are many unenumerated occupations which do and will absorb some of the young men, but as these figures are approximate, it is not possible to state how many of these young men are unprovided for. But their number is considerable and will be increased by education. Agriculture must absorb most of these young men for owing to the relative unimportance of trade and industry, the latter can absorb only a small proportion. That raises the question as to whether agriculture can pay. Answer to this question cannot be given without making certain assumptions as to the return which we consider fair for agriculture. The ordinary cultivator is easily satisfied owing to his low standard of living, and, though on account of the fall of prices and increase in the burden of his interest and rent charges he is in great straits, he may, with the return of better times and introduction of measures which are being taken or are contemplated, be able to carry on under conditions, which though unsatisfactory, may not appear intolerable to him. Growth of population will make it increasingly hard even for him to hold on ; but educated young men must have better start and prospects if they are to take to agriculture as their life occupation. That implies that not only their initial return should give them a reasonable living but they should be able to find in agriculture a career with chances of advancement according to their ability and enterprise.

The outstanding fact of agriculture is the small size of holdings. The fact that the small holdings are scattered in tiny little plots makes the position much worse. The latter evil is serious enough, and everything that can be done ought to be done to mitigate it ; but the experience of the provinces like the Central Provinces and the Punjab and the magnitude of the problem itself point to the conclusion that fragmentation will continue to be a barrier in the way of agricultural progress for many years to come even if the policy of consolidation is earnestly started and vigorously pursued. But fragmentation is a minor evil compared to the evil of subdivision of holdings. If the scattered plots are consolidated, the size of the holdings will not increase on that account ; and it is necessary for an educated young man to have a compact holding of a certain size if he is to make his living by agriculture. With subsidiary industries he can supplement his income but the essential condition of his finding a footing in agriculture is that he should either acquire or own a compact holding of the requisite size. If he cannot do that, he cannot make agriculture his occupation even if he is trained in scientific methods of agriculture. The number of such holdings must be equal to the number of young men for whom room

has to be found in agriculture in order that adequate relief may be obtained from the pressure of unemployment. What the size of such a holding should be is a matter of estimate, but, if the one given by the Director of Agriculture is accepted for the sake of argument, an educated young man must have a compact holding of 15 acres if he is to make an income of Rs. 30 a month. That means that a young man trained in modern methods of agriculture who has the modest ambition of earning Rs. 30 a month will find himself ruled out of agriculture unless he can have a fifteen-acre compact holding for cultivation.

The absorption of the educated young men in agriculture, therefore, depends upon the number of such holdings in the province. In annexure I will be found information regarding the average size of holdings and plots in most of the districts of Bihar. The information has been compiled from the settlement reports. As some of them are over 35 years old and the latest was written in 1925, and as the situation has, owing to the growth of population, become much worse since the publication of these reports, the last column in the annexure gives the computed size of holdings on the basis of 1931 population. The figures are only approximate but may be taken as a fair representation of facts.

It will be seen that the average size of holdings in Saran is as low as 1.33 acres and that of plots .25 acre. The size of holdings in other districts of Bihar is larger but in the populous districts like Patna, Muzaffarpur, Darbhanga, a part of Monghyr and Shahabad it is well below two acres in the case of the former three districts and below three in the latter two. The larger size of the holdings in Chota Nagpur has to be discounted by the poor fertility of this tract, but even there the size of plot is, except in Ranchi, below one acre; in the other districts it is below half an acre in four districts and less than two-third acre in the rest. These are averages, and in spite of them there may be a few compact holdings of 15 acres. It can be safely assumed, however, that 15-acre compact holdings, on a scale large enough to interest us from the point of view of middle class unemployment, are practically non-existent. This is the most intractable fact in the present situation and presents a difficulty in the way of absorption of educated young men in agriculture, the removal of which depends upon measures and policies that cannot be dealt with here. Science can be pressed into the service of agriculture and facilities for marketing and agricultural finance increased, but if population continues to grow fast and otherwise the position remains what it is, the prospects of our educated young men finding relief from unemployment by taking to agriculture is very small indeed. Agriculture is the source of most of our economic difficulties owing to its being an insolvent industry, but so far as the problem of middle class unemployment is concerned, it must, I am afraid, be regarded as a liability and not an asset.

That being so, the possibility of diverting our young men from middle and high schools is limited by the openings in large and small industries. Our enquiry has shown that of 45,000 posts in large

industries nearly 23,000 are held by men from other provinces. More Biharis ought to go into industry and all adventitious factors, which stand in their way, should be removed or considerably mitigated. But as the number of vacancies by which the extent of employment will be increased if all posts in large industries are held by men from this province is 920 (4 per cent of 23,000) and number of young men in excess of the number of available posts over 12,000 (vide table on pages 16-17), it is well to realise the limits of the extent to which the greater penetration of Biharis into industries can relieve the pressure of unemployment. Practical difficulties will make the process slow, all-India consideration and the need of treating the country as an economic unit will render it difficult even for the most sympathetic employers to exercise any discrimination in the matter of employment, and, as of the three important industries of this province (steel, sugar and coal) two owe their development to protection and the third is in sore need of help from the Government of India, efficiency will have to be the paramount consideration in the selection of the personnel in order that cost may be kept low and the industries outgrow the need for protection at an early date. Most of the technical posts in industry are junior posts and unless there is a considerable improvement in the pay and social status which go with them, they are not likely to prove attractive to the educated young men. But inspite of all these limitations, there is room for more Biharis in industry. It is necessary that they should avail themselves of the opportunities that there are and acquire the necessary training and experience for achieving success in industry. So long as a realistic view is taken of the facts of our industrial system and exaggerated hopes are not entertained, it will be in the interest of our young men and the province as a whole to turn the existing industrial opportunities to greater account.

It is, however, necessary to say a word about industrialization in general as a remedy for general and middle class unemployment. Industrialization has been regarded as the way out of our economic difficulties for a long time ; but of late there has been a growing recognition of the fact that faith in industrialization has to be tempered by an appreciation of its inherent limitations. It is not as well known as it ought to be that India has gone a good long way in industrialization in the last decade. The phenomenal growth of sugar industry and Bihar's share in it have been referred to in the report. But sugar is only the most striking instance of India's progress in industrialization. India's out-put of cloth and steel is now three-fourths of our home consumption and the cement and match industries have almost a monopoly of the home market. Greater industrialization is possible but is limited by the extent of the home market. We may later on be able to compete in foreign markets ; but owing to the growth of trade barriers and our own relative backwardness, we have for a long time to rely upon our domestic consumption for the disposal of our manufactured goods. That brings us up against the limits set to the sale of commodities produced by our industries by the extreme poverty of our people. Home market in India must, so far as mass-produced commodities are concerned, mean mainly market which we can find in our villages, and there, the purchasing power of people being what it is, we

will find ourselves face to face with a stubborn fact which will inhibit our industrial expansion. To this consideration has to be added another, viz., that mechanization with its labour saving devices will, if it proceeds further, supply our limited home demand with less labour and not more and cause more unemployment than provide a remedy for it. I cannot develop the point further in this note. Industrialization in India has come to stay and has to be proceeded with. We ought to do all we can to quicken its pace, face with the rest of the world the paradox of co-existent plenty and want which it creates and grope, amidst bewildering internal and external difficulties, for the solution of the problem.

Cottage industries have received considerable attention lately as a remedy for middle class unemployment. Importance of the cottage industries is the greatest in the case of the agriculturists, who, with small and diminishing holdings, must have some sparetime occupations to supplement their very meagre incomes. Income, which can be derived from these industries, is small, and is, therefore, insufficient to maintain a standard of living above the subsistence level when the size of holding is the limiting factor of production and enterprise. But nevertheless their development is a matter of primary importance for the economic life of the province. Their development is of interest to the educated classes from the point of view of increase, howsoever limited it may be, in the purchasing power of the people even though they themselves cannot be much benefited by it. The introduction of new ideas and marketing facilities is necessary for efficient organization of the subsidiary industries but this is a function which the State itself will have to undertake through its Departments of Industries and Co-operation. The educated young men, whose services will be needed by these departments for the performance of this function will of course, find employment through this development, but as their number cannot be large, rise in the standard of living of the people in general will be the more substantial benefit of the development of subsidiary industries and will ultimately create a demand for the services of educated young men.

The development of cottage industries as a principal occupation is on a different footing. As educated young men cannot make sufficient living from these industries as artizans, their role in their development must be that of middlemen. Their development through middlemen cannot, however, be regarded as an unmixed good from the standpoint of the community because in small industries all over the country owing to their being completely unregulated, workers are exposed to abuses like excessive hours, child labour, low wages and lack of sanitation. It is, therefore, desirable that as far as possible small industries should be developed on a co-operative basis, and even when the middlemen organise them the State should protect the artizans against exploitation. The small industries, like the large ones, have to reckon with the fact that poverty of the cultivator makes the market limited and as simultaneous efforts are being made in all provinces to develop small industries to relieve the middle class unemployment, there is a risk of over-production unless supply is carefully adjusted to the limited demand. The educated

young men have, unless they can tap new markets, also to take into account the competition of master-craftsmen and dealers who are already in the field and who, with their experience, knowledge and resources, will at least have as good a chance, if not better, of playing the role of small captains of industry. The latter will not be easily dislodged from places and industries in which they already occupy an important position. I do not want to say anything about the more fundamental issue of cottage industries *versus* mass production. The former are far from extinct and the view that they can hold their own against the latter for an indefinite period may be correct, but the growth of industrialization within the country will reduce the advantages which have enabled them to survive so far and will certainly limit the expansion of market for them. The handloom weaving industry has during the last decade, been able to increase its production, but there is no comparison between the rapid development of mill industry and the rate of production which the handloom weavers have been able to maintain; and it may be assumed that if there is expansion of home market for cloth, most of it will be captured by the mills. There are a few artistic industries in which the cottage worker has an advantage, but in the production of staple goods the advantage is reduced to a minimum in most cases. In spite of these qualifications, cottage industries provide a field in which some educated young men can, if they have the necessary training and resourcefulness, carve out careers for themselves. It is not a field for ambitious men and limits within which it can expand are clearly indicated by the facts referred to by me; but as something has to be done to relieve unemployment and other avenues are few and limited, it is necessary for young men to seek and find whatever relief they can get from the development of cottage industries within the limitations of the existing situation.

This note may be concluded with a general observation. The problem of middle class unemployment has come to the fore owing to the progressive deterioration of the position, and all signs point to its remaining a live issue for a long time. The general drift of the argument of the note is that though we have to do all that we can to mitigate the gravity of the situation, the outlook for the middle classes is far from re-assuring. I agree with most of the specific proposals of the Report and hope that they will be adopted and earnest attempt made to make the most of them. We were, of course, limited in making our recommendation by our terms of reference; but our proposals would, within these limits, be found worthy of serious consideration.

The problem itself is, however, a wide one and transcends the scope of our enquiry. The problem has, as I have said already, taken the form that it has taken because there is serious economic maladjustment. The services that the educated classes can render are needed, but those who need them are not in a position to pay for them. The Education, Medical and Public Works Departments could expand their activities enormously and thereby go a long way in solving the problem; but provincial resources are utterly inadequate for the purpose and the new financial settlement being what it is, the prospect of any

appreciable development of these services in the near future is rather remote. The inadequacy of provincial resources is the result of a number of causes, but among them the most important is the extremely limited ability to pay of the vast majority of the tax payers. What is true of the capacity to pay for services which the educated classes can render through the State is also true of all other services that they can render. I have referred to the limits set to industrial development in India by the poverty of the agriculturists. Living on or below the minimum of subsistence they have no money to buy the very essentials of existence. That makes our home market very limited and that is the source of middle class unemployment. The people, which, of course, means the cultivators, have no surplus at all and the outstanding feature of the economic problem in this province, even more than in the whole country, is the imperative need of raising their economic resources, standard of life and purchasing power. The problem of the middle class unemployment is a part of this problem and cannot be solved without the solution of the latter.

Superficially this conclusion may appear somewhat wide of the mark, but it is when we understand that it is sound and takes us to the root of the matter that we will realise what is the core of the problem of middle class unemployment. That of course, means that we cannot attack the problem at its source without broadening the base of our economic life. Foundations of our economic life are weak and the stresses and strains of the whole structure are due to that cause. But if we want to strengthen the foundation, we have to deal with fundamental difficulties. In our Report we have referred to one of them, viz., the problem of population. There are others which could not be dealt with in our Report owing to their being outside our terms of reference and for the same reason I cannot deal with them. But their bearing on the problem is direct and far-reaching. For the removal of these difficulties it is necessary to adopt 'long term' policies. They take time to mature, but without them, we cannot go far or make much impression on the present depressing situation. Palliatives must be adopted in the interval for we cannot afford to wait until the ultimate solutions are found or produce their full effects; but the recognition of the fact that they are palliatives and have well-defined limitations is a great aid to a correct understanding of the essentials of the situation and adoption of the right policies.

GYAN CHAND.

The 24th September 1936.

ANNEXURE I.

The size of holdings and plots in districts of Bihar.

(Vide Survey and Settlement Reports.)

Districts.	Years of survey.	Population in thousands in years of survey.	Size of holdings in years of survey.	Size of plots in years of survey.	Population in 1931.	Percentage increase of population.	Computed size of (a) holdings, (b) plots in 1931.
1	2	3	4	5	6	7	8
NORTH BIHAR.							
Muzaffarpur	1892-99	1891 : 2,714	1.97	.44	2,941	8 per cent	1.82 .41
Darbhanga	1896-03	1901 : 2,913	2.00	.40	3,166	8 "	1.65 .87
Saran	1893-01	1901 : 2,410	(1) 1.82	(1) .85	2,486	6 "	1.83 .26
	1915-21	1921 : 2,340	(2) 1.41	(2) .28			
Champaran	1892-99	1901 : 1,790	(1) 5.19	(1) .74	2,146	20 "	4.33 .54
	1913-19	1911 : 1,908	(2) ...	(2) .60			
SOUTH BIHAR.							
Bhagalpur	1902-10	1901 : 2,089	5.00	.68	2,234	7 "	4.67 .64
South Monghyr	1905-12	1911 : 1,128	4.80	.73	2,287	5 "	4.57 .70
North "	1905-07	1911 : 1,042	2.90	.70			
							2.76 .87

Purnea	1901-08	1901 : 1,875	4.70	.81	2,187	17	..	4.02	.69
Patna	1901-04	1901 : 1,625	} 1.62	(1907-09) .87	1,846	15	..	1.41	.82
	1918-19	1911 : 1,609							
Gaya	1911-18	1911 : 2,161	3.60	.60	2,388	11	..	3.24	.45
Shahabad	1907-16	1911 : 1,868	2.90	...	1,998	7	..	2.71	...
CHOTA NAGPUR.									
Ranchi	1902-11	1901 : 1,188	(Average size of cultivated in g tenancies). 12.36	1.19	1,567	32	..	9.36	.90
Hazaribagh	1900-01	1901 : 1,278	12.69	.61	1,517	29	..	8.37	.68
Manbhum	1918-25	1921 : 1,549	5.02	.40	1,811	17	..	4.29	.84
Palamau	1918-20	1911 : 688	12.82	1.50 if jungles excluded only .60.	819	19	..	10.35	1.26

ANNEXURE II.

Relative position of education in the provinces in 1930-31.* (Bihar and Orissa figures relative to population being taken as 100.)

1931.	Bihar and Orissa.	Madras.	Bombay.	Bengal.	United Provinces.	Punjab.	Central Provinces.
1	2	3	4	5	6	7	8
M. A. ...	100	109	195	373	472	303	123
M. Sc. ...	100	Nil	1,081	1,869	1,850	562	344
B. A. (Hons. and Pass)	100	480	346	454	272	508	105
B. Sc. (Hons. and Pass).	100	Nil	1,720	1,274	1,016	297	270
I. A. and I. Sc. ...	100	420	417	397	253	475	224
Matriculation ...	100	948	571	468	243	924	142
Law ...	100	127	415	198	303	149	107
Medicine ...	100	258	406	366	91	151	Nil
Civil Engineering, Mining and Metal- lurgy.	100	38	508	50	200	Nil	Nil
Licentiate Engineering	100	Nil	Nil	180	146	Nil	Nil
Teaching ...	100	914	272	107	199	536	169
†Middle English and Vernacular.	100	172	295	345	57	193	700

*There is no material change in the relative position since 1931.

†These figures are for number of pupils and not for passes.

Note by Maulavi Shaikh Mhuhammad Shafi.

The Committee recognises the difficulties in ascertaining the comprehensive figures of unemployed in the province and the statistical method adopted for the purpose has "unavoidable gaps" which it has tried to fill in as best as possible. Further the total figures of employed includes the non-Biharis also. The suggestion for future running census has its own inherent disadvantages as the figures of a considerable number of Bihari youngmen who will pass the matriculation and other higher examinations from Calcutta and other universities where there may not be such statistics, will not be available. Again who can be certain that all the heads of the institutions will be equally energetic to keep themselves in touch with their ex-students even after a lapse of time or that the ex-students after their disappointments to secure posts will not relapse into the same state of mind as experienced by the Department of Industries or the officers of the last general census. In case of failure on the part of the heads of institutions to keep an up-to-date accurate register of their ex-students the serious danger is that the young men will have to suffer if the future recruitments to services will have to be made with reference to such registers. Even if the omission of the name of such ex-student be due to the teachers' neglect it may be possible to explain it away on the ground that the boy failed to report duly. Again such future running census will not be complete unless the figure of the present unemployment of the Biharis is known which the Committee has not been able to ascertain. By pointing out the above difficulties my object is not to oppose the recommendation of the Committee on this point but to show the necessity of making a regular census of the unemployed. This can be done by sending printed forms to both the thana officers and sub-inspectors of schools directing them to get them filled up by the head-man and the teachers of the *mahallahs* and villages respectively. These forms which will be filled up through two separate agencies (i.e. the police and the education department) will serve to check the inaccuracy of each other. This simple method will not cost much and greater co-operation on the part of the public is expected as the enquiry will be concentrated only on one burning question of unemployment which was not the case in the general census.

In calculating the figure of absorption of educated unemployed all posts of the value of Rs. 20 have been taken into account but in the industrial concerns such as Tata Iron Works a considerable number of such posts are held and are likely to be held by those who do only manual or semi-skilled manual works for which illiterates are recruited or even preferred due to the hard manual labour required which they are used to from the beginning of their life in their homes. Consequently the figures of the extent of absorption of the educated young men are not likely to be accurate as have been given in the Report on such basis.

In chapter III attempt has been made to give a precise interpretation of the term 'unemployment' and accordingly certain descriptions of the nature of unemployment have been given. In my view they do not clearly emphasise the type of unemployment of such persons who may not be "down and out" and "reduced to the verge of starvation" but may be leading a precarious life. It is also necessary to describe clearly and emphasise the cases of those who cannot get employment though they are in search of it and their family resources are so meagre that it cannot be said that they live "above the level of bare subsistence" and "refuse to accept posts which are not considered good enough", as a fairly large number of them accept posts of Rs. 20 or even less. The exclusion of educated Bihari boys from industrial concerns even from petty clerical posts specially in Bihar proper is not due to their reluctance to accept the poorly paid jobs to start with but to the fact that the old employees of other provinces manage to get their relations recruited. With the expansion of the openings in the industrial concerns of the province the tendency of our educated boys to avail themselves of such opportunities is bound to increase as is evident from the fact that every year increasingly larger number of applications for admission into the technical institutes are pouring in—much larger than accommodations can be found in those institutes. This Committee recognises the necessities for opening new technical institutes and increasing the accommodation in the existing ones. One of the main causes for literary pursuits is the absence of sufficient accommodation in the existing technical institutes. The establishment of institutes of the polytechnic type is undoubtedly likely to deflect the stream to industry. Tendency to take to cottage and small scale industries is bound to be accelerated if thorough organisation of selected industries is made on a wide scale either through Government departments or private agencies. The supply of standard quality of raw materials on easy terms, appointment of competent supervisors to instruct and advise the producers to turn out articles of standard kind and the provision of marketing facilities will assuredly encourage the hesitating educated young man to take to industry and will go a long way to solve the problem. Cottage and small-scale industries have very little chance of success unless it is organised on the above lines. Under the present conditions technical and cottage industries institutes are not calculated to be of full use without some sort of organisation on the lines of the above suggestions. In view of the importance of the matter it is necessary to lay as much stress as it is possible on these points. If our under-graduates and graduates flock to the already crowded legal profession it is because they have no other openings easily and without much risk available to them. Similar is the chief cause of the stream of migration of the sons of agriculturists to towns who send their sons to the high schools or colleges. Notoriously small holdings of the joint family cannot provide engagements for all its members and naturally some of the young members even at the risk of great drain on the family resources are sent to schools and colleges to better their conditions which when not materialised in the shape of employment is a source of great disappointment and privation. The desirable remedy is not to make the standard of examinations too high or

to create barriers for higher education but to open new fields and widen the existing ones. For this reason industrial survey of the province is not only desirable but necessary. The Committee under the terms of reference could not widen its scope of enquiry. In view of the nature of enquiry, the time at the disposal of the Committee and the materials available to it, I do not feel justified to concur with and hazard an authoritative pronouncement that industrial survey of the province "cannot be recommended". On the basis of the above ground I am of opinion that the possibility of the organisation of the chemical industries mentioned in the memorandum of Mr. M. Hussain, Assistant Professor of applied chemistry, may be investigated by the local Government. We use numerous kinds of things in this province and it will be profitable to make thorough investigation into the possibility of manufacturing them in our province both from the industrial and commercial point of view so that our young men may have wider avenues for their employment.

Proper financing for the success of the new industries—whether big or small, is another great factor which requires exhaustive investigation. Industrial banking arrangements have been a great boon to the manufacturers of other countries. Survey for new and existing industries and their proper financing in these days of unavailability of money in the market are problems which deserve investigation and solution.

In addition to the suggestions made by the Committee to bring our educated young men back to agriculture I would like to point out the necessity of the marketing facilities of their agricultural produce. It is a notorious fact that apart from their being heavily indebted they are in the hands of village *buntias* to whom they have to sell their produce at a low price in time of need. Some marketing organisation is needed in order to secure a fair price for their produce.

The 26th September 1936.

M. SHAFI.

APPENDIX I.

Summary of conclusions and recommendations.

CHAPTER III.—NATURE AND EXTENT OF UNEMPLOYMENT.

	PAGES.
1. Unemployment is of different categories, some of which are not included in the dictionary meaning of the term. Unemployment, in its widest sense, is considerable among the educated classes but it is mainly under the category of indirect and provisional unemployment where a person is unable to secure a post suited to his qualifications.	12—13
2. While serving as a kind of insurance against unemployment, the joint family system has developed serious disadvantages inasmuch as it tends to sap initiative and to weaken individual effort.	13—14
3. So far only a limited number of educated Biharis have secured employment in industry, even in posts for which they are qualified. This is to a large extent due to the fact that Bihari boys are reluctant to make a small beginning in industry like boys from other provinces. This attitude must change if they are to enter the technical line in larger numbers.	15
4. In the absence of complete data, it is not possible to ascertain definitely the extent of unemployment among the under-matriculいたes, but there is no doubt that there is a considerable number of them who swell the ranks of the unemployed. Industry could absorb a large number of these boys provided they are given the necessary training and they are willing to work as mechanics.	17—18
5. Allowing for the over-flow of candidates with higher qualifications, it is estimated that the number of matriculates in excess of the requirements of Government, local bodies, banks and private educational institutions would be about 500 each year. Most of this excess could be absorbed in the industries and railways of the province, but the majority of these posts are now held by outsiders.	18
6. The output of I.A.'s, I.Sc.'s, graduates, M.A.'s and M.Sc.'s, is slightly in excess of the number of posts requiring these qualifications, but the surplus is almost entirely absorbed in posts requiring lesser qualifications.	18—19
7. The supply of graduates in arts and science is not unreasonably in excess of the demand but an unduly large proportion study for the law with the result that the incidence of unemployment is shifted from the category of graduates to that of lawyers.	18—19

	PAGES.
8. There is less unemployment among science graduates than among arts graduates, because the former can compete both for posts open to arts graduates and for posts in industrial establishments requiring scientific qualifications.	19
9. There is an excess of civil engineers, but the number of mechanical and electrical engineers is inadequate for the needs of the industries in the province.	19
10. The number of salaried posts available to doctors is only about half the annual output. There is a good deal of under-employment among private practitioners because they tend to concentrate in large towns instead of spreading themselves over a larger area.	19
11. Among lawyers the vast majority are under-employed and their rate of increase is alarming even when allowance is made for the fact that many have other sources of income.	19
12. It is not possible to say whether boys from Sanskrit schools and <i>madrasas</i> are able to find employment.	19—20
13. On the whole, the unemployment problem is not so acute in Bihar as in some other provinces, but it threatens to become more serious than elsewhere if Bihari boys fail to secure their due share of the available posts in the industries of the province.	20

CHAPTER IV.—CAUSES OF UNEMPLOYMENT.

1. Several causes are conspiring to make unemployment among the educated classes a serious problem. One of the important causes of unemployment is progressive economic deterioration due to the increasing pressure of population on the soil.	21
2. The importation of machine-made goods to the countryside is gradually driving the village artisan from his hereditary occupation and thereby accentuating general unemployment or rather under-employment in rural areas.	21
3. With the progress of education, an increasing number of young men from rural areas are flocking to the towns although the scope for their employment is limited.	22
4. The province being mainly agricultural, the marked fall in the price of agricultural produce has affected all classes—lawyers, doctors, traders and even the village money-lender.	22
5. Government service and the stereotyped professions have an undue attraction for our boys.	23

	PAGES.
6. The system of education is also defective and is creating a maladjustment between supply and demand.	23
7. There is scope for the absorption of our educated young men in industry, but posts in industrial concerns are held mostly by outsiders. Bihari boys, who were late in the field, have some difficulty in securing a footing. It is necessary for our educated young men to overcome their prejudice against manual labour and to take to industrial employment seriously if they are to obtain their due share of employment in the industries of the province.	24—25

CHAPTER V.—GOVERNMENT AND QUASI-GOVERNMENT SERVICES.

1. Biharis are very poorly represented in the all-India services. In consultation with the Patna University, the local Government should consider the possibility of making arrangements for coaching candidates for these examinations.	26—27
2. Parents with necessary means should be encouraged to send their boys to the army, navy and air force.	27—28
3. Young men should be discouraged from pursuing their educational career with the sole object of entering Government service.	28—29
4. Recruitment to all provincial and subordinate services should, as far as possible, be made by competitive examinations, subject to communal adjustments.	29
5. For ministerial posts requiring Matriculation as the minimum qualification, the age limit for entrance should be reduced; shorthand and typewriting should be made additional subjects at the competitive examinations for selecting candidates for such posts.	29
6. The filing of general certificates or letters of recommendations from officials or the public by candidates for posts under Government or local bodies, should be definitely forbidden.	29—30
7. All officers of Government should be compelled to retire at the age of fifty-five, or even earlier if they have lost energy for active service, and this rule should not be relaxed except in the case of officers having specialised or expert knowledge.	30
8. Appointment of superannuated hands under special departments should be discouraged.	30
9. The facility with which domicile certificates are obtained has to some extent accentuated the unemployment	30—32

problem. The rules for the grant of such certificates should be more rigorously enforced. Candidates for a domicile certificate should be required to submit a detailed statement of the facts and circumstances on which they claim a domicile in the province. Where necessary, these should be verified and the main criterion should be that the claimant has shown by definite acts extending over a length of time that he has made Bihar his permanent home.

10. Recruitment to all clerical posts under local bodies should also be by competitive examinations. For other posts, selection should be made strictly on merit, subject only to communal adjustments. 33—34

11. Fifty-five should be the compulsory retiring age for all employees under local bodies. 34

12. An elementary training in civil engineering, corresponding to the Industrial Diploma course for mechanical engineers, should be given to some educated young men to qualify them for employment as road sarkars, jamadars, disinfectors and sanitary inspectors under local bodies. For sanitary inspectors matriculates should be selected. A trial should also be given to the appointment as vaccinators of boys who have passed the middle English and middle vernacular examinations. Matriculates or preferably I.Sc.'s should be appointed as vaccinating inspectors after a short course of training under the Public Health Department. 35

DEPARTMENTS UNDER THE GOVERNMENT OF INDIA.

13. The local Government should take steps to secure recognition of the civil engineering diploma of the Bihar College of Engineering for the posts of engineering supervisors and wireless operators under the Posts and Telegraphs Department. 36

14. The local Government should bring to the notice of the Government of India the necessity of advertising vacancies in the Audit Department of Bihar in the local gazette and newspapers, and of giving preference to local candidates in the matter of appointment. 36

15. Excepting the Bengal and North-Western Railway, a very small percentage of the posts under the railways falling within the province are held by Biharis. 37

16. A representation should be made by the local Government to the Railway Board that vacancies in all the subordinate services of the railways arising within the province should be filled up exclusively by local men, as is done in the Posts and Telegraphs Department, and that such vacancies should be advertised in the provincial papers. 37

CHAPTER VI.—THE PROFESSIONS.

VETERINARY SCIENCE.

	PAGES.
1. There is very little unemployment among the passed students of the Veterinary College for the reason that the number of boys seeking admission has adjusted itself to the small demand.	39
2. The Veterinary College is very expensive for the small number of students trained, and the contribution received from other provinces on account of their boys does not cover the full cost.	39
3. The possibility of veterinary surgeons being absorbed in independent private practice is very remote. A number of veterinary graduates may be permanently subsidised for private practice in the mofussil by reducing the number of veterinary assistant surgeons now appointed.	40
4. Government should consider the possibility of making some arrangement with other local Governments for the admission of our boys in their agricultural colleges in lieu of their students being admitted in our Veterinary College. Failing this arrangement, the possibility of combining an agricultural college with the Veterinary College should be examined.	41

MEDICINE.

5. About 30 per cent of the medical graduates and licentiates are unemployed or under-employed. While the towns are over-staffed with doctors, the rural areas are badly in need of medical aid.	43
6. Doctors should be encouraged to set up country practice and should be induced to reduce their fees to suit the pockets of the villagers.	44—45
7. The system of subsidising country doctors should be extended.	45
8. Steps should be taken to check free use of charitable hospitals by those who can afford to pay. The system of attaching paying wards to hospitals should be adopted more extensively.	45—46
9. Qualified <i>vaid</i> s and <i>hakims</i> should be encouraged to settle in the interior by being given small grants or subsidies from the district boards.	46
10. A number of our educated young men are practising homeopathy. It is desirable that before taking up such a practice they should be properly trained.	46

11. The question of training dentists and opticians at the Prince of Wales Medical College should be considered. 46—47

LAW.

12. About 40 per cent of the lawyers in the province are unable to earn even a pittance and only about 20 per cent are earning a decent income. 48
13. The number of lawyers passing out each year is more than double what the bar can properly absorb. 49
14. The number of passes in law examinations should be restricted either by raising the standard or by some other means. 50
15. With the abolition of the pleadership examination, the question of raising the general qualification for admission to the mukhtearship examination should be considered and the standard of this examination should be raised. 50
16. The separate examination for revenue agents should be abolished and the course for this examination should be combined with the mukhtearship examination. 50
17. The extent of unemployment in the legal profession should be given wide publicity. 50—51

OTHER PROFESSIONS.

18. There is scope for the employment of more educated young men as insurance agents. The Information Bureau should maintain touch with insurance companies and induce them to employ men of the province as agents. 51
19. There is an increasing prospect for men qualified in commerce and accountancy. 51
20. Very few Biharis are qualified in journalism. The leading newspapers of the province should consider the question of training a few intelligent young men in this work. 51—52
21. In *khasmahal* and wards estates, Government should recruit annually a few graduates and under-graduates for training in *zamindari* work. The bigger *zamindars* should also be encouraged to provide similar facilities. 52
22. The possibility of introducing village accounts and elementary survey as optional subjects in selected middle schools should be considered. 52
23. The landholders' associations should be asked to induce their members to employ young men who have received such training in *zamindari* work. 52

CHAPTER VII.—AGRICULTURE AND ITS SUBSIDIARY INDUSTRIES.

	PAGES.
1. The question of diverting some educated young men to agriculture or at least preventing their migration to towns is very important for an essentially agricultural province like Bihar.	53
2. Apart from other difficulties, such as low price of agricultural produce, etc., the average holding in Bihar is too small and scattered for economic cultivation. Government should, therefore, seriously consider the question of consolidation of holdings.	53
3. The possibilities of diverting our educated young men in towns to agriculture are very limited. But improved agriculture combined with subsidiary and cottage industries, and the provision of necessary vocational training in schools, can check the growing exodus of educated young men from rural areas.	54—55
4. The paucity of suitable lands limits the scope of a colonisation scheme in Bihar. Government should try the experiment in a small scale in Champaran and Purnea districts where comparatively good lands are reported to be available.	55—56
5. The lands available to the Co-operative Department, some of which are in compact blocks, may be settled with educated young men who have received training in the Government agricultural farms. The Co-operative Department should also try to consolidate the remaining scattered plots by private exchange.	55—56
6. Government should convene a conference consisting of representatives of the landholders' associations, experienced revenue officials and representatives of Agricultural and Co-operative departments to consider the steps to be taken to consolidate the holdings which have been surrendered or acquired during the period of depression.	56—57
7. Promising young boys, who are sons of agriculturists and have been educated in middle or high school in a rural area, may be given a course of training in practical agriculture in Government agricultural farms. Hostel accommodation on a modest scale should be provided at the farms for these boys who should also be granted suitable stipends.	57—58
8. District agricultural committees should be formed for selecting boys for agricultural training, and helping them to take settlement of compact holdings, where necessary.	58

	PAGES.
9. Vocational classes in agriculture on the lines of the Bikram school should be introduced in other middle and high schools situated in rural areas.	59
10. It is necessary to make village life more attractive for the educated young man. Rural reconstruction schemes should be carried on more extensively throughout the province.	60—62
11. Pusa should become the training centre for rural reconstruction work.	61

SUBSIDIARY INDUSTRIES CONNECTED WITH AGRICULTURE.

12. Fruit and vegetable gardening offers a limited scope for the whole-time employment of our educated young men, but as a subsidiary industry to agriculture it has distinct possibilities.	62—63
13. Canning and preservation of fruits as a cottage industry can find employment for a number of educated young men, but there is the difficulty that the consumer will be suspicious of the purity of food-stuff manufactured in small units. To remove this defect, men trained in this industry by the agricultural department should be encouraged to organise themselves on co-operative lines. This industry can best be carried on on a large scale in Bihar. Preparation of pickles, chutneys and similar condiments is a suitable subsidiary occupation for the agriculturist.	63—64
14. Poultry farming offers little scope as an independent industry, but in conjunction with agriculture, it can help to increase the income of the educated farmer.	64
15. Dairy farming is a useful subsidiary occupation for the small agriculturist, who can also interest himself in cattle-breeding. As a sole occupation, there is some scope for dairy farming on a moderate scale in the vicinity of large towns, provided there is effective legislation against adulteration.	64
16. Early steps should be taken to investigate the possibility of bee-keeping.	64—65
17. Eri-culture on a large scale is not paying, if hired labour has to be employed, but it has distinct possibilities as a cottage industry subsidiary to agriculture.	65—66
18. Pisciculture can provide profitable employment for some of our educated young men, who can take it up either as a subsidiary or a sole occupation.	66

	PAGES.
19. The scheme submitted by the Superintendent of Fisheries of training some educated young men in pisciculture deserves favourable consideration.	67—68
20. Seasonal factories in selected areas should be induced to manufacture ice in the off-season to help the development of pisciculture.	68
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CHAPTER VIII.—INDUSTRIES.	
1. Bihar, though mainly agricultural, has many natural advantages for industrial development. Her only deficiency is hydro-electric power, which however is compensated by rich deposits of coal.	69
2. Government should obtain expert opinion on the possibility of generating electric power by steam at convenient centres from which electricity can be carried by high tension distribution to the countryside. In the beginning an experiment in rural electrification may be made from the existing power stations at Patna and Bhagalpur.	69—70
3. There can be no lasting solution of the unemployment problem without industrial development, but this requires the coordinated effort of local Governments and the Government of India, as vital factors such as currency, tariff, railway freight, etc., are under the control of the latter.	70
4. There are more than 45,000 posts carrying a pay of Rs. 20 or more in the large industries of Bihar and Orissa, of which less than half are held by local men. Steps should be taken to secure adequate representation of our educated young men in the industries of the province.	71
IRON.	
5. There are 17,218 posts carrying a pay of Rs. 20 and above in the Tata Iron and Steel Company's Works at Jamshedpur, of which only about 33 per cent are held by men from Bihar and Orissa. Most of these men are holding only inferior posts, the representation of Biharis being very poor both in supervisory and in clerical posts.	72—74
6. Under the new system of recruitment introduced in 1932, by which only mechanical and electrical engineers are admitted as apprentices for the senior mechanical posts under this Company, the proportion of local men taken in has decreased from one-third to almost nothing.	74—76
7. To ensure better recruitment of Biharis to these senior supervisory posts, scholarships should be granted by the local	76—77

Government to promising boys wishing to study mechanical and electrical engineering and metallurgy in the Benares Hindu University and abroad.

8. Under the new scheme, candidates for the junior technical posts under the Company are recruited through their Technical Institute at Jamshedpur. In these posts Bihari boys have done better and have secured about one-third of the seats in the last five years. As the number of annual vacancies is more than the local Institute can turn out, the Company should be approached to fill the surplus vacancies from boys trained in the Government technical schools. 77—79

9. Steps should be taken to establish closer contact between the Employment Bureau of the Company and the Information Bureau attached to the Department of Industries with a view to secure better employment of local candidates, and the Company should also be requested to advertise their vacancies in the local papers. 79

10. Arrangement should be made for the practical training of some Industrial Diploma boys in the Iron and Steel Works to give them the necessary factory experience. 79

11. Stipends should be granted to a few selected chemists for practical training in these works so that they may be better qualified for future vacancies. 80

12. The representation of Biharis is very poor in the subsidiary industries at Jamshedpur which have over 5,000 posts carrying a pay of Rs. 20 and above. It should be the constant endeavour of the Director of Industries to secure employment for Biharis at Jamshedpur. 81—85

COPPER.

13. The recently established copper industry in Singhbhum has 715 posts carrying a pay of Rs. 20 or more per month, of which only about 27 per cent are held by local men mostly in subordinate positions. 85

14. For the posts of mining engineers and assayers, a diploma from the Indian School of Mines or a similar foreign qualification is required. The metallurgists and mechanical engineers are qualified from the Benares Hindu University. 86

15. For the junior mechanical posts, our Industrial Diploma is considered a suitable qualification. The Copper Corporation should be induced to give a trial to boys passing out of our technical schools instead of having a separate technical institute of their own, 86—87

COAL.

	PAGES.
16. There are about 3,600 posts carrying a pay of Rs. 20 and above in the Jharia coal mines, of which only about 40 per cent are held by men from Bihar and Orissa.	87
17. Owing to the continued depression in the coal trade, a number of retrenched personnel are on the waiting list in each colliery who have to be provided for before new hands are employed.	87
18. The difficulties facing the coal industry in the province should be carefully examined by the Central Bureau of Industrial Intelligence and Research.	87—88
19. There are over 254 managers and assistant managers and about 123 surveyors working in our coalfields. There is no unemployment among men qualified for these supervisory posts, and the demand for them is expected to increase with the introduction of more stringent safety measures in the Jharia coal mines.	88—89
20. The number of Bihar scholarships in the Indian School of Mines should be increased from 1 to 4.	88
21. The minimum qualification for the Bihar stipendiaries in the Evening Mining Classes should be raised from Matriculation to I. Sc., and the value of the stipend should be increased in consultation with the Mining Education Advisory Board.	88—89
22. A complete course in mine surveying should be introduced in the Evening Mining Classes.	89
23. The posts of sirdars and overmen can normally absorb a number of middle-passed boys, but there is no prospect of employment of new hands until there is an improvement in the industry. The position should, however, be reviewed when the new safety legislation comes into force.	89—90
24. Steps should be taken to give practical training in coal mines to a few Industrial Diploma boys every year, to qualify them for the posts of mechanics and electricians.	90
25. The Mines Board of Health should be approached to give preference to local doctors and compounders in the matter of future appointments.	90—91
MICA.	
26. There are about 1,675 posts in the mica mines carrying a pay of Rs. 20 and above, about half of which are held by outsiders. The proportion of local men engaged as managers, assistant managers, factory assistants and clerks is surprisingly small.	91—92

27. The poor representation of Biharis in this and other large industries of the province is due to the fact that the proprietors, who are mostly outsiders, brought their own men when the industries were started, and the latter in turn have brought their relations and friends. 92

28. A mica mining class should be established at a suitable centre for training managers, assistant managers and overmen for whom there is an increasing demand. 92—93

29. Some boys from our technical schools should be sent to the mica mines for their practical training with a view to their absorption in this industry. 93

30. The leading mica factories should be induced to take in some unemployed Bihari under-matriculantes as apprentice-sorters with a view to their promotion to more senior posts if found suitable. 94

31. The Information Bureau should help local men in securing clerical posts under the mica companies. 94

SUGAR.

32. There are 3,655 posts carrying a pay of Rs. 20 and above in the sugar factories of the province, of which roughly two-thirds are held by men from Bihar and Orissa. Most of the superior posts are held by men from other provinces who also hold a large share of the clerical posts. 94—96

33. No special arrangement for training managers is necessary. The qualification required for engineers is five years' apprenticeship in first rate engineering works in addition to the mechanical engineering degree. 96

34. The present arrangement of training two sugar chemists in the Science College and one sugar technologist in the Harcourt Butler Technological Institute every year is considered sufficient, but one or two scholarships should be granted for foreign training in sugar technology. 96—97

35. Selected young men, preferably with I. Sc. qualification, should be given two years' training as panmen in the larger factories. One or two stipends should also be granted by Government every year for the panmen's course in the Harcourt Bulter Technological Institute. 97

36. The present Industrial Diploma course is suitable for appointment as mechanics after the students have undergone a course of apprenticeship in sugar factories. 97

	PAGES.
37. The possibilities of manufacturing tiles and straw boards from bagasse and cattle food and road oil from molasses require investigation by Government.	97—98
38. All seasonal staff employed in sugar factories should be made permanent and engaged in the off-season in agricultural propaganda and distribution of seeds and manure.	98

OTHER LARGE INDUSTRIES.

39. There are signs of revival of the lac industry as a result of increased activities in electrical and ammunition industries.	99
40. The recent researches at the Lac Research Institute in pressure moulding of lac and preparation of varnish are expected to have far reaching effects on the industry by providing an independent market for lac in India.	99
41. A few stipends should be granted to selected science students for training in pressure moulding of lac and preparation of varnish and shoe-dressing at the Lac Research Institute.	99
42. There is very little opening for educated young men in shellac factories, but a number of such men could be employed by these factories as agents for buying stick lac. The leading factories should be induced to employ educated youngmen as purchasing agents.	99—100
43. The Agricultural Department should carry out experiments with new and improved varieties of tobacco in order to revive the tobacco industry of this province.	100
44. In the Sone Valley Portland Cement Company, the number of Biharis in the supervisory and engineering posts is very small and the proportion of Biharis in clerical posts is also poor. The Information Bureau should establish contact with this Company and endeavour to secure the admission of a larger number of qualified Biharis in its works.	101
45. The representation of Biharis is also poor in the Kumardhubi Engineering Works, Limited, partly on account of its proximity to Bengal. Since this Company trains its own men starting them at the bottom, the Information Bureau should try to induce the Company to accept as apprentices young under-matriculantes from Bihar who may be willing to make a small beginning.	102
46. Government should examine the possibility of arranging for the theoretical training of outside apprentices in the	103

Tirhut Technical Institute, as suggested by Messrs. Arthur Butler and Company, Limited, of Muzaffarpur which admits local apprentices for practical training in its works.

47. Arrangement should be made for the practical training in rice and oil mills of a few boys holding chargehand's or journeyman's certificates from our technical schools with a view to their future employment. 104

48. The hosiery and button-making industries have their possibilities and it remains for some enterprising capitalists to take them up. 104—105

49. Bihar has natural facilities for the manufacture of glass. If the recent survey of glass making materials in Bihar by the Industrial Research Bureau proves satisfactory, Government should foster the glass industry either by the establishment of a demonstration factory or by the grant of State aid. 105

50. Before any fresh attempt is made to start the match industry in Bihar, it is necessary that a careful survey should be made of the local consumption of matches and the suitability of local timber. 105—106

51. The prospect of starting a paper mill in Bihar is limited as most of the available raw materials have been leased out to paper mills outside the province. In renewing the leases granted by the Forest Department or in considering any fresh lease for a supplementary area, Government should consider the possibility of imposing a condition that a suitable number of Bihar apprentices will be taken in the paper mills obtaining their supplies from this province. 106

52. Some of our technically trained boys may take up the sheet-metal industry as a small subsidiary industry to the iron industry at Janshedpur. 106

CHAPTER IX.—COTTAGE INDUSTRIES.

1. Apart from supplementing the income of the agriculturists, selected cottage industries if properly organised can provide wholtime occupation for some of our educated young men who are unemployed. In the organisation of cottage industries the latter can play an important part. 107—108

2. If the Handloom Marketing Organisation recently started by Government be successful, there is possibility of the absorption of some educated young men trained in the Cottage Industries Institute as organisers or master weavers. 108—109

- | | PAGES. |
|---|---------|
| 3. There is scope for educated young men trained in the Wool Weaving Institute at Gaya to work as middlemen or to start blanket-weaving factories by engaging a number of <i>ganderies</i> . Government should consider the possibility of introducing a scheme for the improvement of Bihar wool. | 110 |
| 4. Boys trained in the Bhagalpur Silk Institute can run sericultural farms at a profit. In addition to rearing eri and mulberry silk, they should run a few looms for the manufacture of silk goods. | 110—111 |
| 5. Silk weaving by power looms worked in small units is eminently suited to the means and business capacity of our middle class boys, and some of those trained in the Bhagalpur Silk Institute can usefully take up this line. The progress of this industry in Bihar can be accelerated if it can be supplied with cheap electric power as in Mysore and Japan. | 111 |
| 6. The dyeing and printing industry can absorb a number of educated young men in other parts of the province as at Bhagalpur. The connected industry of dyeing and cleaning has also some prospect in large towns. | 111—112 |
| 7. The hosiery industry offers some scope for the employment of educated young men who have a little capital for the purchase of knitting machines and can produce a variety of articles. | 112 |
| 8. There is considerable scope for the tanning industry in Bihar. Some of the boys trained in the Bengal Tanning Institute should be encouraged to open half-tanned leather factories either with their own capital or with State aid. Private enterprise should also be encouraged for the establishment of a large scale tannery in this province. Curing and tanning demonstration parties should be introduced with a view to improve the quality and to reduce wastage of leather cured and tanned by dealers and <i>chamars</i> . | 112—113 |
| 9. Shoe-making and manufacture of leather goods provide some scope for the employment of educated young men, who can be trained in this industry in the Tirhut Technical Institute and the Ranchi Technical School. Demonstration parties should be introduced for improving the standard of work of the <i>mochis</i> , who could be employed in small factories started by educated young men trained in this line. | 113 |
| 10. Bihar is rich in raw materials necessary for the glazed pottery industry. The Department of Industries should help a few educated young men with the necessary capital to take up this line. | 114 |

	PAGES.
11. Cane-work and basketry can yield a fair profit to some educated young men who organise this industry in a small scale.	114
12. Making of celluloid toys should be taught in the Cottage Industries Institute. Combined with some other small industry, toy-making can provide some scope for the employment of educated young men.	114
13. There is room for the development of brass and bell-metal industry in this province. Facilities should be provided in this province for the training of young men in this industry.	114—115
14. Selected boys from technical schools should be granted stipends for higher training in wood-work and cabinet-making.	115
15. The cutlery industry has limited scope in Bihar in view of her scattered markets. There is, however, no reason why it should not be successful at central places provided improved finish and designs are introduced.	116
16. If necessary raw materials be available, umbrella-making can be introduced in the cane and basketry section of the Cottage Industries Institute.	116
17. There is scope for tailoring in large towns, and boys trained in this line have a fair prospect.	116—117
18. There is scope for the manufacture on a cottage or small scale of selected chemical products like soap, hair oil, etc., of which there is a local demand and for which most of the raw materials are available in Bihar.	117—118
19. The industrial chemistry section under the Department of Industries, for training boys in the manufacture of soap and other selected chemical products, should be expanded.	118
20. The present association of the Science College with the Department of Industries should be maintained and developed. Chemistry of oils, fats and sugar should continue to be taught at the Science College, for which a proper staff should be appointed, and the Science College should also, if possible, provide necessary accommodation for the expansion of the classes in small chemical industries.	118
21. Promising boys should be granted stipends for training in industrial chemistry and chemical engineering at the Benares Hindu University or at any other suitable institution outside the province. If the employment of these men proves that they are in great demand, the question of introducing a degree course in applied chemistry may be considered.	119

22. The preparation of bark dyes and the celluloid industry can be profitably taken up by some of our educated young men.

119

CHAPTER X.—TECHNICAL EDUCATION.

1. The number of civil engineers turned out from the Bihar College of Engineering is much in excess of the demand. It is, therefore, necessary to find other sources of employment for our civil engineers and to restrict the supply.

120

2. The senior posts in the Public Works Department should be filled up by ladder promotion whenever possible, the new hands being recruited in the junior-most grades for which sufficient qualified local candidates are available. The degree should be prescribed as the minimum qualification even for overseers, and there should be only one distinct rank of subordinates for those holding the subordinate civil engineering diploma.

120—121

3. The present arrangement of granting a sub-overseer's certificate at the end of the second year of the subordinate civil engineering course should be discontinued.

121

4. The subordinate civil engineering classes should be removed to the technical school recommended for Bhagalpur (vide recommendation no. 10 below), which should also have the simpler course suggested previously for sanitary inspectors, road sarkars, etc., (vide recommendation no. 12, Chapter V).

121—122

5. The Local Self-Government Act should prescribe a minimum limit for expenditure on engineering establishment. The rules regarding appointment of engineers by district boards should be amended so as to favour the appointment of local men.

122

6. Government should prescribe the number, qualification and pay of the engineering staff to be maintained by each municipality after duly considering its income and the amount of work involved. The Municipal Act should, if necessary, be amended for this purpose.

122—123

7. To encourage the growth of an independent engineering profession and to mitigate unemployment among engineers, the local Government should lay down: as in Madras, that for all works under Government and local bodies above a certain figure, preference should be given, other things being equal, to those contractors who are themselves qualified engineers or who undertake to employ qualified men. Unemployed engineers, who do not possess sufficient capital, should be

123

encouraged to form themselves into associations and to pool their capital for securing contract business.

8. For want of qualified local men, most of the posts requiring a degree or senior diploma in mechanical and electrical engineering are held by men of other provinces. A degree course in mechanical and electrical engineering should be introduced in the Bihar College of Engineering. If it is not possible to obtain recognition from the Patna University of the degree course at once, the College should begin with a senior diploma course to be converted into a degree course at the earliest opportunity. Pending the introduction of such a course in the Bihar College of Engineering, stipends should be granted by the local Government for the study of this subject in the Benares Hindu University. 123—124

9. The all-round training which is given in the Industrial Diploma classes is considered particularly suitable for the needs of the province. Arrangements should be made to give factory training to these students in the different industries of the province for a period of one year after completion of their school course. For the benefit of students who may wish to set up independent workshops, facilities should be provided in the technical schools for practical training in selected subjects such as electroplating, sheet-metal work, aluminium spinning and casting, cutlery, etc. 124—125

10. A technical school with the Industrial Diploma course should be established immediately at Bhagalpur. The present artisan classes in the Hazaribagh Reformatory School should be converted into Industrial Diploma classes. The question of introducing a regular Industrial Diploma course in the Dehri canal workshop should also be considered. 125

11. The Bengal apprenticeship scheme is not suitable for Bihar. Intimate contact between the Information Bureau and the industries of the province should enable Bihari boys to secure the necessary practical training and to find employment in factories and mines. 126

12. The Bengal Unemployment Relief Scheme of training educated young men in selected cottage industries by means of peripatetic demonstration parties may not be suitable for Bihar owing to the difficulties of marketing. Demonstration parties are useful in training workers in indigenous industries and in introducing simple industries capable of general adoption. In Bihar, where educated young men are required to organise labour or to deal with an industry with a limited local market and have to be helped in setting up their business, a thorough training in a central institute is considered more suitable. 126—128

13. To meet the demand for certified wiremen, Government should make early arrangements for the grant of certificates of competency as required under the Indian Electricity Rules, 1922, or consider the desirability of partially exempting certain classes of factories from the operation of the rule as in Bengal. 128
14. Government should make rules under section 29 of the Indian Boilers Act, 1923, requiring boilers to be in charge of persons holding certificates of competency and prescribing the conditions on which such certificates may be granted. 128—129
15. A single institution for teaching cottage industries is quite insufficient to meet the requirements of the province. Another cottage industries institute should be established at Pusa, where the lands and buildings vacated by the Imperial Council of Agricultural Research are available for the use of the local Government. 129
16. A few more selected cottage industries, such as brass and bell-metal work, glass silvering, celluloid work, etc., should be taught in these institutes and the possibility of introducing umbrella-making and the manufacture of pith hats should be considered. 129—130
17. Selected art industries should be included in a separate section of the Cottage Industries Institute at Gulzarbagh with the necessary staff qualified to teach industrial art. 130
18. The Bhagalpur Silk Institute should be expanded. The two courses in ericulture and sericulture, which are now separate, should be combined, and boys trained in this section should be given facility for learning weaving. Similarly, boys trained in the weaving section should be given facility to learn dyeing and printing, if they so desire. 130
19. Some matriculates should be admitted to the compositors' class at the Government Press, Gulzarbagh. These boys should be given training in the other sections also so that they may be qualified to hold supervisory posts in future. 131
20. The experience of the half-time weaving school at Bihar Sharif, where boys are given sufficient training in weaving side by side with general education up to the middle English standard, points to a system of education which may be more widely adopted in the province in respect of this and other industries including agriculture. Half-time technical schools should be established in selected centres for teaching the prominent industries of those areas. Similarly, half-time agricultural schools should be established in important agricultural areas. 131—132

21. There is some scope for small industrial schools teaching selected handicrafts, especially where there is an indigenous cottage industry. Private enterprise in this direction deserves encouragement by means of suitable grants-in-aid from Government. District boards, however, should concentrate on half-time vocational middle schools instead of frittering their energies on small industrial schools. 133
22. Greater facility should be provided for training in science, pure and applied. Provision should be made as early as possible for teaching Botany and Zoology in the Science College at Patna. 133
23. The State technical scholarships for foreign training should be restored, and scholarships and stipends should be granted more liberally for training in selected technological subjects for which no facilities exist in this province. 133—134
24. Boys after they have reached the higher classes of high English schools develop a distaste for manual labour, but not so if they are diverted to the practical line at the middle vernacular or middle English stage. 134
25. Necessary facilities should be provided in all Zilla schools for the teaching of science, mechanics and manual training. 134
26. In order to prepare boys for technical education and to give them a bias for manual work, vocational classes should be made compulsory in all middle and high schools. 134

CHAPTER XI.—MISCELLANEOUS.

1. An unemployment census is not recommended as this would involve considerable difficulty and expense and would lose its value after a very short time. In place of such a census, all colleges and high schools, technical and industrial institutions and half-time vocational schools should maintain detailed occupation registers of passed students and submit annual reports, from which the Information Bureau should compile an annual statement for the information of Government and the public. 135—136
2. Some selected educationist should be trained in Europe in industrial psychology and attached to the staff of the Director of Public Instruction. He should keep in touch with local industries, and advise parents and headmasters of schools on the suitability of careers for boys of school-leaving age. 136—137

3. The head masters should keep in touch with the Government Information Bureau and give necessary guidance to boys in choosing their vocation. 137
4. The Information Bureau should be made permanent and its scope should be enlarged by the inclusion of all posts in industries, including those requiring general qualifications. The Bureau should also register the names of candidates trained in agriculture and *zamindari* work. In dealing with non-technical posts in industries, the Bureau should co-operate with the heads of schools and colleges instead of maintaining a separate and complete register of candidates with general qualifications. 137—138
5. All vacancies in Government departments should be communicated to the Information Bureau so that they may be brought to the notice of suitably qualified candidates through educational institutions, if necessary. 138
6. The Information Bureau should advise students and guardians on the prospects in different industries and publish articles and annual reports for the information of the public. 138—139
7. The Information Bureau should be self-contained and should be placed in charge of a whole-time officer under the Department of Industries. 139
8. A detailed industrial survey of the province may be postponed till the possibilities of the industries which are known to have definite chance of success, such as glass, pottery, leather, paper, soap, sheet-metal, lac plastics, etc., have been sufficiently exploited. In the meantime, the Department of Industries should, with the help of the circle officers and selected students of economics, prepare "District books" giving a general survey of the industries of the district with full particulars regarding the supply of raw materials, skilled labour and the import, export and consumption of various manufactured commodities. 139—140
9. More liberal financial assistance should be granted by Government for the development of industries. 140—141
10. (a) In order to enable the Board of Industries to carry out a sustained scheme, a special fund for State aid should be created and placed at the disposal of the Board. 141—142
- (b) The hire-purchase system works fairly satisfactorily so far as the smaller industries are concerned, but the State Aid to Industries Act should be amended to provide for collateral security as a safeguard against loss due to premature termination of hire-purchase agreement.

(c) For developing the larger industries, Government should themselves start demonstration or pioneer factories with the help of experts.

(d) State aid should be granted liberally to finance educated young men in setting up cottage and small industries and in organising the manufacture and marketing of the products of cottage workers. For this purpose, the Act and the Rules should be amended so as to authorise the acceptance of personal security of a third party.

(e) The interest on loans under the State Aid to Industries Act should be as low as possible, particularly in respect of cottage and small industries.

(f) There should be a larger and more comprehensive staff under the Department of Industries; so that proper assistance may be given to industrialists in need of advice.

(g) Appropriate action should be taken by Government to protect nascent industries from unfair competition.

APPENDIX II.

[Referred to in paragraph 1, page 1.]

No. $\frac{175\text{-Com.R.}}{XL-11}$.

GOVERNMENT OF BIHAR AND ORISSA.

REVENUE DEPARTMENT.

RESOLUTION.

Ranchi, the 22nd July 1935.

At the meeting of the Bihar and Orissa Legislative Council held on the 20th February 1935, Maulavi Shaikh Muhammad Shafi moved a resolution recommending the appointment of a committee of officials and non-officials to devise ways and means to relieve unemployment in this province especially amongst the educated classes. After discussion the Hon'ble Mr. Nirsu Narayan Sinha, Member in charge of the Commerce Department, expressed his willingness to accept the recommendation and the resolution was carried.

2. In pursuance of that resolution the Government of Bihar and Orissa are pleased to appoint a committee to examine and report on the nature and extent of unemployment among the educated classes, to investigate the possibilities of diverting more educated young men to industry and to make recommendations for reducing the volume of middle class unemployment ; in particular to examine :—

- (a) the extent to which employment can be found in connection with the industries of Bihar and Orissa for the educated young men of the province;
- (b) the causes which operate against the admission of educated young men in the industries and the measures necessary to overcome their difficulties in securing employment ;
- (c) the technical and other qualifications required for industrial employment and the extent to which facilities are available for acquiring these qualifications ;
- (d) whether posts in the industrial system of the province for which men from this province are fitted are in fact being filled to any considerable extent by men from other provinces, and if so, for what reasons ;
- (e) the nature and scope of the training provided in the Bihar College of Engineering and the technical and industrial institutes of the province, the extent to which these institutions qualify their students for industrial employment and whether modifications are desirable ;

and to make recommendations.

The following gentlemen will form the Committee:—

- (1) Mr. S. Lall, I.C.S., Secretary to the Government of Bihar and Orissa, Education Department—*Chairman*,
- (2) Maulavi Shaikh Muhammad Shafi, M.L.C.,
- (3) Khan Bahadur Saghir-ul-Huqq, M.L.C.,
- (4) Rai Bahadur Mihir Nath Ray,
- (5) Rai Bahadur Lakshmidhar Mahanti, M.L.C.,
- (6) Dr. Gyan Chand, Professor of Economics, Patna College,
- (7) Babu Chandreshvar Prasad Narayan Sinha, C.I.E., M.L.C.,
- (8) Rai Bahadur Shyamnandan Sahay, M.L.C.,
- (9) Mr. L. D. Coueslant, Principal, Bihar College of Engineering,
- (10) Professor A. S. Khan, Chemical Adviser to the Director of Industries, Bihar and Orissa,
- (11) Mr. S. M. Dhar, I.C.S., Director of Industries, Bihar and Orissa—*Member and Secretary*.

3. The Committee is authorized to form one or more sub-committees and depute them to important industrial centres in the province to collect information. If necessary, persons with special local knowledge may be co-opted to the sub-committees.

4. The non-official members of the committee or sub-committees will draw travelling allowance at first class rates and their travelling allowance bills will be countersigned by the Director of Industries, Bihar and Orissa.

5. The charge will be debited to the head "47-Miscellaneous—Special Commission of Enquiry—Reserved" and provision of funds in the current year's budget will be made later on.

APPENDIX III(A).

[Referred to in paragraph 5, page 3.]

Speech delivered by the Hon'ble the Finance Member.

MR. PRESIDENT AND MEMBERS OF THE UNEMPLOYMENT COMMITTEE,

It is my pleasant duty to address you at a time when you are about to take upon yourselves the discharge of your important duties as members of the Bihar and Orissa Unemployment Committee. The problem which you have been asked to consider is one of the most difficult problems confronting us in this as well as other provinces of India. It is not a new problem, nor is it special to India. A reference to the proceedings of the International Labour Conference will show that it is one which is baffling the best brains in almost all parts of the world. In India, however, it has a special aspect. It is among the educated middle classes that unemployment is most severely felt. The middle classes are regarded as the backbone of the population in all progressive countries. Enforced idleness among them not only involves waste of good material but also creates a disruptive tendency which is so clearly evident in Bengal.

2. You are perhaps aware that the appointment of this Committee is the fulfilment of an undertaking given by me on behalf of Government in the last session of the Council on a resolution moved by Maulavi Shaikh Muhammad Shafi, who, I am glad to say, is a member. When this resolution was debated in the Council I made it quite clear that the problem was so vast that the appointment of a committee to examine the question of unemployment in all its bearings would not lead to any useful result. I emphasized then the desirability of limiting the scope of the enquiry to specific points and suggestions, the investigation of which would be likely to bear fruit. You will find, therefore, that in your terms of reference you have been given a clear indication of the lines on which Government consider that your enquiry should proceed.

3. A criticism which has appeared in the press is that your terms of reference have been so circumscribed that it would not be possible for you to make any real contribution towards the solution of the unemployment problem. I disagree entirely from this view. We have the experience of Bengal, Madras and some other provinces where unemployment committees have been set up with wide and general terms of reference. Years have elapsed since the reports of these committees were published and yet very little has been achieved. It is not my intention to criticise either the work of these committees or the policy of the local Governments which created them, but I do wish to emphasize the point which I have all along maintained and that is that it would be impracticable to expect a single committee to deal with each and every aspect of the problem of unemployment. I also believe that if you proceed on the lines which are indicated in your terms of reference there is much useful work which you can do and your recommendations are likely to have a far-reaching effect in

shaping the future policy of Government in certain directions. I would, therefore, request you not to allow yourselves to be misled into thinking that your task is less important or less arduous because your terms of reference are not as comprehensive as they might have been.

4. I have no doubt that many of you will feel that it is impossible in India to consider the problem of unemployment independently of the problem of educational reconstruction because in India, as I have already stated, the problem of unemployment is mainly among the educated classes. I agree entirely that the question of educational reconstruction is of vital importance, but I would remind you, gentlemen, that this question is being dealt with separately and in collaboration with the universities. It has been discussed at the Universities Conference and the Government of India have now taken up the matter with local Governments. The Government of India have also decided to revive the Central Education Advisory Board which will no doubt also consider this question. We may, therefore, expect a thorough examination of our educational system in the near future by experts from all parts of India and in the circumstances I am sure you will agree that the question of educational reconstruction was rightly excluded from the terms of reference of your Committee.

5. I wish next to emphasize a point to which I attach great importance. You come from different spheres of experience and it is only natural to expect that individual members will have different angles of vision. The Committee as a whole should derive the maximum benefit from the richness and variety of experience of its individual members, but I would request you to spare no effort in blending your individual outlook with the outlook of your colleagues. Government will look forward to receive the collective views of the Committee and I would here express the hope that the expression of your collective views will not be unduly blurred by the addition of individual minutes of dissent which will leave Government in uncertainty and doubt as to the policy which should be followed on your recommendations.

6. Another point which I would emphasize to you, gentlemen, is that in the pursuit of the ideal you should not ignore the practical. It is easy to make a series of recommendations which will involve the expenditure of large sums of money and to justify these recommendations by what is being done in other countries. But you will please also bear in mind the revenues of this province and of the countries from which you may draw your inspiration. As Finance Member it has often been my painful duty to reject schemes which I know are inherently sound but for which there is no money. Schemes which are prepared regardless of financial considerations are hardly worth the time and trouble which is involved in their preparation. I must not be understood to mean that you should not exercise your discretion in suggesting schemes involving fresh expenditure, but I do suggest that you should pay due regard to practical considerations.

7. I do not wish, gentlemen, to detain you any longer. I will close my speech by wishing you Godspeed and good luck in your labours.

NIRSU NARAYAN SINHA.

APPENDIX III(B).

[Referred to in paragraph 5, page 3]

Speech delivered by the Hon'ble Minister for Education.

GENTLEMEN,

I offer you my most cordial welcome to your duty upon which you are about to enter for the purpose of investigating the possibilities of relieving unemployment in this province. The Government were first opposed to appointment of any committee as suggested by some members of the Legislative Council not because of any want of sympathy on the part of the former but because of their belief, in view of the magnitude and complexities of the problem, that a committee of a few officials and non-officials who have other pressing pre-occupations will not be able, beyond raising false hopes, to suggest any practicable scheme which, if adopted, would solve the problem of unemployment particularly affecting the educated people of the middle class. In deference to the wishes of some councillors and the public the Government, however, agreed to form a committee in the hope that its enquiry and recommendations may help the Government in their efforts to solve the problem of unemployment even partially, if possible. The personnel of the Committee which I have the pleasure of addressing to-day is one which will inspire confidence in the public, though I am conscious of the possibilities of there being always some critics who can never be satisfied with any set of persons selected by the Government though neither the critics nor anybody else can suggest a personnel which will satisfy all people. We all wish that earnest efforts should be made to explore all the avenues and possibilities for increasing the opportunities for employment and reducing the extent of unemployment to a minimum. The task of the Committee is as interesting as it is difficult. In fact the problem of unemployment has proved baffling even in more advanced and resourceful countries where, in spite of the increase of commerce and trade, the improvements in agriculture and the development of various industries, there is a large standing army of the unemployed belonging both to the masses and the classes. The unemployment in our country, particularly amongst the educated classes, is growing rapidly and might very soon assume alarming proportion. Our distress caused by the unemployment and the difficulties of solving it are greater than those of any other country where the population is not increasing as rapidly as in India. Even the increased rate of employment in the Government or private service or any trade or profession cannot, it is apprehended, keep pace with the rate with which the number of matriculates, under-graduates and graduates is increasing. It may be said that a great increase of population with a rapidly increasing number of degree or diploma holders is bound to be accompanied by a proportionate increase in the number of unemployed who are fit either for a very limited kind of employment or are unwilling to take up any work involving risk and demanding the spirit of enterprise. We should not, however, be dismayed by the difficulties, though they are enormous, and should in a spirit of optimism make a serious effort to deal with the question of unemployment in our province. The problem of unemployment is very vast and cannot be tackled as

effectively as we may desire to do, because it would involve an enquiry and reform in our educational as well as social systems. It is obviously impossible for this Committee to deal with the question comprehensively and therefore the Government have indicated the special lines on which the enquiry can be conducted with reasonable hope of some tangible and useful results. This limitation should be regarded rather as an advantage than a disadvantage. Other aspects of the problem will not be ignored and are receiving the attention of both the local Government and the Government of India. The systems of education prevailing in various parts of India have been subjected in certain quarters to close examinations which have revealed the necessity for a more thorough review in order to bring about a reform. The question of educational reconstruction has been taken up by the Government of India in consultation with universities, and the Central Advisory Board of Education recently constituted will, it is hoped, give useful information and advice which will be helpful to provincial Governments in improving the fitness of the young men for employment and increasing the opportunities for it.

The feeling which is gaining ground in India at present is that a section of the growing population of the country should be diverted in larger numbers to industry giving them vocational and technical training. It will be for this Committee to see how young men of this province can find employment in industry. We are in this respect rather fortunate in having two very important industries, namely, the Steel Industry at Jamshedpur and the Coal Industry of Hazaribagh and Manbhum. We have also lac and mica as special produce of the province. In addition, we rank second in importance so far as the newly established sugar industry of India is concerned. There is, therefore, some scope for the employment of our young men in the industries of the province. In order to increase the facilities and chances of larger number of Biharis being employed in the industries of the province the Government of Bihar and Orissa have established a Bureau of Information as an experimental measure under the Director of Industries. The Bureau has more than justified its existence by bringing about an employment of a number of young men within a short period since it was established.

The problem which the Committee has been asked to consider concerns various departments which are administered by me as the Minister in charge. I am, therefore, directly and intensely interested in the work of the Committee of which the Chairman is Mr. Lall, who has intimate knowledge of the industries of the province by virtue of his having been for some time the Director of Industries, and of which the Secretary is Mr. Dhar, whose keenness in the work of his department as Director of Industries fills us with a hope of a promising future. I, therefore, hope and pray that the Committee will be able with its devoted members to come to useful conclusions after reviewing dispassionately as practical men the whole question of unemployment, its causes and remedies which will remove, or, at least, relieve the distress felt specially by the educated young men of our province.

SYED ABDUL AZIZ.

The 7th September 1935.

APPENDIX IV (A).

[Referred to in paragraph 18, page 8.]

No. $\frac{15765-16265}{16665-16616}$ U. C., dated Patna, the $\frac{22nd\ October\ 1935}{1st\ November\ 1935}$.

From—S. M. DHAR, Esq., I.C.S., Secretary, Unemployment Committee and Director of Industries, Bihar and Orissa,

To—The Manager, all factories, mines and engineering works in Bihar and Orissa.

IN pursuance of a resolution of the Bihar and Orissa Legislative Council, Government have been pleased to appoint a Committee consisting of officials and non-officials to examine and report on the extent of unemployment among the educated classes in the province of Bihar and Orissa and to suggest remedial measures. The terms of reference are given in the enclosed copy of Government Resolution no. 175-Com. R.—XL—11, dated the 22nd July 1935. It is hoped that the Committee will be able to suggest measures which will prove helpful to all industrial concerns, by providing a larger number of men with proper technical or other qualification and experience, from among whom the industries will be able to recruit efficient hands in future.

In soliciting your help and co-operation in the above investigation, I would request you to be so good as to favour me with information on the various technical and other posts in your $\frac{\text{factory}}{\text{mine}}$ carrying a pay of Rs. 20 or more, the qualification and domicile of the existing incumbents, together with your valued opinion if the students passing out of our educational and technical institutions are qualified for the posts and, if not, what changes you would recommend in their education or training to make them employable. A note showing the nature of training available in the various Government technical and industrial institutions in this province is appended for your information. For the sake of facility, a tabular form is also enclosed, and I shall be extremely obliged if such information and advice as you are able to furnish is supplied in that form. In this connection, I may assure you that any materials that you may be pleased to furnish will be entirely for the information of the Committee and will be treated as strictly confidential.

After receipt of the replies from the various industrial concerns, the Committee hope to be able to tour in the interior and elucidate some of the points during their local visits.

Thanking you for the trouble and expecting an early reply.

TABLE

Showing information on the various posts in the factory mine carrying a salary of Rs. 20 or more.

1	2	3	4	5	6
Designation of post (in respect of big concerns total number of posts in each class also to be recorded).	Pay.	Qualification or training required.	Domicile of present incumbent, with period of service.	Number of natives of the province in each class of post.	<p>REMARKS.—If any passed student of an educational or technical institution in Bihar and Orissa is employed in the post. If so, the name of the institution in which he was educated or trained. If students passing out of any of our educational or technical institutions are qualified to fill the post, and, if not, what changes in their education or training are considered necessary to make them employable.</p>

Brief note showing the courses of training available in the Government technical and industrial institutions in Bihar and Orissa.

1. *Civil Engineering Degree Course.*—This is available at the Bihar College of Engineering, Patna. This course is recognised by the Patna University, by the Institution of Engineers (India), and for appointments to all-India services under the Public Works Department and Railways. The minimum admission qualification is I.Sc. with Mathematics, Physics and Chemistry. The full course is of five years' duration, viz., four years in the college and one year on practical training under the Public Works Department or a recognised engineering firm. Passed students are eligible for the post of assistant engineers (civil) under the Public Works Department, district boards and municipalities.

2. *Civil Engineering Subordinate Course.*—This is available at the Bihar College of Engineering, Patna, and the Orissa School of Engineering, Cuttack. The minimum qualification for admission is Matriculation. The course is of four years' duration, viz., three years in the school and one year on practical training under the Public Works Department or a recognised engineering firm. Passed students are eligible for appointment as overseers and sub-overseers under Public Works Department, district boards and municipalities.

3. *Industrial Diploma Course.*—This course is available in the Bihar College of Engineering at Patna, the Orissa School of Engineering at Cuttack, the Ranchi Technical School at Ranchi and the Tirhut Technical Institute at Muzaffarpur. The full course is of five years including theory and practice. The following certificates are awarded :—

- (a) An Industrial or Foreman Mechanic's Diploma to those who complete the full theoretical course and satisfy the examiners both in theory and craftsmanship test at the end of the course.
- (b) A Charge-hand's Certificate to those who complete the first three years' theoretical course and satisfy the craftsmanship test at the end of five years.
- (c) A Journeyman's Certificate to those who only satisfy the Craftsmanship test.

Training in the following departments is available :—

- (1) Carpenters' shop, (2) Pattern-makers' shop, (3) Moulders' shop, (4) Smithy, (5) Fitting shop, (6) Machine shop, (7) Garage, (8) Power house, (9) Painters' shop, (10) Electrical fitters' shop, (11) Electrical wiremen's shop.

During the first two years a student is required to undergo a general training in all the important departments, after which he specialises in one or two selected subjects. The minimum qualification for admission

is middle vernacular standard but admission is made by competitive examination. Students are also taught basic English and accounts.

Similar training as above but of a lower standard is given in the Dehri Industrial Class at Dehri and in the Balasore Technical School at Balasore.

4. *Handicrafts training.*—Practical training in handloom weaving, dyeing, calico printing, knitting, carpet-weaving, durrie-making, toy-making and painting is offered at the Cottage Industries Institute, Gulzarbagh ; in blanket-weaving and dyeing at the Wool Weaving Institute, Gaya ; in silk weaving and dyeing, eri-rearing and spinning at the Silk Institute, Bhagalpur ; in book-binding, composing and letter press printing at the technical class attached to the Government Press ; in weaving, carpentry and smithy at the Phulbani Industrial School, and in leather craftsmanship at the Ranchi Technical School and the Tirhat Technical Institute.

The course of training ranges from one to two years. Sons of artisans are preferably admitted to these courses.

5. A course of training in mining and mine surveying of three years' duration is offered at the Evening Mining Classes at Sijua and Jharia (coalfields). The object is solely to train students for the post of Colliery Managers and the syllabus is so arranged that those who have read up to the Matriculation class can, while working by day in the mines, acquire sufficient theoretical knowledge to pass the Second Class Colliery Managers' Certificate examination.

APPENDIX IV(B).

[Referred to in paragraph 13, page 8.]

No. 19153-19219-U.C., dated Patna, the 4th December 1935.

From— S. M. DHAR, Esq., I.C.S., Director of Industries and Secretary, Unemployment Committee, Bihar and Orissa,

To—Persons, associations and bodies having special knowledge or interest in the problem of unemployment.

I have the honour to state that the Government of Bihar and Orissa have appointed a committee consisting of officials and non-officials to examine and report on the extent of unemployment among the educated classes in Bihar and Orissa and to suggest remedial measures. The terms of reference are shown in the enclosed Government Resolution no. 175-Com.-R—XL-11, dated the 22nd July 1935.

2. In soliciting your help and co-operation in the above investigation, I would request you to be so good as to favour me with your valued opinion and such information as you are able to furnish on the following points :—

(1) What, in your view, is the nature and extent of unemployment among the educated classes in Bihar and Orissa? What facts and figures can you quote in support of your statement?

(2) To what extent, in your opinion, is the volume of unemployment increasing among the educated classes and what are the factors contributing to this increase?

(3) Can you suggest any general measures to counteract the increase in unemployment among educated youngmen?

(4) (a) What are the employments in which, in your opinion, there is a large excess of supply of qualified men over the demand, and why?

(b) Do you know of any form of employment in which the supply of educated men of this province does not equal the demand?

Can you quote any facts and figures in support of your above statements?

(5) Do you think maladjustment is partly responsible for unemployment and what is your idea of the extent of such maladjustment? What facts and figures can you quote to prove the extent to which young men, who have received a superior or specialised education, have been forced into employment for which such education is unnecessary or are unable to earn a decent living owing to the over-crowding of the particular profession or calling?

(6) To what extent, do you think, the unemployed educated young men can be diverted to the existing industries of the province or to any suitable small or cottage industries that can be conveniently developed or introduced?

(7) Have you in your mind any other scheme involving agriculture or farming in which the educated young men may be profitably engaged?

(8) Can you suggest any other remedies to reduce unemployment among the educated classes?

3. I hope to be favoured with a reply by the 5th January 1936, so that your views may be placed in time before the Unemployment Committee.

APPENDIX IV(C).

[Referred to in paragraph 13, page 8.]

Communique.

In pursuance of the resolution of the Bihar and Orissa Legislative Council, the Government of Bihar and Orissa in the Revenue Department have appointed a committee consisting of officials and non-officials to examine the nature and extent of unemployment among the educated classes in Bihar and Orissa and to suggest remedial measures. The Committee will examine in particular the extent to which educated young men can be absorbed in the various industries and, for this purpose, it will examine the present openings in this line and the nature and scope of training provided in the technical and industrial institutions of the province and suggest changes where necessary.

2. The Committee in its first meeting held at Ranchi in September last, has drawn up a detailed programme of work. In accordance with this programme the necessary data are being collected from the various educational and technical institutions and departments with a view to ascertain the number of educated men turned out every year for each profession or calling. Circular letters have been issued and are being issued to all Government departments, local bodies, factories and other private concerns, etc., to ascertain the nature and extent of the employment available for educated young men in the province and the qualifications required for such employment. The factories, mines and other engineering and industrial workshops and concerns have also been requested to state if the students passing out of our educational and technical institutions or those trained outside with the help of Government stipends and scholarships are qualified for the various technical and other posts under them, and if not what changes they would recommend in the education and training of these boys to make them employable. The Industries Department, with the help of technical experts, is preparing a memorandum showing the facilities for technical and industrial education and training available to the young men of this province, and how far the passed students have been able to find employment. This department is also preparing notes on the various indigenous industries of the province and a report showing how far the Information Bureau recently established in this department has succeeded in finding employment for men having technical and scientific qualifications.

3. The information which is being collected together with the opinions received from experts and those interested in the problem, who have been or are being approached, will enable the Committee to compare the demand and supply of qualified men for each profession or calling, and to investigate the possibility of diverting more educated young men to industries, agriculture, etc.

4. After the above preliminary investigation is over, the Committee will examine official and non-official witnesses, including some typical

unemployed men, some passed students of the technical institutes and ex-stipendiaries who have started independent business of their own, and any individuals or associations possessing special knowledge and interest in the problem of unemployment. Small sub-committees of the Unemployment Committee will then visit the various important industrial centres of the province to investigate the problem locally and to examine its practical aspect. Sub-committees will co-opt members from the representatives of local industries in the centres that they visit, collect materials and place them before the Committee. The Committee will then examine the facilities for technical and vocational education in the province and consider other means of relieving unemployment, and for this purpose it will examine the Bengal Unemployment Scheme, the Sunderban Colonisation Scheme, and other schemes drawn up by experts for diverting educated young men to suitable industries, agriculture, etc. In order that the Unemployment Committee may perform the task entrusted to it properly, it is hoped that the information and assistance asked for will be supplied and granted readily by all concerned. The Committee will also gratefully acknowledge and give due consideration to any suggestions received from any individual or association interested in the relief of unemployment in Bihar and Orissa. Any such memorandum intended for the consideration of the Unemployment Committee may be addressed direct to the undersigned so as to reach him not later than the 25th December 1935.

S. M. DHAR,
*Secretary, Unemployment
Committee and Director of
Industries, Bihar and Orissa.*

APPENDIX V(A).

[Referred to in paragraph 19, page 18.]

Number of applications received in response to advertisements for vacancies during the years 1933-34 and 1934-35.

Government Departments (Bihar and Orissa).

Qualification required.	Number of vacancies advertised.	Number of applications.		Average number of applications from Bihar and Orissa men for each vacancy.	Number of offices from which compiled.	Remarks.
		Qualified Bihar and Orissa men.	Outsiders.			
1	2	3	4	5	6	7
Matriculation ...	304	9,214	106	30	Compiled from fifty-three offices of Government.	Sub-inspectors and assistant sub-inspectors of police, clerks, typists, stenotypists and probationers. Clerks.
I. A. or I. So. ...	15	636	..	42		
B. A. or B. Sc. ...	31	372	...	12		Co-operative inspectors, clerks and teachers.
B. Sc. ...	9	105	6	12		Chemists, laboratory assistants, agricultural overseer, etc.
M. A. ...	4	107	44	27		Lecturers.
M. Sc. ...	2	12	36	6		Chemists, research assistants and demonstrators.
S. C. E. ...	18	257	70	14		Overseers, estimators and draftsmen.
Industrial or mechanical diploma.	1	23	1	23		Workshop supervisor.
M. B. ...	5	201	2	40		Doctors and professors.
L. M. P. ...	1	74	...	74		Sub-assistant surgeon.
B. Ed. or Dip. in Ed.	16	221	...	14		Sub-inspectors of schools and trained teachers.
V. T. S. (secondary)	12	224	...	19		Vernacular teachers.
V. T. S. (primary)	3	60	...	20		Ditto.
Commercial diploma.	1	4	...	4		Commercial teacher.
Acharya ...	4	34	3	9		Lecturers and teachers in Sanskrit.
Alim ...	4	149	...	37		Teachers and inspecting maulavis.
Mech. and Elec. Engineering (B.Sc. Mech.).	4	130	114	32	Electrical overseers.	
Weaving ...	10	14	21	1	Weaving supervisors.	

APPENDIX V(B).

[Referred to in paragraph 19, page 18.]

Number of applications received in response to advertisements for vacancies during the years 1933-34 and 1934-35.

District Boards and Municipalities (Bihar and Orissa).

Qualification required.	Number of vacancies advertised.	Number of applications.		Average number of applications from Bihar and Orissa men for each vacancy.	Number of offices from which compiled.	Remarks.
		Bihar and Orissa men.	Outsiders.			
1	2	3	4	5	6	7
M. V. ...	5	61	...	13	Compiled from twenty offices.	Muharrirs and teachers.
M. E. ...	3	43	1	14		Clerks and tall-collectors.
Matriculation ...	15	460	30	31		Probationers, clerks, typists and tax-darogas.
I. A. and I. Sc. ...	8	415	8	52		Collecting inspectors, clerks and head masters.
B. C. E. ...	5	123	82	24		Engineers and assistant engineers.
S. C. E. ...	26	349	198	13		Overseers, estimators and draftsmen.
M. B. ...	2	59	303	29		Medical officers.
L. M. P. ...	2	85	...	17		Health officers.
Compounder ...	1	8	...	8		Compounder.
Mech. Eng. ...	1	19	24	19	Supervisor.	

APPENDIX VI.

[Referred to in paragraph 22, page 15.]

Statement showing number of young men that leave educational and technical institutions of Bihar and Orissa every year after attaining different qualifications (based on the average of last five years).

Serial No.	Name of examination.	Number of passes					Total.	Average annual passae.	Number of obtain higher education.	Number that leave in-stitutions after obtaining different qualifications every year (2-10).	Remarks.
		In 1930-31.	In 1931-32.	In 1932-33	In 1933-34.	In 1934-35.					
1	2	3	4	5	6	7	8	9	10	11	12
1	Middle English	8,318	8,407	8,901	8,401	8,061	...	...	...	...
2	Middle Vernacular	3,618	4,936	4,808	4,240	4,766	...	...	...	...
3	High School middle stage	4,617	3,415	4,440	4,594	5,704	...	...	...	...
	Total	16,548	16,908	17,540	18,244	19,470	88,819	17,764	8,639(a)	14,125	(a) Total of annual passes of serials 4, 7, 20, 31, 34, 26, 24 and 30% of 36.
4	Matriculation and School Leaving Certificate.	1,830	1,907	1,459	308*	3,835	9,380	1,846	1,258(b)	589	(b) Total of annual passes of serials 5, 8, 9, 16, 18, 23, 28, 29, 30, 33 and 50% of no. 35.
5	Commerce ¹ Diploma	268	468	317	237	241	1,436	285	...	235	
6	Cambridge School Certificate	9	14	8	0	15	55	11	...	11	(c) B. A. 282
7	Junior Cambridge	10	14	11	29	19	82	16	...	5	P. L. 20
8	Intermediate Arts	483	434	391	107*	785	2,083	417	302(c)	115	Total 302
9	Intermediate Science	304	191	168	72*	300	1,045	200	102(d)	107	
10	Bachelor of Arts	289	245	252	62*	584	1,413	283	248(e)	34	

11	Bachelor of Science	38	31	37	12*	104	217	48	80(f)	18	(d) U. Sc. ...	48
12	Master of Arts	65	61	70	66	89	321	64	9(g)	55	B. G. E. ...	25
13	Master of Science	6	7	10	8	17	48	10	1(h)	9	I. S. M. ...	1
14	Bachelor of Civil Engineering	30	19	17	31	27	124	25	...	25	M. B. ...	25
15	Subordinate Civil Engineering	41	40	41	50	29	201	40	...	40	P. L. ...	8
16	Associate Indian School of Mines	}	1	2	...	2	7	1	...	1	Total ...	102
17	Certificate Indian School of Mines ... .. .		...	...	...	...	...	...	...	...	...	...
18	Mining	9	9	15	6	8	47	9	...	9	(e) M. A. ...	64
19	Mechanical Apprentices †	28	14	27	16	...	} 105	21	...	21	B. L. ...	127
20	Industrial Diploma †	20		B. Ed. ...	1
21	Artisan Certificate	285	284	282	298	206	1,355	271	...	271	Dip. in Ed. ...	46
22	Bachelor of Medicine and Bachelor of Surgery.	17	26	17	31	30	123	25	...	25	Total ...	248
23	Licentiate in Medical Practices	67	71	75	65	72	320	68	...	68	(f) M. Sc. ...	10
24	Compounder	75	80	73	83	87	397	79	...	79	B. L. ...	10
25	Dresser	38	41	39	61	38	207	41	...	41	B. Ed. ...	1
26	Veterinary Diploma	†	18	15	9	10	52	10	...	10	Dip. in Ed. ...	9
27	Bachelor of Law	169	63	136	158	159	726	147	...	147	Total ...	80
28	P. L. (Piscarship)	31	32	31	25	41	140	28	...	28	(g) B. Ed. ...	1
29	Makhsarship	57	63	65	69	73	327	65	...	65	Dip. in Ed. ...	9
30	Revenue Agentship	18	15	10	13	8	59	12	...	12	Total ...	9
31	Bachelor of Education ... .. .	...	1	7	4	3	15	3	...	3	(h) Dip. in Ed. ...	1
32	Diploma in Education ... .. .	...	60	144	49	67	320	64	...	64	...	...
33	Elementary Teacher for secondary schools	149	179	130	108	102	677	135	...	135	...	...
34	Elementary teacher for primary schools ...	1,474	1,542	1,148	1,302	1,319	6,765	1,357	...	1,357	...	...

* Represents result of supplementary examination only. The annual examination was postponed on account of the earthquake.

† The Industrial Diploma course has replaced the Mechanical Apprentices course with effect from 1930-31 and the first batch of students has passed out in 1934-35 from two institutions only.

‡ The Veterinary College was opened on 1st July 1930.

Serial No.	Name of examination.	Number of passes					Total.	Average annual passos.	Number that obtain higher education.	Number that leave institutions after attaining different qualifications every year (8-10).	Remarks.
		in 1930-31.	in 1931-32.	in 1932-33.	in 1933-34.	in 1934-35.					
1	2	3	4	5	6	7	8	9	10	11	12
35	Kaviraj (Vaidya) ...	10	16	19	13	41	98	20	...	20	
36	Unani ...	23	23	12	11	17	86	17	...	17	
37	Prathama ...	1,185		1,500	1,788	1,623	6,186	1,547	...	1,547	
38	Madhyama ...	361		461	523	429	1,764	441	...	441	
39	Acharya ...	447		610	739	820	2,623	656	...	656	
40	Mullah ...	41		37	40	71	189	47	...	47	
41	Moutawi ...	37		40	51	51	179	45	...	45	
42	Alim ...	21		29	35	28	101	25	...	25	
43	Fazil ...	11		7	9	13	40	10	...	10	

Date of examination charged to April.

APPENDIX VII(A).

APPENDIX VII(A).

[Referred to in paragraph 22, page 16.]

Number of posts in Government Departments in Bihar and Orissa.

Departments.	M. E.	M. V.	Matriculation, including Senior and Junior Cambridge and (commercial) diplomas.	I. A. and I. So.	B. A. and B. Sc.	M. A. and M. Sc.	B. O. E.	S. C. E.	Mining.	Industrial or Mechanical diploma, including Artisan certificate.	M. B.	L. M. P.	Compounder.	Dresser.	Veterinary diploma.	B. L.	B. Ed. and Diploma in Education.	V. T. S. (Secondary).	V. T. S. (Primary).	Mechanical Engineering, (B. Sc.)	Special.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
DEPARTMENTS UNDER LOCAL GOVERNMENT.																						
Police Department ...	...	...	2,573	49	20	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2,680
Jail Department ...	2	...	30	89	2	...	...	...	...	28	...	26	6	...	...	...	...	10	...	...	...	190
Excise and Salt Department.	...	...	369	336	89	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	763
Registration Department.	...	...	412	168	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	580
Veterinary Department.	1	...	6	16	...	1*	...	...	...	8	...	...	1	...	168	...	...	...	...	...	...	202
Co-operative Department.	...	...	13	40	84	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	90
Board of Revenue and district administration.	2	...	2,073	16	489	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2,531
Public Health Department.	2	...	64	2	1*	1*	...	...	...	1	28	5	...	...	...	...	...	...	...	2	5	111
Medical Department ...	4	18	86	6	11*	...	...	...	...	17	123	136	46	25	...	...	...	...	...	1	3	476
Department of Public Instruction.	23	...	219	25	2	80 55*	...	...	...	19	5	1	1	1	...	...	727	273	...	2	1	1,458
Legislative Council Office.	...	...	3	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	13

Appendix VII(A)—conold.

Departments.	M. E.	M. V.	Matriculation including Senior and Junior Cambridge and Commercial diploma.	I. A. and I. Sc.	B. A. and B. Sc.	M. A. and M. Sc.	B. C. E.	S. C. E.	Mining.	Industrial or Mechanical diploma, including Artisan certificate.	M. E.	L. M. P.	Compunder.	Dresser.	Veterinary diploma.	B. L.	B. Ed. and Diploma in Education.	V. T. S. (Secondary).	V. T. S. (Primary).	Mechanical Engineering (B. Sc.)	Special.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
DEPARTMENTS UNDER GOVERNMENT OF INDIA.																							
Posts and Telegraphs Department.	2,187	...	2,081	...	16	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	4,190
Income-tax Department...	88	...	86	124
Audit Department	6	858	17	8	264
Total	2,187	...	2,185	889	99	...	...	...	...	8	...	...	...	...	...	...	...	...	...	6	...	4,578
Annual vacancy at 4 per cent.	85	...	85	10	3	182

APPENDIX VII(B)

APPENDIX VII(B).

[Referred to in paragraphs 22 and 54, pages 16 and 32.]

Posts under local and private bodies.

Departments.	M. B.	M. V.	Matriculation, including Senior and Junior Cambridge and Commercial Diploma.	I. A. and I. Sc.	B. A. and B. Sc.	M. A. and M. Sc.	B. C. E.	S. C. E.	Industrial or Mechanical diploma.	Artisan certificate.	M. B.	L. M. F.	Componder.	Dresser.	V. T. S. (Secondary).	V. T. S. (Primary.)	Mechanical Engineering.	Special.	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
LOCAL BODIES.																				
Health service posts in District Boards and Municipalities.	...	225	316	...	..	..	..	..	..	..	11	15	..	..	..	..	..	..	566
Doctors under hospitals and dispensaries other than Government.	58	591	..	..	..	..	..	..	649	
Other staff in hospitals and dispensaries under District Boards and Municipalities.	604	391	..	..	..	..	1,095	
Middle schools under District Boards and Municipalities.	416	..	416	352	64	..	..	..	..	..	..	..	..	..	..	839	..	..	2,081
Primary schools	37,323	..	..	37,323	
District Boards—general	..	25	547	..	..	..	46	208	..	5	..	..	..	..	..	..	7	..	234
Municipalities—general	..	189	384	3	..	..	9	79	3	13	..	..	..	..	..	..	4	..	682
Total	..	630	225	1,682	365	64	..	52	285	3	17	69	606	604	391	..	36,160	11	..	43,320
Annual vacancy at 4 per cent.	..	25	9	66	14	3	..	3	15	..	1	3	24	23	16	..	1,526	1,736

PRIVATE BODIES.																					
Co-operative Banks	127	...	215	...	72	...	...	...	...	...	...	...	...	...	...	...	...	525	
Co-operative Federation	1	...	18	107	12	4	...	...	...	...	...	...	...	...	...	...	1	155	
Commercial Banks	124	...	...	...	...	...	...	...	...	...	...	...	...	...	...	124	
Aided and un-aided high schools	171	651	797	...	...	...	...	...	...	...	...	...	...	...	...	2,447	
Aided and un-aided middle schools	495	...	495	871	124	...	...	...	...	...	...	...	...	...	...	991	...	2,475	
Aided Colleges	7	...	7	7	3	56	15*	...	...	...	...	...	...	...	...	...	4	99	
Fatma University	20	...	2	...	...	...	...	...	...	...	...	...	...	...	...	22	
Total	640	...	1,146	1,136	1,010	75	828	991	5	5,831
Annual vacancy at 4 per cent.	26	...	46	45	40	3	33	40	...	233

* Only science graduates are eligible for these posts.

APPENDIX VII(C).
 [Referred to in paragraph 2e, page 16.]
Posts under Industries and Railways (on Rs. 20 and above).

	M. B.	M. V.	Matriculation, including Senior and Junior Cambridge and Commercial diploma.	I. A. and I.Sc.	B. A. and B. Sc.	M. Sc.	B. O. B.	B. O. E.	Mining.	Industrial or Mechanical diploma.	Artisan or Mechanic certificate.	M. B.	L. M. P.	Compunder,	Dresser.	B. L.	Mechanical and Electrical Engineering and Metallurgy.	Special.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FACTORIES—																			
Sugar factories	853	25	828	22	80	1	1	...	...	80	1,456	1	7	5	...	...	30	...	3,655
Other factories	20	179	673	7	154*	...	...	10	15	64	4,656	9	1	3	1	...	58	14	6,008
Jamalpur Railway, Workshop...	20	...	271	...	8	...	...	...	...	188	6,684	...	...	...	...	...	223	3	7,323
Tata Iron and Steel Company, Limited.	...	279	1,199	20	51*	...	2	73	...	14,747	...	26	...	79	...	6	737	...	17,318
Tata's Ore Mines ... ..	...	10	17	...	1*	...	...	1	11	...	78	...	1	4	...	...	3	...	125
Indian Copper Corporation and Mine, Ghatalla.	18	...	23	1	8*	...	...	4	12	18	605	...	...	3	3	...	11	29	715
Other subsidiary companies at Jamshedpur.	...	70	243	1	16*	...	...	6	...	4,014	...	2	...	9	...	...	89	44	5,045
Coal Mines ... ..	...	1,049	1,281	...	8*	4	...	...	254	804	...	...	37	51	...	...	34	12	3,584
Mine Mines ... ..	...	550	900	...	...	...	...	...	...	225	...	...	...	...	...	...	...	...	1,075
Total	3,165		5,423	51	364		107		228	24,391		184		169		6	1,141	96	45,377
Annual vacancy at 4 per cent.	137		217	2	15		4		12	1,275		6		6			46	4	1,615

RAILWAYS.

East Indian Railway	...	...	963	...	75	...	75	...	...	759	...	...	...	...	...	...	...	1,673	
Bengal and North-Western Railway.	...	...	1,377	11	6	...	8	13	...	58	118	...	11	...	...	...	4	8	1,596
Bengal-Nagpur Railway	...	600	1,537	3	13	...	17	...	4	61	726	...	18	...	...	...	46	...	3,026
Eastern Bengal Railway	...	63	409	...	5	...	7	3	...	18	...	...	...	...	...	...	3	13	520
Light Railways	...	...	129	...	...	...	...	...	...	6	37	...	...	...	...	...	10	...	202
Total	...	663	4,415	14	95	...	107	14	4	897	688	...	29	...	...	...	63	16	7,318
Annual vacancy at 4 per cent	...	37	177	...	4	...	4	1	...	30	36	...	1	...	...	...	3	1	239

*Only science graduates are eligible for these posts.

APPENDIX VIII.

[Referred to in paragraph 22, page 16.]

Abstract of appointment under Government, Local Bodies, Industries and Railways in Bihar and Orissa.

Qualification.	Local Govern- ment and Wards Estates.	Imperial Govern- ment.	Local Bodies.	Private Bodies.	Factories.	Railways.	Total.	Annual vacancy at 4 per cent.
1	2	3	4	5	6	7	8	9
M. E. and M. V. ...	717	2,137	855	640	3,185	663	8,197	328
Matriculation, including Senior and Junior Cambridge and Commercial Diploma.	7,734	2,125	1,662	1,146	5,432	4,415	22,514	901
I. A. and I. Sc. ...	1,072	238	255	1,136	51	14	2,866	115
B. A., B. Sc., M. A. and M. Sc. ...	1,018	69	64	1,085	384	96	2,716	108
Engineering (Civil and Mechanical), Mining and Metallurgy.	557	6	448	...	1,541	138	2,740	110
Industrial or Mechanical Diploma, including artisan certificates.	450	2	20	...	34,391	1,795	56,659	1,466
Doctor (M. B. and L. M. P.) ...	935	...	675	...	194	...	1,344	46
Compounder and Dresser ...	88	...	1,085	...	159	29	1,360	54
Veterinary Diploma ...	168	...	...	...	...	...	168	7
B. L. ...	167	...	...	...	6	...	173	7
B. Ed. and Dip. in Ed. ...	727	...	...	...	...	...	727	29
V. T. S. (Secondary) ...	283	...	...	828	...	...	1,111	44
V. T. S. (Primary) ...	4	...	89,156	991	...	...	89,151	1,566
Agricultural Diploma ...	4	...	...	...	...	...	4	...
Weaving Diploma ...	25	...	...	...	14	...	39	2
Total ...	13,857	4,578	48,320	5,826	45,296	7,247	119,669	4,783

APPENDIX IX.

[Referred to in paragraph 25, page 19.]

Statement showing the occupation of passed students of the Science College, Patna, since 1928:

1	2	3	4		5		6	7	8	9		10	
Year.	Number of M. Sc's.	Number in service.	Engaged in higher study.		Not known to be employed.		Number of B. Sc's.	Number of B. Sc's, not included in column 2.	Number in service.	Students as yet.		Not known to be employed.	
			Number.	Remarks.	Number.	Remarks.				Number.	Remarks.	Number.	Remarks.
1929	6	6	...	...	...	...	18	14	11	1	1 Med.	3	(1 passed B.L.)
1930	7	7	...	...	...	...	19	10	7	1	1 Law.	2	Ditto.
1930	10	10	...	...	...	...	20	16	19	2	1 Med. 1 Radiology	3	...
1931	10	9	...	...	1	Ill-health	20	14	9	3	2 Eng. 1 Med.	2	(1 passed B.L.)
1932	12	11	...	...	1	...	14	8	3	1	1 Med.	1	...
1933	10	6	3	1 Law 1 Technical. 1 Actuary.	1	Passed B. L.	20	14	4	6	2 M. Sc. 2 Training. 1 Med. 1 Technical.	4	1 passed B. L.
1934	19	7	6	5 Law 1 Research.	6	...	24	24	2	19	15 M. Sc. 3 Eng. 1 Technical.	3	+1 dead.
1935	15	2	2	2 Law	10	...	34	34	2	23	13 M. Sc. 5 Med. 3 Law. 2 Technical.	9	...
Total	89	69	13	...	19	...	169	131	60	55	...	25	+1 dead.

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A. T. MUKERJEE,
Principal, Science College, Patna.

APPENDIX X.

[Referred to in paragraph 100, page 54.]

STATEMENT A.

Financial aspects of a 15-acre farm by Mr. D. R. Sethi, Director of Agriculture, Bihar.

A.—Capital expenditure :—

	Rs.
1. One pucca well 6'-6" for irrigation with open tube boring (not necessary for canal irrigated areas).	400
2. Rahat pump and implements	300
3. Bullocks—two pairs	200
Buildings—It is generally presumed that the young farmer has already got a house, if not, a small village house with cattle shed, implement shed and fodder shed will cost additional Rs. 300.	..
	900

B.—Estimate of annual recurring expenditure and receipts:—

(i) Gross receipts—Rs. 1,186.

(ii) Recurring expenditure :—

(a) Normal recurring expenditure (as in statement B)	662
(b) Interest on capital enumerated under A at 6% ..	54
(c) Depreciation on the well and implements at 5% ..	35
(d) Depreciation on bullocks at 16 $\frac{2}{3}$ %	33
(e) Repairs and renewals	20

 804

Net profit Rs. 382 per year.

Cropping and rotation :—

The general outline of cropping for the holding, estimated outturns and value of farm produce are given in statement C.

Abstract of cropped and uncropped area :—

1. Rotational area	12 acres.
2. Non-rotational area for paddy	2 acres.
3. Fruit and vegetable garden	1 acre.
Total	15 acres.

STATEMENT B.

Annual Budget Estimate.

Receipts—	Rs.	Expenditure—	Rs.	a.	p.
Gross Receipts ..	1,186	Rent ..	75	0	0
		Seed and manures—			
		Green manure seed (Sanai) ..	5	0	0
		Potato seed ..	40	0	0
		Manure for same ..	15	0	0
		Sugarcane seed ..	40	0	0
		Manure for same ..	70	0	0
		Maize seed ..	1	0	0
		Urid ..	1	4	0
		Wheat ..	6	4	0
		Manure for same ..	15	0	0
		Barley or oats ..	3	0	0
		Maize and rahar ..	1	0	0
		Urid ..	1	4	0
		Gram and peas ..	5	0	0
		Total ..	203	12	0
		Say Rs. ..	200	0	0
		Two permanent labourers' wages for one year.)	240	0	0
		For extra occasional labour ..	75	0	0
		Concentrates for bullocks ..	72	0	0
		Total ..	387	0	0
		Interest on capital enumerated under A at 6% ..	54	0	0
		Depreciation on the well and implements at 5% ..	35	0	0
		Depreciation on bullocks at 16½% ..	33	0	0
		Renewal and repairs ..	20	0	0
		Total ..	142	0	0
		Grand total ..	804	0	0

STATEMENT C.

Outlines of rotation, crops and the estimated receipts.

Block no.	Season.	Crop.	Yield.	Value.
I 6.1 acres.	Khariff ...	Sunn hemp (for green manure)	...	Rs. ...
	Rabi ...	Potato and cane 10 ...	80 maunds ...	100
		Tobacco and cane 1.0 ...	8 maunds ...	80
		Sugarcane (PO) ...	...	(Plant cane.)
II 3 acres.	...	Sugarcane Standing	1,650 maunds	500 660
III 3 acres.	Khariff ...	Onions followed by green manure 1 acre.	100 maunds	50
		Maize 1 acre ...	10 maunds ...	20
		Urid for seed 1 acre ...	5 maunds ...	10
	Rabi ...	Wheat 2 acres (irrigated) ...	30 maunds .	90
		Barley or oats 1 acre ...	15 maunds ...	30
			200	
IV 3 acres.	Khariff ...	Maize and rahar 1 acre ...	8 maunds ...	16
		Urid for seed 2 acres ...	10 maunds ..	20
	Rabi ...	Rahar 1 acre ...	12 maunds ...	30
		Gram and linseed 2 acres ...	20 maunds ...	60
			126	
V 2 acres.	Paddy ...	Paddy ...	40 maunds ...	80
		Peas ...	10 maunds ...	20
			100	
VI 2 acres.	...	Fruits and vegetables ...	...	100
			100	100
				1,186

APPENDIX XI.

[Referred to in paragraphs 79 and 91 pages 43 and 48.]

(Furnished by the Commissioner of Income-tax, Bihar and Orissa)

Statement showing the number of legal and medical practitioners earning Rs. 1,000 or more a year.

Serial No.	Name of district.	No. of legal practitioners.	No. of medical practitioners.
1.	Ranchi	68	15
2.	Manbhum Sadr ..	52	10
3.	Gaya	82	48
4.	Shahabad.. ..	36	15
5.	Bhagalpur	92	29
6.	Santal Parganas ..	36	14
7.	Purnea	66	21
8.	Champanan	37	3
9.	Muzaffarpur	82	30
10.	Singhbhum	26	17
11.	Sambalpur	18	4
12.	Patna	146	44
13.	Saran	47	18
14.	Dhanbad	35	28
15.	Hazaribagh	54	31
16.	Palsaman	14	17
17.	Darbhanga	65	12
18.	Monghyr	65	29
19.	Cuttack	59	12
20.	Puri	16	3
21.	Balasore	25	1
	Total	1,121	401

APPENDIX XII.

[Referred to in paragraph 16, pages 10-11.]

List of witnesses examined by the Unemployment Committee and its sub-committees.

Second meeting held on the 16th, 17th and 18th December 1935 at Patna.

1. Mr. Bhagwat Sahay Sinha, Manager, Bihar Cotton Mills, Phulwari Sharif, Patna.
2. Mr. Muhammad Hussain, Assistant Professor of Chemistry, Science College, Patna.
3. Mr. D. N. Sen, Superintendent of Fisheries, Bihar and Orissa, Patna.
4. Mr. R. K. Saran, Assistant Professor of Economics, Patna College.
5. Mr. B. P. Jayaswal, Proprietor of the Patna Iron Foundry, Patna.
6. Mr. L. D. Coueslant, Principal, Bihar College of Engineering, Patna.
7. Mr. K. S. Rao, Textile Expert, Bihar and Orissa.
8. Mr. W. Mackenzie, Superintendent, Government Printing, Bihar and Orissa.
9. Mr. J. F. Gantzer, Deputy Director of Surveys, Bihar and Orissa.
10. Mr. B. B. Mukharji, Assistant Professor of Economics, Patna College.

Third meeting held on the 23rd February 1936 at Patna.

11. Mr. D. R. Sethi, Director of Agriculture, Bihar and Orissa.
12. Mr. Y. A. Godbole, I.C.S., Registrar of Co-operative Societies, Bihar and Orissa.

Fourth meeting held on the 21st and 22nd March 1936 at Patna.

13. Babu Gauri Shankar Sahay, B. sc., unemployed.
14. Babu Kailash Behary Sahay, matriculate, steno-typist, unemployed.
15. Maulavi A. F. Abbas, B. sc., Sugar Chemist, an ex-stipendiary.
16. Babu Ohuramani Prasad, B. A., B. L., under-employed.
17. Babu Srikant Sahay, Mukhtear, Arrah, unemployed.
18. Babu Govind Krishna Gupta, B. A., unemployed.
19. Maulavi Abu Daud, Mukhtear, Gaya, unemployed.
20. Maulavi Muhammad Ekhlauddin, under-matriculate, passed artisan course from Bihar College of Engineering, unemployed.

21. Babu Jangi Prasad, matriculate, under-employed.
22. Babu Lakshmi Narayan Kant, matriculate, passed Vyakaran Tirtha examination, unemployed.
23. Babu Sheo Prasad, matriculate, steno-typist.
24. Babu Narsingh Prasad Modi, M. Sc. (Physics), unemployed.
25. Maulavi Hakim Mohammad Hussain, passed from Tibbi School, unemployed.
26. Babu Brahmdeo Ojha, matriculate, under-employed.
27. Mr. A. N. Sen, Inspector of Technical and Industrial Schools, Bengal.
28. Mr. B. M. Das, Superintendent of the Bengal Tanning Institute, Calcutta.
29. Babu A. K. Sen, Representative of the Bekar Bandhab Samity, Calcutta.

Fifth meeting held on the 4th, 5th, 6th and 7th April 1936 at Patna.

30. Lt.-Col. J. A. S. Phillips, C.I.E., I.M.S., Offg. Inspector-General of Civil Hospitals, Bihar.
31. Lt.-Col. G. H. Mahony, Principal of the Prince of Wales Medical College, Patna.
32. Dr. Sen, President of the Old Boys' Association, Prince of Wales Medical College, Patna.
33. Dr. Sinha, Secretary of the Old Boys' Association, Prince of Wales Medical College, Patna.
34. Mr. S. K. P. Sina, H.M.L.C., Gaya.
35. Mr. A. T. Mukharji, Principal, Science College, Patna.
36. Dr. S. C. Sarkar, Professor of History, Patna College.
37. Mr. S. K. Bose, Professor of Economics, St. Columba's College, Hazaribagh.
38. Maulana Mahammad Shafi Daudi, Representative of the Bihar and Orissa Unemployment Association, Patna.
39. Maulavi Abdul Ghani, passed student from Cottage Industries Institute, engaged in weaving.
40. Babu Sita Ram, passed student from Cottage Industries Institute, engaged in durrie making.
41. Babu Arjun Pande, passed student from Cottage Industries Institute, engaged in toy-making.
42. Mr. H. R. Batheja, Deputy Director of Public Instruction, Bihar.

43. Mr. Bal Krishna Das Khandelwal, Proprietor, Messrs. Bhanamal - Gulzarimal, Mithapore, Patna.
44. Maulavi Saiyid Aminuddin Hyder, L.T.M., Victoria Jubilee Technical Institute, Bombay, ex-technical scholar, employed.
45. Maulavi Mojibul Haque, passed student from Cottage Industries Institute, engaged in hosiery knitting.
46. Babu Kalicharan Mistry, passed student from Wool Weaving Institute, engaged in wool weaving.
47. Maulavi Abdul Bari, trained in Tirhut Technical Institute, Muzaffarpur, engaged in leather craft.
48. Mr. A. A. Kazimi, Inspector of Schools, Patna Division.
49. Mr. F. A. Betterton, Chief Engineer, Public Works Department, Bihar.

Sixth meeting held on the 1st August 1936 at Ranchi.

50. Mr. J. S. Owden, Conservator of Forests, Bihar.

Bhagalpur and Monghyr Sub-Committee, 18th to 21st January 1936.

1. Mr. H. G. Ridley, Manager, Bhagalpur Electric Supply Co., Ltd.
2. Babu Motilal Dhandhanias, Managing Proprietor, Sreemohan Panna Lal Rice, Dal and Oil Mills, Mojahitpur.
3. Babu Gulabchand Sarma, Incharge, Rambansi Silk Factory, Bhagalpur.
4. Maulavi Reazuddin, Star Calico Printing Factory, Bhagalpur.
5. Maulavi Nisar Ahmad, Star Calico Printing Factory, Bhagalpur.
6. Maulavi Muhammad Yaqub, Commission Agent in silk goods, Bhagalpur.
7. Babu Gopi Mabto, Silk Handloom Factory, Bhagalpur.
8. Babu Murlidhar Sarma, Parsuram Silk Factory, Bhagalpur.
9. Maulavi Hamidul Haq, Master Weaver at Narga, Bhagalpur.
10. Ulfat Mian, Master Weaver at Narga, Bhagalpur.
11. Babu Hare Keshore Prasad, B.L., Secretary, Bhagalpur Unemployment Association.
12. Mr. Dunford, Representative of the Samapur Sugar Factory.
13. Mr. I. C. Banarjee, Member, Bihar and Orissa Chamber of Commerce.
14. Mr. M. N. De, Superintendent, Bhagalpur Silk Institute.
15. Mr. S. B. Patnaik, Circle Officer, Bhagalpur.

16. Mr. R. Bonar, Divisional Superintendent, East Indian Railway Works, Jamalpur.
17. Mr. Jolly, Workshop Superintendent, East Indian Railway Works, Jamalpur.
18. Mr. R. J. Timbs, Accountant, Tobacco Manufacturers (India) Ltd. and Printers (India) Ltd., Monghyr.
19. Mr. A. C. Lough, Engineer, Tobacco Manufacturers (India) Ltd. and Printers (India) Ltd., Monghyr.
20. Mr. R. Challenger, Superintendent, Printers (India) Ltd., Monghyr,

North Bihar Sub-Committee, 30th, 31st and 1st February 1936.

21. Mr. J. Beatson, General and State Manager, Motipur Sugar, Factory.
22. Mr. G. D. Jaithalia, Manager, Bharat Sugar Mills, Sidhawalia.
23. Mr. Haneef, Director of Sugauli Sugar Mill.
24. Dr. J. H. Haldane, Chief Chemist, Marhowrah Sugar Factory.
25. Mr. J. Gordon, Manager, Saran Engineering Co., Marhowrah.
26. Mr. J. K. Younger, Chief Engineer, Lohat Sugar Works.
27. Mr. S. C. Purkayastha, Circle Officer, North Bihar.
28. Mr. D. S. Macdonald, Cane Superintendent, Samastipur Central Sugar Works.
29. Mr. S. S. Phatakwal, Superintendent, Tirhut Technical Institute, Muzaffarpur.
30. Mr. M. A. Rangaswami, District Engineer, Darbhanga.-
31. Mr. G. N. Russel, Manager, Arthur Butler and Company, Muzaffarpur.

Jamshedpur Sub-Committee, 14th to 18th April 1936.

32. Mr. A. A. Bryant, Acting General Superintendent, Tata Iron and Steel Company, Limited.
33. Mr. T. H. Clifford, Assistant General Superintendent, Tata Iron and Steel Company, Limited.
34. Mr. P. N. Mathur, Superintendent, Open Hearth Department, Tata Iron and Steel Company, Limited.
35. Mr. E. V. Parkinson, Chief Metallurgist, Tata Iron and Steel Company, Limited.
36. Mr. C. L. Watson, Superintendent of Shops, Tata Iron and Steel Company, Limited.

37. Mr. E. O. J. Cunningham, Superintendent, Employment Bureau, Tata Iron and Steel Company, Limited.
38. Mr. B. K. Banarjee, Acting Superintendent of Training, Tata Iron and Steel Company, Limited.
39. Dr. H. Klinar, Fuel Engineer, Tata Iron and Steel Company, Limited.
40. Dr. J. O. Ghosh, Assistant Chief Chemist, Tata Iron and Steel Company, Limited.
41. Mr. E. D. Price, Superintendent of Agricultural Implement Company, Limited, Jamshedpur.
42. Mr. Brown, Works Manager, E. I. Ry. Workshop, Tatanagar.
43. Mr. Inder Singh, Proprietor of the Indian Steel Wire Products, Limited, Jamshedpur.
44. Mr. C. H. Lloyds Marrow, Foreman, Loco Workshop, B. N. Ry., Tatanagar.
45. Mr. N. N. Rakshit, Managing Director, Tatanagar Iron Foundry, Tatanagar.
46. Mr. N. Lakshman, Chief Time-keeper of the Tinplate Company of India, Limited.
47. Mr. R. B. Woakes, General Manager, Indian Copper Corporation, Limited, Ghatsila.
48. Mr. H. C. Robson, Works Manager, Indian Copper Corporation, Limited, Ghatsila.

Dhanbad Sub-Committee, 18th to 21st July 1936.

49. Mr. H. P. Haden, Manager, Bhowra Colliery of the Eastern Coal Company.
 50. Babu Anilendranath Dutta, Assistant Manager, Bhowra Colliery of the Eastern Coal Company.
 51. Babu Devadutta Pandey, Overman, Bhowra Colliery of the Eastern Coal Company.
 52. Babu G. B. Das, Draftsman, Bhowra Colliery of the Eastern Coal Company.
 53. Babu B. Ganguly, Foreman, Bhowra Colliery of the Eastern Coal Company.
 54. Mr. Turner, Bhowra Colliery of the Eastern Coal Company.
 55. Mr. S. M. Chatterjee, Manager, Chasnalla Colliery, Patherdih.
 56. The Head Mechanic, ditto ditto.
 57. Manager, Pure Jharia Colliery, Jharia.
 - 58—61. Students of the Evening Mining Classes.
- A number of villagers in Nichitpur.

APPENDIX XIII.

[Referred to in paragraph 233, page 123].

GOVERNMENT OF MADRAS.**ABSTRACT.**

Contracts. —Encouragement of qualified Engineers and Supervisors to take up—or their employment by contractors—
Orders.

PUBLIC WORKS AND LABOUR DEPARTMENT.

G. O. No. MS. 1908-W., dated 31st August 1934.

READ—

Memorandum no. 324-C-34, dated 19th January 1934.

From the Chief Engineer (General, Roads and Buildings), No. 263-Wks-34,
dated 28th June 1934.

ORDER.—With a view to encourage the growth in the country of an independent Engineering profession and to mitigate to some extent the hardship caused by unemployment in the case of passed Engineers and Supervisors the Government have been considering for sometime the ways and means to be adopted for the purpose. After a careful examination of the question in consultation with the Chief Engineer they have come to the conclusion that the objects can be achieved to some extent if the existing procedure in the matter of giving out Public Works Department works on contract is modified. They therefore direct that in calling for tenders for works costing Rs. 15,000 and above it should be stated in the tender notice that preference in the acceptance of tenders will be given, other things being equal, to contractors who are themselves qualified professionally or who undertake to employ qualified men. The Chief Engineer is requested to give a trial to this experiment for a period of two years and submit a report on the results achieved.

By order of Government, Ministry of Public Works,

N. GOPALASWAMI,*Secretary to Government.*

To the Chief Engineer (General, Roads and Buildings).

To the Accountant-General through Finance.

Copy to the Local Self-Government Department.

APPENDIX XIV.

[Referred to in paragraph 240, page 125.]

GOVERNMENT OF BENGAL.**NOTIFICATION.**

No. 3162-Com., dated the 29th April 1936.—In exercise of the powers conferred by the proviso to sub-rule (1) of rule 40-A of the Indian Electricity Rules, 1922, the Governor in Council is pleased to exempt from so much of the said sub-rule as requires that certain works shall be carried out by an electrical contractor licensed by the local Government, any work carried out on the premises of the following administrations, institutions and bodies and any work carried out beyond such premises if such work is carried out on their own behalf and by their own staff, namely :—

- (1) All State Railways.
- (2) Bengal Nagpur Railway Company.
- (3) Assam Bengal Railway Company.
- (4) Electrical Branch of the Public Works Department.
- (5) Military Works and Indian Telegraphs Departments.
- (6) Calcutta Tramways Company, Limited.
- (7) All Railways other than those above.
- (8) All Factories under the Factories Act, 1934.
- (9) Bengal Engineering College, Sibpur.
- (10) Calcutta Technical School.
- (11) Government Dockyard, Narayanganj.
- (12) Ahsanullah School of Engineering, Dacca.
- (13) All Electric Supply Licensees.
- (14) All Mines under the Indian Mines Act, 1923.

Provided that after the 1st July 1937 no person shall be appointed by an administration or department referred to in items 1 to 6 above to a post the duties of which include the direct supervision of electrical installation work unless he is in possession of a Supervisor's certificate of competency issued under rule 40-A of the Indian Electricity Rules, 1922, and that in the case of the bodies referred to in items 7 to 14, at least one person employed in connection with any electrical installation work shall be in possession of a like certificate.

E. N. BLANDY,

Secretary to the Government of Bengal.

CHECKED
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