

# REPORT

ON THE

## MATERIAL CONDITION OF SMALL AGRICULTURISTS AND LABOURERS IN GAYA.

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By

C. J. STEVENSON-MOORE, I.C.S.

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CALCUTTA:

BENGAL SECRETARIAT PRESS.

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LIST OF ERRATA.

- Para. 3, page 2, line 14—*for* "statistics" *read* "statistics."  
Para. 6, line 3—*for* "consisted" *read* "consists."  
Para. 7, 4th tract, line 2—*for* "26 per cent. are" *read* "26 per cent. of the land was."  
Para. 10, line 2—*omit* the word "omit."  
Para. 11, line 14—*for* "into" *read* "to."  
Para. 14, line 6—*for* "tha" *read* "this."  
Para. 15, line 2—*for* "few" *read* "fewer."  
Para. 15, last clause, line 5—*for* "in" *read* "on."  
Para. 30, second clause—*omit* the brackets.  
Para. 31, line 10—*for* "as a" *read* "or."  
Para. 33, line 2—*for* "inferior" *read* "superior."  
Para. 34, sub-heading of column 7—*insert* "Rs."  
Para. 36, second clause—*for* "fourteen" *read* "forty-two."  
Para. 59, line 4—*after* "artificial irrigation" *add* "kept up by private enterprise."  
Para. 59, bottom of page 18—*for* "294" *read* "161·7."  
Para. 59, bottom of page 18—*for* "800·8" *read* "762·1."  
Para. 59, bottom of page 18—*for* "77·3" *read* "88·8."  
Para. 59, bottom of page 18—*for* "380·3" *read* "402·3."  
Para. 60, line 5—*for* "bhaoli" *read* "bhadoi."  
Para. 60, page 20, line 6—*for* "1615·5" *read* "15·5," inserting "16" in line above.  
Para. 61, second clause, *Bhadoi*—*for* "2·0" *read* "2·8."  
Para. 62—*beneath* "total rent" *strike out* "bhaoli."  
Para. 73, statement sub-heading, column 18—*strike out* "Rs."  
Para. 74, line 10—*for* "Cansi Baida" *read* "Chausi Baida."  
Para. 75, line 2—*for* "in the face" *read* "on the face."  
Para. 77, line 3—*for* "method" *read* "methods."  
Para. 78, line 2—*for* "Kuhar" *read* "Kahar."  
Para. 84, lines 10 and 11—*bracket* "16·41 per cent.....landless."

# REPORT ON THE MATERIAL CONDITION OF SMALL AGRICULTURISTS AND LABOURERS IN GAYA.

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# REPORT

ON THE

## MATERIAL CONDITION OF SMALL AGRICULTURISTS AND LABOURERS IN GAYA.

### INTRODUCTORY.

DURING the Viceroyalty of Lord Dufferin, the Government of India directed\* that an enquiry should be made into the condition of the lower classes of the population in India, more particularly of those dependent on agriculture. The Government of Bengal thereupon issued to all Commissioners of Divisions

\* Circular letter No. 44F.—81, dated 17th August 1887, from the Secretary to the Government of India, Revenue and Agriculture Department.

Circular No. 35Agriculture, dated 9th December 1887, Revenue Department, calling for reports from the district officers on the subject. The circular order of the Government indicated generally the points requiring consideration, and suggested that for the purposes of the report the population should be classified as (1) pure cultivators, (2) labourers, (3) artizans, (4) those who live on charity. Dr. Grierson was Collector of Gaya when these orders were issued, and he made most elaborate and lengthy inquiries, the results of which he consolidated into his report submitted on the 2nd June 1888. The report subsequently was amplified, and appeared in 1893 in the shape of a book called "Notes on the District of Gaya," printed at the Bengal Secretariat Press. The book contains 15 chapters, the first five dealing with the early history and geography of the district and other matters. The remaining chapters embody in a condensed form the nature and results of his inquiries into the economic conditions of the poorer classes, which had formed the subject-matter of his report.

2. With reference to the conclusions arrived at by Dr. Grierson as to the resources of the cultivators and labouring population, Mr. Caine asked, on the 8th June 1893, the following questions in the House of Commons:—

"Whether the Secretary of State has seen the work recently written by Mr. Grierson of the Bengal Civil Service entitled 'Notes on the District of Gaya,' a district containing a population of 2,125,000 according to the census of 1881, in which it is shown that cultivators of 12½ acres have an average income of only Rs. 12-4 per head per annum for the members of their families, and that a labourer and his wife, though fully employed, can earn only Rs. 41-12 per annum, which, for a family of four, is Rs. 10-7, or Rs. 4-9 per head short of the Rs. 15 which Mr. Grierson estimates is required for the bare necessities of life not counting expenditure on religious or social ceremonies which are compulsory?"

"Whether he is aware that in the district of Gaya all the persons of the labouring classes and 10 per cent. of the cultivating and artisan classes, or 45 per cent. of the total population, are insufficiently clothed or insufficiently fed, or both?"

"And whether the Secretary of State will recommend the Government of India to appoint a small expert commission to enquire into and report upon the general condition of the small cultivators and labourers of the Gaya district, and will cause further enquiry to be made if similar distress exists in other districts in the Lieutenant-Governorship of Bengal?"

In reply to these questions the Under-Secretary of State said that the Secretary of State attaches great importance to any information bearing on the condition of the people of India, and will forward a copy of the questions to the Government of India for their observations.

3. The orders directing a further inquiry reached Mr. D. J. Macpherson, who was at the time Collector of Gaya, on the 2nd August 1893, and in the following November he submitted a lengthy report refuting all the main conclusions at which Dr. Grierson had arrived.

Letter No. 1250G., dated the 23rd August 1893, to the Commissioner of Patna.

This report was forwarded to the Government of India by the Government of Bengal, who accepted the Collector's view that Dr. Grierson's account of the poverty of the people of Gaya was exaggerated and incorrect—a view in which the Government of India concurred. It was at the same time pointed out by the Government of Bengal that during the course of the settlement operations being conducted in the Tikari estate, the material condition of the people would be fully investigated, and in furtherance of this object, the Board, in letter No. 1558 Agriculture, dated the 19th March 1894, was asked to issue specific instructions. The Board's instructions, contained in paragraph 5 letter No. 720A., to the address of the Director of Land Records and Agriculture, dated the 30th April 1894, were as follows:—

"The facts and statistics which will be collected in the course of the survey and record of rights will throw much light on the economic condition of the people; but in addition to the usual statistics collected in the course of the survey and settlement proceedings, it would be desirable, at such time as you may find convenient, to cause special enquiries to be instituted in typical villages, on the lines of the enquiry undertaken during the Viceroyalty of Lord Dufferin."

It was not until 1897 that the settlement operations were sufficiently advanced to admit of the investigation being undertaken on systematic lines.

4. Before setting forth the methods of enquiry followed and the results obtained by the Settlement Department, I will, to make this report complete, give a short account of the principles on which Dr. Grierson conducted his investigations, will enumerate his conclusions, and discuss how far Mr. Macpherson has succeeded in refuting them.

5. Before going further, however, justice requires me to state that, however startling Dr. Grierson's conclusions may appear, and however inaccurate they may intrinsically be, yet they were not correctly stated by Mr. Caine. Dr. Grierson, in reference to this, wrote demi-officially to Mr. Macpherson in 1893:—

"I have reason to complain of misrepresentation. Mr. Caine had no right to say that I estimated Rs. 15 as the sum required for the bare necessities of life; Rs. 15 represents the sum necessary to keep a man in moderate comforts (page 89). It is the sum required to give a well-to-do native of the lower classes, with a fairly high standard of comfort, plenty to eat and drink, and a sufficient supply of clothing and the usual luxuries."

Again, Dr. Grierson, while estimating that a labourer's income is Rs. 4-0 less than the theoretical Rs. 15, carefully added that part of the deficit could be made up from supplementary sources. Then, while he does say that 45 per cent. of the population is insufficiently fed and clothed, he explained his meaning by saying:—

"It is not suggested that this large number of human beings is, as a rule, in actual want of food or has never more than one meal a day. In the majority of cases two meals a day form the rule, but they have often to curtail the number of their meals for a few days at a time to enable them to tide over their difficulties."

But finally, and this is most important of all, Dr. Grierson has nowhere said that cultivators holding  $12\frac{1}{2}$  acres have only an average income of Rs. 12-4 per head per acre. On the contrary, he says in page 94 that in favoured parts of the district  $12\frac{1}{2}$  acres will support an ordinary family, and in less favoured parts a small family. The use of the word "support" in view of the definition Dr. Grierson gives of the standard of living that can be maintained on Rs. 15 per head per annum is very misleading, but can hardly be said to justify the very grave misrepresentations of Dr. Grierson's conclusions for which Mr. Caine is responsible.

6. Dr. Grierson commenced his investigations by dividing up the district of Gaya according to four degrees of fertility (Chapter VI). The first, or fertile tract, consisted of the Jahanabad subdivision and the part of the Aurangabad subdivision irrigated by the Sone Canal, *i.e.*, of parganas Ekil, Bhelawar, Okri, Arwal, and part of Siris. The second, or moderately fertile tract, comprises two blocks of country, one composed of the thanas of Gaya, Tikari and Atri, and the other of thana Nabinagar, *i.e.*, parganas Sananth, Pahra, Atri, part of Narhat, Kabar, and Dakhner, and pargana Kutumba. The third, or less fertile tract, also contains two blocks, one is the Nawadah subdivision, and the other the remainder of Aurangabad subdivision, the corresponding parganas being Samai, Roh, Jarra, part of

Narbat, and Charkawai, in the first block, and Siris and others in the second. The fourth, or infertile tract, consists of the southern half of the Sadar subdivision, and is mainly contained in pargana Sherghati.

I annex a copy of the map whereby Dr. Grierson illustrates his classification (Appendix I).

7. In corroboration of its general accuracy, I deduce a few figures from the statistics compiled during the operations:—

#### *1st Tract.*

Twenty-five villages surveyed in pargana Ekil returned 83 per cent. of the total area cultivated, 80 per cent. of cultivated area irrigated, and 35 per cent. twice cropped. The figures for the 89 villages of the Belkhara mahal, pargana Arwal, are 81 per cent. cultivated, 63 per cent. irrigated, and 32 per cent. twice cropped.

#### *2nd Tract.*

In 157 villages surveyed in pargana Sanauth, the percentage of total area cultivated is 73, of cultivated area irrigated is 46, and of cultivated area twice cropped is 25. In 28 villages surveyed in Dakhner 63 per cent. was cultivated, 48 per cent. irrigated, and 11 per cent. twice cropped. In 19 villages of pargana Kabar 86 per cent. was cultivated, 38 per cent. irrigated, and 17 per cent. twice cropped. In 63 villages of Kutumba 61 per cent. was cultivated, 40 per cent. irrigated, and 9 per cent. twice cropped. The percentage of cultivated area in the Kabar villages is very high, but the proportion of their irrigated and twice cropped area is much lower than that found in the first tract.

#### *3rd Tract*

Jarra was the only pargana of this tract in which a considerable number of villages were surveyed. The seventeen villages dealt with furnish the following statistics: 17 per cent. cultivated, 34 per cent. irrigated, and 20 per cent. twice cropped.

#### *4th Tract.*

Forty-seven villages in pargana Sherghati were surveyed with the following results: 26 per cent. are found to be cultivated, 18 per cent. irrigated, and 6 per cent. only twice cropped.

The Jarra villages surveyed in the third tract were few in number, belong to Government, and are hardly representative of the tract. In other respects Dr. Grierson's classification is very fairly borne out by the statistics abstracted from the *khasra*.

8. Dr. Grierson's next object was to ascertain the average outturn of the chief staple crops in each of the four tracts. His results were in each case derived mainly from the appraisement papers of Government estates, checked by those of the Tikari estate. Road-cess papers were also referred to, but of course they provide very little check. The conclusions obtained will be discussed in detail hereafter, but it is in this direction that the origin of Dr. Grierson's fallacious conclusions will be found to lie. He did not make allowance for the great peculation to which the crops are subjected before they come into the appraisement accounts, and he did not make allowance for the larger outturn furnished by cash-paying or small holdings owing to the greater care and labour spent on their cultivation. His estimate of outturn is in every respect too low.

9. Having thus ascertained the average outturn of main crops and classified them as (1) paddy, (2) paddy and *khesari*, (3) *rabi*, (4) *bhadoi* and *rabi*, (5) *bhadoi* and poppy, (6) sugarcane, he goes on in Chapter VII to consider the classes of population following the division suggested by the Government Bengal into cultivators, agricultural labourers, artizans, and those who subsist on charity. He finds from a census of over 10,000 persons, that half are pure cultivators, about one quarter labourers, one quarter artizans, and an insignificant portion live on charity. From a small supplementary enquiry he estimates that of labourers 70 per cent. have an additional income from land and 30 per cent.

have not. These conclusions will be compared hereafter with those obtained by me.

10. Taking the poorer population of the district generally and excluding infants in arms, omit Dr. Grierson estimates that the cost of living, including ordinary luxuries and assuming every member gets two meals a day, is Rs. 15 per head per annum. "Speaking more accurately, a family of six persons should spend Rs. 93, and a family of four persons Rs. 61-12, per annum." The estimate of Rs. 15 per head can be considered to be generally fair, but Dr. Grierson overlooked the fact that the larger the family the probabilities are that children and widows, who do not eat two full meals a day, are in a greater proportion, and therefore the rate per head should, in taking averages, be reduced in dealing with large families as against small. This will be discussed hereafter, as well as Dr. Grierson's estimates of the area of cultivators' holdings, which are very wide of the mark.

11. In Chapter IX Dr. Grierson brings together the results of his inquiries, starting with the appalling statement that cultivation in Gaya as a rule does not pay for its expenses. He finds that even in the fertile tracts the net income from 5 bighas is only Rs. 43-2, from 10 bighas Rs. 58-8, and from 20 bighas (12½ acres) Rs. 78-12. He says, however, that such a substantial raiyat as one holding 20 bighas would supplement his profits by cattle-rearing, so that he would just be able to support a family of six at a cost of Rs. 93. The general conclusions arrived at are that 48 per cent. of the holdings will not of themselves support their cultivators; 22 per cent. may under favourable circumstances support a small family; 17 per cent. will with difficulty support an average family: only the remaining 13 per cent. support their owners in comfort. "In other words, *if we exclude other sources of income*, 70 per cent. of the holdings of the district do not support their cultivators." But when we come into the next chapter, we find the supplementary sources of income to consist not of some great industry, important enough to absorb most of the wealth and energy of the inhabitants, but cattle-breeding, service, begging, and such like. I think that even the mind of a conscientious politician, ignorant of the real state of the district, might be fairly exercised at so portentous a condition of things; but while it would remain puzzled, it would at least be somewhat reassured by learning from Chapter XI that the Gaya cultivator is not ordinarily in debt, and Rs. 10 per head would probably cover the indebtedness of the district. Foreign service, I must explain, is a very important supplementary source of income, but taking the annual remittances to the district on this account at 13 lakhs, it would not support more than 4 per cent. of the population, a mere trifle to set against so great a deficit.

12. Chapters XII, XIII and XIV deal respectively with labourers, artizans and beggars. Dr. Grierson finds the income of labourers to be about Rs. 11-1 per head, and there can be no doubt that their standard is a very low one.

Artizans he finds to be fairly well-off, and beggars are no more numerous than elsewhere. No method of statistical inquiry can be followed in estimating the income of these two classes, and as their condition is admittedly normal and has a very slight bearing on the main points at issue, I shall include them under the head "Miscellaneous" in the classification of the population I adopt. I shall not investigate the condition of either in this report.

13. Dr. Grierson in summarising his results (Chapter XV) says:—

"It will be seen from the foregoing remarks that in Gaya district all persons of the labouring classes and 10 per cent. of the cultivating and artizan classes may be considered as insufficiently clothed or insufficiently fed, or both. It is not suggested that this large number of human beings is as a rule in actual want of food, or has never more than one meal a day.

"In the majority of cases two meals a day form the rule, but they have often to curtail the number of their meals for a few days at a time to enable them to tide over difficulties. When famine prices are nearly reached, of course one meal a day becomes the rule. It is the elders that suffer in these cases, the children, except in extreme necessity, reaping the benefit of that paternal affection which is the great charm of an Indian home. As one of the witnesses examined for the purposes of this inquiry put it—'The children always get their two meals. We cannot see them die.'"

The Gaya people do not know famine. Some of their less fortunate brethren, north of the Ganges, were prepared to keep themselves alive and let their children die. This was no longer ago than the year of grace 1897.



14. Such, then, is a short account of the method Dr. Grierson adopted in conducting his inquiries and of the results he obtained. When confronted with the statement that 70 per cent. of the holdings of a purely agricultural district do not support their cultivators without supplementary sources of income, and that 45 per cent. of the population are insufficiently fed or insufficiently clothed or both, conscious that this as a permanent condition of things in a purely agricultural country is impossible, one's natural inclination would be to institute an historical inquiry in the hope of detecting and tracing the growth of economic conditions that had succeeded in undermining the permanent foundations of the entire agricultural system, or some sudden and terrible calamity that had converted the cultivated land into an unprofitable waste and so brought the community face to face with ruin. But neither would be found.

15. Dr. B. Hamilton, writing in 1812, tells us:—

“Although few of the tenants than in Bengal are very rich, yet many of them have accumulated little sums of money, and the system of advances having been pushed to a comparatively small extent, the tenantry is not so deeply involved in debt.”

Again—

“The arrears due by the tenancy to the landlords are quite trifling except in one estate.”

Finally—

“Although the rents here are much larger than towards the east, the people in general are by no means poorer, and in particular they are in much better circumstances than the tenancy in those parts of Bhagalpur and Purnea who pay next to nothing.”

At the same time it is also mentioned that except in the Tikari estate the irrigation works had been greatly neglected and that their improvement and the quantity of available waste land would afford ample scope for agricultural development. Such, then, are the impressions of Gaya district at the beginning of this century handed down by one gifted with a most sagacious and acute power of observation.

The next important authority is Hunter's Statistical Account of Gaya written in 1878, but I fear to the observations contained in it regarding the material condition of the people much weight cannot be attached. The remarks reproduced from Mr. Bailey's Administration Report of 1873 for the Patna Division to the effect that “rents are limited in the case of the lower and better class of agriculturists by little less than their inability to pay more” do not apply to South Bihar at all, but to the north of the Ganges, as I shall shortly demonstrate; while Mr. Bourdillon's picture of Jahanabad subdivision was drawn before the canal had converted its waste land into a garden. And I doubt whether his remark that “it has already been noticed that the inhabitants of this district are among the poorest in Bihar; the one meal a day *which was noted as a sign of great distress among the poorer classes of North Bihar* epitomises the ordinary condition of many thousands in this sub-division” would have stood the tests of critical investigation even in those days. However, I believe the Kamiyas (bond servants) of Gaya to be amongst the poorest, as they are the most degraded of the labouring classes in Bihar, but they account for a small part of the total population.

At the present day we have the testimony of Dr. Grierson, and leaving out the special conclusions drawn from his figures, and confining our attention to the general impressions running through his book, the picture he draws much resembles Dr. B. Hamilton's, namely, a tenantry happy and contented, in good terms with the land-lords, and able to be sufficiently independent to abandon their farms if ill-treated by them, fairly provident and very slightly indebted.

16. The system of produce rents prevails to-day as it did at the beginning of the century, and owing to so much of the land having been held on this system, the district largely escaped the dislocation of tenant right that followed the permanent settlement. Then as regards the incidence of rent even the raiyat has not suffered, for the proportion of produce taken by the landlord has not altered, while the price obtainable for the surplus of his own share available for sale has considerably increased, and there has grown up a strong tendency for the *bhaoli* system to be restricted to those lands for which an elaborate system of irrigation has to be maintained, while all others pay in cash. I

need not refer to what has been already described in the Gaya Settlement Report, to the vast improvement in communications, the great extension of irrigation works, and the better maintenance of them now prevalent, increased fertility of soil, less speculation and gradual curtailment of the thikadari system, greater security of life and property, the increased value of proprietary and tenant rights, all demonstrable facts which make for the progress and prosperity of an agricultural community.

17. There is but one factor that could intervene to nullify their influence, and that is over population. This is a factor which will not rise into practical importance in Gaya for years to come. Many parts of the district are capable of greater agricultural development, which the new railways now under construction will expedite. The incidence of population per square mile is on the whole low. The average density was found in 1891 to be 494 persons per square mile, or a little more than half the average density of Tirhut and Saran. In the south of the district it is very much lower than this, and there is much waste land there which could be brought under the plough without much difficulty, if only people to cultivate it were available. In only three thanas, Jahanabad, Tikari and Nawada, does the population exceed 600, and in all three the people are prosperous. The density of population is highest in Jahanabad (694 per square mile), but in the 1881 census the number per square mile was 706, or 12 higher, in this thana; and this seems to indicate how ready the people of this district are to move elsewhere when there is a danger of overcrowding. In the whole district there was an increase in density of only three persons per square mile in the ten years 1881 to 1891. The increase of population in these ten years, too, was very slight, only 0.6 and for the twenty years 1872 to 1891, 9.6 per cent. The inhabitants of this district freely go abroad, too, in search of service, a custom in existence even at the beginning of this century. Two hundred and three thousand inhabitants of Gaya were found in other parts of India at the census of 1891. In the year 1897, nearly Rs. 13,66,000 were paid out by Gaya sub-offices in money-orders, this vast sum mainly being accounted for by small remittances made by inhabitants of the district employed elsewhere. This is a cause which effectually counteracts congestion of population when threatened. A comparison of the density of the population given in the census papers of 1891 with that calculated from the census estimate made by Dr. B. Hamilton at the beginning of the century, gives the following results:—

THANA	Density per square miles.	
	1812.	1891.
Gaya	466	448
Nawada	389	612
Jahanabad, including Holsaganj	698	694
Daudnagar	491	440
Arwal	429	563

These figures cannot be regarded too seriously; the local areas do not strictly coincide, and Dr. B. Hamilton's enumeration of the population, though generally believed to be fairly accurate, was based on a very slender ground-work. But looking at general results, I think it can be fairly inferred that there has been no excessive increase of population, except in Nawada and Arwal. The former is practically new country brought into cultivation by means of private irrigation works. Dr. B. Hamilton found the inhabitants of Nawadah indolent and apathetic, and agriculture greatly neglected. Since then they have made great strides. Arwal has been converted from barrenness to fertility by the Sone Canal.

18. Thus there is no indication whatever that the increase of population has outrun the agricultural development of the country. The statistics I shall hereafter put on record will show how very large holdings in this district actually are. It is locally considered, the Bengal Tenancy Act notwithstanding, that a cultivator of a holding paying produce rents cannot acquire occupancy rights, yet owing to the absence of competition, the cultivators generally have never been disturbed in the enjoyment of their rights; while it is known that many are in possession of more land than they can cultivate. The statistics obtained from 40 Government estates in which rents have been commuted show

that out of a total area of 5,052 bighas 9 cottahs 6 dhurs held on *bhaoli* rents, the greatest amount actually cultivated was 4,243 bighas 1 cottah 17 dhurs. This amount is not the total of a single year, but, taking the last five years, the total greatest area of each holding brought under cultivation in any one year during that period. Every year the area actually cultivated varies, and is often lower than the greatest area.

19. These surely are indications inconsistent with those found in a district overburdened with an excessive population and played out; but no more striking demonstration could have been given of the generally flourishing condition of the people of this district than that afforded by the late famine, and this is another element making for the prosperity of this district that with lands protected by artificial irrigation the cultivators have lived in immunity from this terrible scourge. In the Settlement Final Report of this district I have stated briefly the results on the people of Gaya of the famines that have visited Bihar since 1866. I need not repeat all that has been there said, but the conclusions that can be drawn are that these famines have never been able to take a real hold on the district generally, and that the power of the people to resist their in-roads is increasing. The famine of 1897 was probably the most severe that has attacked Bihar since 1770. On the other hand schemes for bringing relief within the reach of all requiring it had never been so well organised. Yet there was no demand for relief works, and of the small number of those gratuitously fed most were wanderers from other districts.

20. I have attempted to consider Dr. Grierson's propositions that agriculture does not pay its way, and that 45 per cent. of the population are insufficiently fed or insufficiently clothed, from a general point of view in the light of the history of agricultural development during the present century in this district and of the general conditions now existing. My own impressions are that the cultivating classes of Gaya are on the whole more comfortably off than those in North Bihar. The fact that they are (as Dr. Grierson states) more backward indicates the possibility of their future progress, the progress which, had the agricultural conditions been such as Dr. Grierson describes, would have been hastened long since. The labouring classes both in North Bihar and in Gaya are miserably poor, and the pity is that in Gaya a hide-bound custom has condemned the more degraded of them to a poverty which could not exist under the operation of economic laws; for the demand for labour is very considerable while the supply is not excessive; yet numbers for the sake of a few rupees sell themselves and their children after them into miserable bondage. The Kamiya, however, is no new institution. He no doubt dates from the time when the Aryans overran the country and found the district inhabited by low castes of aboriginal cultivators, suitable labourers for a military aristocracy, to whom to handle the plough would have been a severe degradation. Their material condition I shall consider at greater length hereafter. It is now necessary to descend from generalities to detail, and to consider Dr. Grierson's statistical facts in the light of the special inquiries held by the Settlement Department.

## CHAPTER II.

### THE ACCOUNT OF THE INQUIRIES MADE BY THE SETTLEMENT DEPARTMENT.

21. There are four main points of inquiry:—

- (1) The average outturn of produce.
- (2) The cost of living of a family of average size.
- (3) The average size, composition, and cost of cultivation of average holdings.
- (4) The wages of agricultural labour.

22. For the purposes of our investigations we selected, in consultation with the Collector and the Manager of the Tikari Raj, typical villages; in the 1st tract (1) Daudpur, (2) Bistaul, (3) Makdampur; in the 2nd tract (1) Bhari, (2) Keora, (3) Utrend, (4) Pali; in the 3rd tract (1) Pogur, (2) Karjera, (3) Khakra; and in the 4th tract (1) Chaisa, (2) Baida. All these villages, except Utrend and Pali, belong to the Tikari Raj, and all except Makdampur and

Khakra were paired off two by two before the information was collected, so that the statistics might not be vitiated owing to the fact of a single family holding land in the two villages. The family was our unit, and it was necessary to find out all the land held by the family in whatever village found.

23. I classified those dependent on agriculture as (1) pure cultivators, *i.e.*, those who cultivate their own lands and do not labour for hire; (2) cultivating labourers, *i.e.*, those who both cultivate their own land and labour for hire; (3) pure or landless labourers. The remainder of the population was grouped together under a single head "Others" as being outside the scope of the present inquiry. The investigations were entrusted to Babu Annada Charan Gupta, who, by having been in direct charge of the settlement operations in the district since 1894, had had unrivalled opportunities of ascertaining its agricultural conditions.

24. The statistical forms which I drew out, in which the results of these inquiries were to be compiled, I shall now briefly describe. The headings of the forms will be found in Appendix II. The first thing to be done was to make a census of the village in accordance with the classification it had been decided to adopt, and with this object Forms 1a, 2a, 3a, and 4 were prescribed for the census of pure cultivators, cultivating labourers, landless labourers, and others, respectively. In each case the family was taken as the census unit, and details of the number of adult males and females and children in the family were recorded. Then in the case of pure cultivators and labouring cultivators, the area of land held by each family was ascertained. The settlement *terij* was taken as a basis, but could not be accepted without local inquiry, because a single family may hold land in the name of different members of it under several statuses (*e.g.*, as raiyat and as under-raiyat) as well as in different estates and different villages. Then, too, some of its land may be sublet to under-raiyats. By local inquiry the net area in bighas ( $\frac{1}{4}$  of an acre) actually cultivated by each family was ascertained. The Assistant Settlement Officer next found out what supplementary sources of income under the heads of service, cattle-breeding, and "miscellaneous" each family possessed, the extent of its indebtedness, and the amount spent on ceremonies.

It was also intended that, as a check on our general inquiries, each family should be asked the cost of living and the outturn of crops per bigha, but their replies were so ridiculous that this branch of inquiry was dropped. A native cultivator invariably states the outturn of his field as too low and his cost of living as too high. He has also an irresistible tendency to exaggerate the extent of his indebtedness.

25. Of the supplementary sources of income, cattle-rearing is a profitable item. A she-buffalo and a cow yield Rs. 15 and Rs. 7-8 per annum, respectively, on account of the sale of milk, *ghi*, and calves. Dr. Grierson on page 107 estimates that a she-buffalo yields Rs. 10 and a cow Rs. 4 from the sale of *ghi*, and sets off the income from the sale of calves against the cost of feeding them, but the cultivator does not spend anything in cash for the feeding of cattle. Straw and grass do not cost him anything, so that the purchase-money of calves is clear profit. Service is, however, the most important supplementary source of income. It does not, of course, include wages for field labour.

26. After ascertaining the amount of land held by each family of labouring cultivators, the Assistant Settlement Officer ascertained as best he could by local inquiry the income obtained from agricultural labour. It was a very difficult point for investigation. A labourer's income is fluctuating. For three months in the year he practically receives nothing, and for the remaining nine months his income varies from year to year. It is impossible for him to strike an annual average. It was found out on inquiry, however, that one man can single-handed cultivate about 5 bighas of his own cultivation, and that if the rest of his family available to labour for hire work full time, an adult male can earn 18 maunds of cheap grain, or Rs. 20, and an adult female or child over 12, 14 maunds, or Rs. 15 per annum (see Appendix IV). Other sources of income were also ascertained; the number of brass utensils each family possessed, the extent of indebtedness, and the average annual amount spent on ceremonies during the last five years. Exactly similar information was obtained for landless labourers, with the omission of course of the columns for area of

holding. In compiling statement 4, for "Others," the composition of the family was ascertained and general inquiries only made as to their material condition.

27. I will now describe the supplementary inquiries made. First with reference to pure cultivators, statement 1 (b) was compiled: 12 specific families holding 5 bighas and under, 12 holding 10 bighas and under, and 6 holding over 10 bighas, were selected. The areas of their holdings had been ascertained, and this area was distributed over *bhadoi*, *aghani*, *rabi*, poppy and sugarcane in the proportions which they were found from the *mitan khasra* and crop statement to bear to each other in the village as a whole; the cost of cultivation was then calculated, and the outturn of produce at the rates already decided on. The outturn was converted into its cash equivalent, taking the wholesale price of *bhadoi* as Rs. 1-8 per maund of 40 seers, of paddy at the same rate, of *rabi* at Rs. 2 per maund, of poppy from Rs. 36 to Rs. 45 per bigha, and of sugarcane from Rs. 60 to Rs. 80 per bigha, the rates varying with the class of soil. The rent of the land was then entered, and next the value of the family labour was calculated; an adult male at Rs. 20, an adult female or child work at Rs. 15. The price of straw sold and supplementary income was then added, and thus the income of the family was obtained. From this was deducted the cost of living and the amount spent in the purchase of cattle, leaving as balance the net profit. Inquiries as to the indebtedness and money spent in ceremonies for the last five years were also made. The above information was brought together for each class of holding in statement 1(c), which is merely an abstract of 1(b).

28. Similarly, too, for labouring cultivators we tried to work out an income statement, 2 (b). The income from land was calculated in the same way, and to it was added the income from labour and other sources, and the cost of living deducted; the number of brass utensils, the extent of indebtedness, and amount spent in ceremonies were also entered.

29. But before I proceed to analyse and discuss the conclusions derivable from the statistical statements that have been prepared, it will be convenient to consider here in detail how the estimates of the average outturn, of the cost of living and of the cost of production have been obtained.

#### AVERAGE OUTTURN.

30. The basis on which Dr. Grierson founded his estimate of the average outturn has already been noted. He relied almost entirely on appraisement papers. He made no crop-cuttings to check their results, and he made an altogether insufficient allowance for the inaccuracy of the papers on which he framed his conclusions. His estimates are as follows:—

	1st tract maunds per acre.	2nd tract.	3rd tract.	4th tract.
Paddy ...	10.8	8.6	7.2	6.2
Paddy and khesari ...	15.9	12.8	11.2	9.2
Rabi ...	5.1	4.0	4.0	3.0
Bhadai and rabi ...	11.3	10.2	10.2	9.2

Sugarcane 25.6 maunds per acre.

*Bhadai* and poppy seed, 6.2 maunds *bhadai*, 9.6 seers opium, 2 maunds poppy seed.

(Mr. Macpherson, starting from the area of the district covered by each of the four tracts, viz., first tract 847 square miles, second tract 1,273 square miles, third tract 1,622 square miles, fourth tract 963 square miles, worked out the true general average outturn of each class of crops for the whole district based on Dr. Grierson's conclusions, and found it as follows:—)

	In maunds per acre.	In lbs. per acre.
Rice ...	5.7	467
Rabi ...	4.1	336
Bhadai ...	6.2	508
General average of all ordinary crops	4.7	385

Mr. Macpherson, in order to show how absurdly low these estimates are, goes on to compare the rice and *rabi* outturn with the accepted yield of rice and wheat for the rest of India. He shows that the mean yield of rice in all provinces is 991 lbs., and, according to Sir A. P. MacDonnell's estimate for Gaya in his 'Food Grain Supply,' 984 lbs., whereas Dr. Grierson's estimate is only 467

lbs., *i.e.*, considerably less than half of either. Similarly, the mean yield of wheat for all provinces is 874 lbs., Sir A. P. MacDonnell's estimate for *rabi* generally in Gaya 984 lbs., while Dr. Grierson's estimate is only 336 lbs., *i.e.*, 38 per cent. only of the mean of all provinces. It is fairly obvious that Dr. Grierson's estimates are very much too low; for Gaya in point of fertility compares by no means unfavourably with other parts; and in point of fact any one with local knowledge and capable of giving an honest opinion will readily admit that Dr. Grierson has very greatly underestimated the outturn.

31. A further argument in support of this view can be gathered from the facts elicited by the commutation of produce into cash rents during the settlement operations. The rate at which the produce rents were converted was obtained by dividing the greatest area of *bhaoli* lands cultivated in any year during the last five, by the average annual payment to Government during the last five years of the equivalent of the produce. The rate thus obtained was of course lower than it would have been if the average *bhaoli* area cultivated had been taken; but, making all allowance for this, it is a striking fact that the conversion rate in the majority of cases worked out approximately the same as a lower than the rate paid in cash rents, although the landlord for *bhaoli* lands is supposed never to take less than half the produce and often  $\frac{2}{3}$ ths. The calculations for the purposes of commutation were based on the appraisement papers, and the results in my opinion afford very strong reason to believe that the outturn has been systematically underestimated with a view to deprive Government of part of its dues as landlord.

32. It can, I think, be stated conclusively that Dr. Grierson's estimate of outturn is too low. It is necessary for me to try and ascertain what that outturn actually is. In calculating this we, too, have started from the appraisement papers for the past ten years, but adopted the results obtained with certain modifications. Ten per cent. is added to the average outturn thus obtained to cover the pilfering by the tenants and the peculation by village officials. This allowance I consider by no means to be excessive. On the contrary, in addition to the evidence afforded by the results of commutation to which I have referred, it must be borne in mind that in the matter of measurements prior to appraisement, the landlord has hitherto been entirely at the mercy of the village officials. They had it in their power to make the *bhaoli* area what they pleased, and in fact to omit a field altogether if so minded. Mr. Savage estimated that at least 20 per cent. of the crop disappeared owing to dishonesty. In taking half that estimate, I cannot be accused of exaggerating the effect of this disturbing influence, the existence and prevalence of which Dr. Grierson himself freely has admitted, though he neglected in his statistics to make any allowance on that account. Then, the village papers do not include reapers' wages, which are paid out of the grain;  $\frac{1}{5}$ th is allowed on this account, this being their usual rate of payment.

33. Finally, there is a very important fact which Dr. Grierson notices, but for which he again makes no allowance, namely, the inferior fertility of cash-paying lands. The reasons are not far to seek. In the case of cash paying lands all produce above what suffices to pay the rent is pure profit. The cash-paying land receives the cultivator's best care and labour, and all his available manure. The superior cultivation of cash-paying lands would be apparent to the most casual observer. These lands, too, as a rule are intrinsically very fertile. In fact, if they are not, a tenant will not accept them on a cash rent. Then, again, small holdings are more productive than large holdings of the same kind, because the small cultivator has to provide from his land sufficient for the maintenance of his family. His greater necessity serves as a greater stimulus to his industry. Apart from this, too, he can devote more of his attention to it. Now nearly all cash-paying holdings are small, or, to speak more accurately, the proportion of cash-paying to produce-paying land in a holding is small. In the district generally 30 per cent. of the land pays cash-rents and 70 per cent. produce-rents. Babu Annada Charan Gupta, who has an intimate knowledge of the agricultural conditions of the district, estimates that the outturn of *bhaoli* holdings can be enhanced by quite 50 per cent. in calculating the outturn of small cash-paying holdings. That I may avoid the danger of erring on the wrong side, I take 25 per cent. as the measure of superiority, though in truth I personally believe this to be a very low estimate.



34. The following table shows the outturn of paddy and *rabi*, tract by tract, in the selected villages worked out on the above basis:—

Statement showing the average yield of one acre; one acre=1 bigha 8 kattake 9 dhurs.

Tract.	Village.	Average yield of land paying produce rents per acre.		Average yield of land paying cash rents per acre.		Poppy.	Sugar-cane.
		3	4	5	6		
1	2	3	4	5	6	7	8
		Paddy.	Rabi.	Paddy.	Rabi.		Rs.
First tract	Makdumpur, Dandpur, Bistaul—	14-38	8-47	17-97	10-58	63	112
Second tract	Bhuri, Keora, Ut- rend Pali—	12-49	7-75	15-61	9-68	50	84
Third tract	Khakhra, Pogar, Karjera—	10-78	7-81	13-47	9-96	50	84
Fourth tract	Chausi, Baida ...	8-47	4-18	10-58	5-22	40	64

35. The outturn of autumn crops has not been similarly ascertained. According to the settlement records, the proportion of this class of crop in Tikari, which may be taken as typical of the district generally, is only 4-29 per cent. of the net cropped area. Careful inquiries have been made, however, by Babu Annada Charan Gupta, who estimates the outturn in the first three tracts at 10 maunds per acre, and in the fourth tract at seven maunds per acre. Land of course that is twice cropped will not give a full outturn of each crop, unless the two crops are paddy and *khesari*.

36. It now remains to see how far these results are borne out by experimental crop cuttings. The results of the crop cuttings that have been made are noted below, tract by tract:—

Abstract statement of test crop cuttings of paddy, 1897-98.

Serial number.	Name of the tract.	Name of the village.	Name of the persons.	Number of cuttings made.	Average outturn in standard maunds per bigha.	Average outturn in standard maunds per acre.	Outturn in annas last season.	Average outturn of average crop (13 annas in the first tract and 12 annas in the others).
1	2	3	4	5	6	7	8	9
1	First tract ...	Makdumpur ...	Okri ...	16	Mds. s. ch. 16 8 4	Mds. s. ch. 22 23 0	...	...
		Dandpur, Bistaul ...	Do. ...	27	17 20 10	24 21 8	...	...
		Average outturn ...	...	...	16 38 15	23 22 1	20	15-08
1	Second tract ...	Utrend, Pali ...	Sanaath ...	107	15 20 0	21 28 0	...	...
		Bhuri, Keora ...	Do. ...	65	14 20 0	20 12 0	...	...
		Average outturn ...	...	...	15 0 0	20 20 0	18	13-8
1	Third tract ...	Pogar Karjera ...	Sris ...	28	12 13 8	17 16 0	...	...
		Khakhra ...	Do. ...	17	17 30 9	25 23 15	...	...
		Salimpur, Paduria ...	Do. ...	11	10 34 8	15 19 9	...	...
	Average outturn ...	...	...	...	13 29 1	19 19 0	18	12-9
1	Fourth tract ...	Chausi, Baida ...	Sherghati ...	9	11 2 8	15 13 10	...	...
		Gohiti ...	Do. ...	4	7 30 10	12 17 0	...	...
		Nawada ...	Do. ...	6	4 37 8	7 38 0	...	...
	Average outturn ...	...	...	...	7 35 14	11 35 8	18	8-0

Fourteen cuttings were made in the first tract, 172 in the second, 56 in the third, and 18 in the fourth. The paddy last year was exceptionally good and was estimated by the Collector at 20 annas in the first tract and 18 annas in the other tracts, and the outturn of an average year is worked out starting

from this estimate. Dr. Grierson takes an average year as giving a 14-anna crop. This, I think, is too high for the district generally. For the first I estimate a 13-anna crop as a fair average, and for the other three tracts a 12-anna crop.

37. The crop cuttings were made on lands that pay rent in kind. Thus in normal years the outturn worked out from the appraisement papers, compared with that obtained by the crop cuttings, is as follows:—

*Yield of bhaoli land per acre of paddy.*

		According to appraise- ment papers.	According to test crop-cutting.
		Mds.	Mds.
First tract	...	14.38	15.92
Second "	...	12.49	13.8
Third "	...	10.78	12.9
Fourth "	...	8.47	8

In every tract, therefore, except the fourth, the cuttings of paddy give a considerably higher rate of outturn. In the fourth tract physical conditions vary so greatly that it is extremely difficult to find a village that can be treated as in every respect typical. I think these figures taken as a whole justify me in saying that the increase of 10 per cent. added on to the appraisement figures to cover pecculation was not excessive, and for the purposes of this inquiry I shall adopt the outturn thus obtained.

38. No crop cuttings of *rabi* were made. Nearly half is *khesari*, the outturn of which is well known. Moreover, if 10 per cent. added to the appraisement figures to cover the cost of pecculation is not excessive in the case of paddy, it certainly is not so in the case of *rabi*, which consists of crops that ripen at different times, and are as a consequence pilfered to a much larger extent.

39. Applying the results thus arrived at, and remembering that 70 per cent. of the district is *bhaoli* and gives the lower rate of outturn, and 30 per cent. held on cash rent gives the higher rate of outturn, the average rate of outturn for paddy in land of both kinds in the four tracts is:—

		Mds.
First tract	...	14.95
Second "	...	12.95
Third "	...	10.96
Fourth "	...	8.63

The average outturn of paddy per acre for the whole district, then, is 11.73 maunds, or 938 lbs., as against Sir A. P. MacDonell's estimate of 984 lbs. I subjoin a comparative statement showing the estimate of the average yield of paddy according to Dr. Grierson, the one worked out by me for the purpose of these inquiries, and the average yield in an average year of fertility based on the experimental crop cuttings:—

*Comparative statement of the yield of paddy per acre = 1 bigha  
8 cottahs 9 dhurs.*

Name of tract,	Average yield per acre according to Dr. Grierson.	Average yield of paddy per acre taken for statistical purposes in the present enquiries.	Average yield of paddy per acre in average year according to test crop cutting.
1	2	3	4
	Mds.	Mds.	Mds.
First tract	10.8	14.95	15.93
Second tract	8.6	12.95	13.8
Third tract	7.2	10.96	12.9
Fourth tract	6.2	8.63	8.0



40. I believe my estimates to be near the mark. I have taken care to err on the side of underestimating, and my results are considerably lower (except in the fourth tract) than those obtained by experimental crop cuttings, and the average works out lower than Sir A. P. MacDonnell's estimate, while Dr. Grierson's estimates have already been fully demonstrated to be too low.

41. Taking again 70 per cent. of the land as produce-paying and 30 per cent. as cash-paying, the average outturn of an average acre of *rabi* in the four tracts is as follows:—

			Mds.
First tract	...	...	8.65
Second tract	...	...	7.67
Third tract	...	...	7.67
Fourth tract	...	...	4.31

The average outturn for the whole district, therefore, is 7.16 maunds or 572 lbs. per acre. Sir A. P. MacDonnell's estimate was 984 lbs. and Dr. Grierson's only 336 lbs. The former is certainly too high and the latter is equally certainly too low.

42. The following calculations made in the case of Bhuri and Keora, tract II, will illustrate how the appraisement papers have been used for the purposes of the present inquiry.

#### OUTTURN ACCORDING TO DANABANDI KHASBAS.

##### BHURI AND KEORA, TRACT No. II.

###### *Paddy.*

Paali.	Area.			Outturn.			
	BH.	K.	DH.	Mds.	s.	CH.	
1300	...	561	18	8	5400	18	4
1301	...	592	15	18	6211	21	0
1302	...	556	9	2	5640	26	0
1303	...	642	6	14	5568	17	0
<b>Total</b>		<b>2353</b>	<b>11</b>	<b>2</b>	<b>22821</b>	<b>2</b>	<b>4</b>

Average outturn per bigha is 9.7 kachcha maunds.

One maund kachcha =  $\frac{6 \times 0.4 \times 42}{80}$  seers =  $\frac{3 \times 27 \times 42}{4 \times 80}$  =  $\frac{324}{10}$  = 32.4 seers.

Average outturn per acre =  $\frac{1 \times 9.7 \times 32.4}{40}$  maunds =  $\frac{100.98}{4 \times 10}$  =  $\frac{100.98}{40}$  = 10.99 maunds.

Add  $\frac{1}{5}$  for reapers' wages,  $10.99 + \frac{1}{5} = 10.99 + .73 = 11.72$ . Add  $\frac{1}{6}$  for pilfering; therefore 12.89 is the outturn of standard maunds per acre.

###### *Rabi.*

(Gram, Masuri, keráo, sarso, barley, linseed, rahur, wheat, khesari.)

Paali.	Area.			Outturn.			
	BH.	C.	DH.	Mds.	s.	CH.	
1300	...	363	4	2	2730	1	4
1301	...	308	19	11	1917	34	0
1302	...	268	19	10	1589	39	8
1303	...	263	18	10	1408	20	12
<b>Total</b>		<b>1,024</b>	<b>1</b>	<b>13</b>	<b>7,646</b>	<b>15</b>	<b>8</b>

Average outturn per bigha = 6.35 maunds kachcha.

Average outturn per acre =  $6.35 \times \frac{1}{2} \times \frac{3}{5} = 7.2$  maunds pukka; add 10 per cent. for pilfering, and the outturn is approximately eight maunds per acre.

The danabandi khasras previous to 1300 F. S. were not forthcoming.

## COST OF LIVING.

43. The cost of living is estimated by Dr. Grierson on page 89 of his book. He takes it at Rs. 15 per head per annum, or, speaking more accurately, a family of six persons should spend Rs. 93 and a family of four persons Rs. 61-12 per annum if each member gets two meals a day and has moderate comforts. It has been ascertained by careful inquiry, the details of which I need not reproduce, that Dr. Grierson's estimate of Rs. 15 a head, say, for a family of five persons, is very near the mark; but it is very obviously wrong to make the rate per head for a family of six the same as the rate for a family of four; for the larger the family the greater probability of women and children who eat less being in a greater proportion, especially as the superfluous men are in the habit of going abroad for service. Then, too, the larger the family the greater the economy in the cost of living. Assuming then Rs. 75 or Rs. 15 per head to be the cost of living for a family of five, a family of four would probably spend Rs. 65, while a family of six would spend Rs. 85, and a family of seven Rs. 92-8. But as an all-round estimate Rs. 15 per head can be accepted as correct.

## COST OF CULTIVATION.

44. The average cost of cultivating each class of crop in each tract can be gathered from the following statement:—

Tract.	Village.	PADDY.		RABI.		Bhadal.	Poppy.	Sugar-cane.	
		Trans-planted.	Broad-cast.	Irrigated.	Not irrigated.				
1	2	3	4	5	6	7	8	9	10
First ...	Daudpur, Bistaul, Makdumpur.	Rs. 4	Rs. A. 8 8	Rs. A. 5 8	Rs. A. ...	Rs. A. 3 0	Rs. 10	Rs. 22	In the first tract paddy sown broadcast covers 30 per cent. of the area under paddy, transplanted paddy 70 per cent.
	Average for the tract.	4	2 8	5 8	...	5 0	10	22	
Second ...	Bhuri and Keora, Utrend, Fali.	4	...	6 0	4 0	5 0	10	22	The average cost of cultivating paddy = $\frac{70 \times 4}{100} + \frac{3 \times 2}{100} = \frac{28}{10} + \frac{6}{100} = \frac{286}{100} = \frac{143}{50} = \text{Rs. } 2-8 \text{ nearly.}$
	Average ...	4	...	6 0	4 0	5 0	10	...	
Third ...	Pogar, Karjara, Khakra.	As in the second tract.							
Fourth ...	.....	4	...	4 8	...	4 8	...	...	

45. The cost of cultivating spring crops is higher in the second tract than in the first, because irrigation involves more labour. The cost of cultivating autumn and spring crops in the fourth tract is lower than elsewhere, because the larger portion of these crops in that area grows unirrigated. These results have been obtained thus. The wages paid to agricultural labourers are always in kind. I shall calculate in kind the wages paid and then find their cash equivalent. The labourers are paid in local seers (one maund of 40 local seers = 25 seers standard).

46. The cost of cultivating rice per bigha is as follows:—

	Local seers.
Seeds ...	40
Ploughing, 2 men for 2 days, at 4 seers each ...	16
Transplanting, 7 men 7 women ...	56
Reaping, 2 men ...	4
Weeding, 2 men ...	8
Carriage of seedlings, 2 men ...	8
Threshing, 2 men ...	8
	—
Total ...	4 maunds.
	—

Four maunds at Rs. 1 a maund (of 40 local seers) = Rs. 4.

47. The cost of cultivating *rabi* per bigha is as follows:—

	Local seers.
Seeds ... ..	50
Ploughing, 15 men ... ..	60
Irrigation, 15 men ... ..	60
Weeding and reaping, 10 men ... ..	40
Total	210=5 maunds 10 seers (kachcha).

= 8 maunds 6 seers standard at Rs. 2 a maund = say Rs. 6.

The cost of cultivating *rabi* varies according to the nature of the soil. Weeding and irrigating are not necessary for low-land *rabi*. In dehas or upland *rabi* fields weeding and irrigating are essentially necessary. The cost of cultivating *rabi* lands varies from Rs. 4 to Rs. 6 per bigha. This does not apply to *khesari*, which is sown broadcast, the cost of cultivating which does not exceed Re. 1.

48. The cost of cultivating *bhadai* is intermediate between *rabi* and paddy. It may be put down at Rs. 5 per bigha.

49. The cost of growing poppy per bigha is:—

	Mds. srs. (local.)
Ploughing, 20 men at 4 seers ... ..	2 0
Irrigating, 15 men at 4 seers ... ..	1 20
Weeding, 4 men at 4 seers ... ..	0 16
Kudowing, 40 men at 4 seers ... ..	4 0
Tapping, 6 men at 4 seers ... ..	0 24
Collecting poppy juice, 6 men at 4 seers ... ..	0 24
Cutting the stem, 1 men at 4 seers ... ..	0 4
Carriage of manure, 4 men at 4 seer ... ..	0 16
Total	9 24
	Rs. a.
9 maunds 24 seers at Re. 1 per maund ... ..	9 8 say.
Cost of seeds ... ..	0 7
Total cost of cultivation	9 15
Say	10 0

50. The cost of cultivating sugarcane per bigha is:—

	Mds. srs.
Ploughing, 16 men at 4 seers ... ..	1 24
Irrigation, 20 men at 4 seers ... ..	2 0
Kudowing, 40 men at 4 seers ... ..	4 0
Carriage, of manure, 10 men at 4 seers ... ..	1 0
Squeezing and boiling, &c., 60 men at 4 seers ... ..	6 0
Total	15 24
	Rs. a.
15 maunds 24 seers at Re. 1 per maund ... ..	15 8
Seedlings, 52 seers at 10 per rupee... ..	5 0
Hire of sugar machine ... ..	1 8
Total cost	22 0

To obtain the cost per acre the results should be multiplied by  $\frac{1}{4}$ .

51. The average outturn of the chief crops separately for produce and cash-paying holdings, the average cost of living, and the average cost of cultivating have thus been calculated. It now remains with the aid of these results to attempt to work out the economic condition of the poorer cultivators and labourers in the selected villages to which our further inquiries have been confined.

## THE CENSUS.

52. The census carried out in the selected villages according to the classification of the population into (1) pure cultivators, (2) labouring cultivators, (3) landless labourers, (4) others, gives the following results :—

Village.	Pure cultivators.	Cultivating labourers.	Landless labourers.	Other kinds.
1	2	3	4	5
<i>First tract.</i>				
Daudpore, Bistaul ... ..	56.5	12.3	23.0	8.2
Makdumpur ... ..	51.6	35.1	9.1	4.2
Average for the first tract ...	54.05	23.70	16.05	6.20
<i>Second tract.</i>				
Bhuri, Nizamat and Keora... ..	63.0	13.0	22.0	2.0
Utrend, Pali ... ..	40.8	28.6	19.9	11.2
Average for the second tract ..	51.65	20.80	20.95	6.60
<i>Third tract.</i>				
Pogar, Karjera ... ..	48.8	6.1	12.2	32.9
Khakra ... ..	55.1	19.8	11.9	14.0
Average for the third tract ...	51.95	12.55	12.05	23.45
<i>Fourth tract.</i>				
Chansi, Baida ... ..	42.90	8.60	21.50	27.00
Average for the district ...	50.14	16.41	17.64	15.81

53. Arguing from these figures half the population of the district may be considered as pure cultivators. Dr. Grierson's estimate was (1) pure cultivators 53 per cent., (2) labourers 23 per cent., (3) artisans 23 per cent., (4) subsisting on charity 0.2 per cent. His figure for artisans appears very high. According to our figures about one-third of the population is dependent, more or less, on labour and this is in accordance with accepted ideas. Persons engaged in the lac trade and other local industries swell the number of "Others" in tracts 3 and 4.

## THE AVERAGE SIZE OF THE FAMILY.

54. The average size of a family in the four tracts is given below :—

Tract.	Village.	Pure cultivators.				Cultivating labourers.				Landless labourers.				Other kinds.			
		M.	F.	Ch.	Total.	M.	F.	Ch.	Total.	M.	F.	Ch.	Total.	M.	F.	Ch.	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
First ...	Makdumpur ... ..	2.4	2.4	2.5	7.3	2	1.8	1.8	5.3	1.3	1.5	1.8	4.6	1	1	1.2	3.2
	Daudpur Bistaul ... ..	2.3	2.5	2.7	7.5	1.6	1.7	2.5	5.8	1.3	1.5	1.4	4.2	1.2	1.3	1.0	3.5
	Average for the tract.	2.4	2.5	2.6	7.4	1.8	1.8	2.0	5.6	1.3	1.3	1.6	4.4	1.1	1.2	1.1	3.4
Second...	Bhuri and Keora ... ..	2.3	2.7	2.8	7.8	1.9	3	1.9	5.8	1.4	1.4	1.3	4.1	1.5	1.1	1.1	3.7
	Utrend Pali ... ..	2.2	2.7	2.6	7.5	1.6	1.8	2.1	5.7	1.4	1.4	1.4	4.2	1.2	1.4	1.1	3.7
	Average for the tract.	2.2	2.7	2.7	7.6	1.8	1.9	2.0	5.7	1.4	1.4	1.3	4.1	1.3	1.3	1.1	3.7
Third ...	Pogar Karjera ... ..	1.9	2.4	2.5	6.8	1.3	1.9	1.8	5.0	1.3	1.3	0.9	3.5	1.5	1.8	1.7	5.0
	Khakra ... ..	2.1	2.1	2.0	6.8	1.5	1.7	1.7	5.0	1.1	1.2	1.5	3.8	1.5	1.9	1.8	5.2
	Average for the tract.	2.0	2.3	2.3	6.8	1.4	1.8	1.8	5.0	1.2	1.4	1.3	3.7	1.5	1.9	1.7	5.1
Fourth ...	Chansi Baida ... ..	1.3	1.7	2.5	6.0	1.3	1.1	2.1	5.0	1.1	1.0	1.8	3.7	1.3	1.6	1.7	4.6
	Average for the district.	2.1	2.3	2.6	7.0	1.7	1.7	2.0	5.4	1.2	1.3	1.4	3.9	1.3	1.5	1.4	4.2

55. The most striking fact divulged by these figures is that the lower the social scale, the smaller the family. Even allowing for the greater mortality amongst the very poor, this would seem to indicate that the growth of the population is in a certain measure regulated by some prudential considerations. Dr. Grierson found the average size of a family to be 6·3. This, as far as pure cultivators are concerned, appears to be an under-estimate. Allowing for this, his conclusions would indicate an even greater decree of impoverishment than they do at present.

#### AVERAGE SIZE OF HOLDING.

56. The pure cultivators have been divided into three classes, viz. (1) those holding 5 bighas and under; (2) those holding between 5 and 10 bighas; (3) those holding over 10 bighas. The first class is treated as small cultivators. The following statement shows the proportion of these three classes in the four tracts.

*Statement showing the distribution of holdings among the families of the pure cultivators :—*

Tract.	Village.	Percentage of cultivators holding 5 bighas or under.	Percentage of cultivators holding between 5 and 10 bighas.	Percentage of cultivators holding over 10 bighas.
1	2	3	4	5
First	Daudpur Bistaul	19·7	19·7	60·6
	Makdumpur	45·5	4·5	50·0
	Average for the tract	32·6	12·1	55·3
Second	Bhuri, Keora	10·2	19·7	70·1
	Utrend Pali	27·2	24·3	48·5
	Average for the tract	18·7	22·0	59·3
Third	Pogar Karjera	41·2	17·6	41·2
	Khakhra	15·7	3·9	80·4
	Average for the tract	28·5	10·7	60·8
Fourth	Chansi Baida	15·4	34·6	50·0
	Average for the district...	24	19·8	56·2
	" according to Dr. Grierson.	48·5	21·7	29·8

57. In village Makdumpur of the first tract and Pogar of the third, the small cultivators mainly follow other callings, and they could take up more lands for the purpose of agriculture if they cared to do so. The percentages, therefore, are somewhat misleading; even so, however, we find 24 per cent. small cultivators as against Dr. Grierson's 48·5 per cent., and 56·2 per cent. cultivating over 10 bighas as against Dr. Grierson's 29·8 per cent. I have already noted that the settlement terij is of but limited use in investigating the size of holdings, because a single family may have several holdings and averages are always vitiated by the inclusion as separate holdings of a cottah or two of land held by persons in no sense dependent on agriculture for their support; but the terij was invaluable in ascertaining areas after the separate holdings belonging to one family had been brought together; and in a classification of family holdings according to area there is, therefore, reason to believe our figures to be much more accurate than Dr. Grierson's. His estimate of small holdings is 100 per cent. more than ours, a point which must cause a great divergence in the economic results obtained.

## THE SUBSISTENCE HOLDING.

58. We now know the average size of a family of pure cultivators, the cost of living, and the average size of a holding. The settlement records tell us what proportion of the land of an average holding is occupied with each class of crop. We have calculated the outturn and the cost of cultivation. I shall now try to estimate the smallest holding of average quality that can support in fair comfort an average family of pure cultivators in each of the four tracts. This may be styled the "subsistence" holding. On page 91, Dr. Grierson says "a holding of  $12\frac{1}{2}$  acres (20 bighas) is the smallest; which in the most fertile part of the district will support an average family of the district." That estimate in the very nature of things must be incorrect. Were it true, half the inhabitants of Gaya would have perished from starvation. I shall try to indicate the degree of error in this estimate. The size of an average family of pure cultivators in the first tract is 7.4. The cost of living in comfort can be taken at Rs. 95, though I am inclined to think it would be in reality somewhat less. The point to be determined is "what size of holding will give a net income of Rs. 95?"

59. *First tract.*—I will take pargana Okri as typical of the first tract, though it should be remembered that the lands within the first tract, which are irrigated by the Sone canals, are much more productive than those of this and the other parganas that depend for their fertility on artificial irrigation. I will base my calculations on an area of 100 acres. The proportions of the area of 100 acres under each class of crop, derived from the crop statement of the Tikari estate, for this pargana are as follows:—

	...	...	...	Acres.
<i>Bhadai</i>	...	...	...	7.5
<i>Aghani</i>	...	...	...	65.7
<i>Rabi</i>	...	...	...	58.9
Poppy	...	...	...	3.7
Sugarcane	...	...	...	3.0
Percentage of <i>dofasli</i>	...	...	...	32.0

From the *terij goshwara* it is found that the percentage of *bhaoli* land is 75.0, that of *nakdi* land 25.0. The average rate of cash rent per acre for this pargana is Rs. 5-11. Poppy and sugarcane are *rabi* and *aghani* crops respectively. Subtracting their areas, ordinary *aghani* crops cover 62 acres, and ordinary *rabi* 55.9 acres. Poppy and sugarcane are grown on cash-paying lands. Subtracting their areas, viz., 6.7 from 25 acres, the cash-paying area, the remaining *nakdi* area, viz., 18.3, has to be apportioned among other crops. The poppy land grows *bhadai*. Therefore 3.7 acres, out of 7.5 acres, the *bhadai* area, is no doubt *nakdi*, the remaining 3.8 acres may be either *nakdi* or *bhaoli*. I divide the *nakdi* area, viz., 18.3 acres, proportionately between *rabi*, 55.9 acres, *aghani*, 62 acres, and *bhadai*, 3.8 acres. This is not strictly in accordance with facts, as the proportion of the *aghani* area held on produce rents is greater than the proportion of *rabi* area so held, but it makes no material difference in the results. The area of each class of crop held in cash and produce rents will be as follows:—

	Total area.	<i>Nakdi</i> .	<i>Bhaoli</i> .
	Acres.	Acres.	Acres.
<i>Bhadai</i>	7.5	4.7	2.8
<i>Aghani</i>	62	9	53
<i>Rabi</i>	55.9	8.4	47.5
Poppy	3.7	3.7	...
Sugarcane	3.0	3.0	...

Let us find out the gross outturn and its value. The outturn is calculated in paragraphs 30-42. The value of *bhadai* and *aghani* to the raiyat is as near as possible Re. 1-8 a standard maund, and of *rabi* Rs. 2, thus:—

	Acres.	Mds.	Mds.	Rs. a.	Rs.
<i>Bhadai</i> ...	7.5 at 14	per acre	= 105	at Re. 1 8	= 157.50
<i>Aghani</i> ..	9 " 17.97	"	= 204	" " 1 8	= 242.59
	53 " 14.38	"	= 800.9	" " 1 8	= 1,143.21
<i>Rabi</i> ...	8.4 " 10.58	"	= 77.3	" " 2 0	= 177.74
	47.5 " 8.47	"	= 380.3	" " 2 0	= 804.64
Poppy...	3.7 " 63	...	...	...	= 233.10
Sugarcane	3.0 " 112	...	...	...	= 336.00
Value of total outturn					= 8,094.78

The rent of 100 acres is as follows:—

					Rs.
	25 acres at Rs. 5.11	...	...	...	142.2
<i>Bhadai</i>	$\frac{2.8 \times 14 \times \frac{3}{4}}{2}$	...	...	...	29.40
<i>Aghani</i>	$\frac{53 \times 14.38 \times \frac{3}{4}}{2}$	...	...	...	571.60
<i>Rabi</i>	$\frac{47.5 \times 8.47 \times 2}{2}$	...	...	...	402.32
Total of <i>bhaoli</i> rent				...	1,008.32

The *bhaoli* outturn was increased  $\frac{1}{10}$ th to cover pecculation. Assuming that the raiyats reap half the benefit of the pecculation, this rent should be reduced by  $\frac{1}{20}$ th. Thus the total *bhaoli* rent will be Rs. 953.16 and the total rent of both kinds Rs. 1,095.36.

The cost of cultivation is—

					Rs.
<i>Bhaoli</i>	7.5 @ $5 \times \frac{1}{4}$	...	...	=	52.5
<i>Aghani</i>	62 @ $\frac{3}{4} \times \frac{3}{4}$	...	...	=	303.8
<i>Rabi</i>	55.9 @ $3 \times \frac{1}{4}$	...	...	=	234.7
Poppy	3.7 @ $10 \times \frac{1}{4}$	...	...	=	52.0
Sugarcane	3 @ $22 \times \frac{1}{4}$	...	...	=	92.5
Total				...	735.5

The cost of cultivation of *bhadai* is Rs. 5 per bigha, of *aghani* Rs. 3.8 per bigha, allowing for rice sown broadcast and wages for harvesting paid out of the crop before division, but which have been included in the *bhaoli* rent. The cost of cultivating *rabi* is from Rs. 5 to Rs. 6, except *khesari*, which is, excluding the cost of seed, practically nil. Nearly half the *rabi* of pargana Okri is *khesari*, and Rs. 3 therefore per bigha has been taken as the average cost for *rabi* and all kinds. The amounts thus obtained have been multiplied by  $\frac{1}{4}$ , as one acre = approximately  $1\frac{1}{2}$  bigha.

					Rs.
Now gross outturn	...	...	...	=	3,094.78
Deduct rent	...	...	...	=	1,095.36
Deduct cost of cultivation	...	...	...	=	735.50
				—	1,836.86
Add value of unhired labour @ $\frac{2}{10}$ ths the cost of production, $\frac{1}{10}$ th covering the cost of seed	...	...	...	=	1,263.92
	...	...	...	=	662.0
Total				...	1,925.92

Rs. A. P.

Average value of outturn from one acre = say ... 19 4 0

Thus five acres in the first tract will support in comfort a family of seven persons, apart altogether from supplementary sources of income. In a holding this size the value of straw and cost of feeding and keeping up the stock about counterbalance each other; but a holding this size would not require more than the full labour of one adult man and one adult female, or child over 12, to cultivate, so that the remainder of the family could labour for clear profit.

60. *Second tract.*—Coming to the second tract, pargana Sanauth can be taken as typical. In this pargana:—

The percentage of twice cropped land to the net cropped area is	...	...	...	...	20.4
The percentage of <i>bhaoli</i>	...	...	...	...	4.5
Ditto <i>aghani</i>	...	...	...	...	59.5
Ditto <i>rabi</i>	...	...	...	...	56.4
Ditto sugarcane	...	...	...	...	2.9
Ditto poppy	...	...	...	...	2.9
Ditto <i>bhaoli</i> land	...	...	...	...	62.2
				Rs. A. P.	
Average rate of cash rent per acre	...	...	...	...	4 8 0

Following the same reasoning, I divide the areas under several crops among *bhaoli* and *naldi* land as follows:—

	Total area. Acres.	Naldi. Acres.	Bhaoli. Acres.
<i>Bhadai</i> ...	4.5	3.5	1.0
<i>Aghani</i> ...	56.6	...	40.6
<i>Rabi</i> ...	53.5	1615.5	38.0
Poppy ...	2.9	2.9	...
Sugarcane ...	2.9	2.9	...

The gross outturn will be—

	Acres.	Mds.	Rs. A.	Rs.
<i>Bhadai</i> ...	4.5 @ 14	per acre = 63.0	@ 1 8	= 94.5
<i>Aghani</i> ...	16 @ 15.61	" = 249.76	@ 1 8	= 374.64
	40.6 @ 12.49	" = 507.09		
<i>Rabi</i> ..	15.5 @ 9.68	" = 150.04	@ 2 0	= 300.08
	38.0 @ 7.75	" = 294.50		
Poppy ...	2.9 @ 50	"		= 145.00
Sugarcane	2.9 @ 84	"		= 243.60

Value of gross outturn = 2,507.45

Rent—

<i>Naldi</i> —	= 37.8 × 4.8	= 170.1
<i>Bhadai</i>	= 1 × 14 × $\frac{3}{4}$ × $\frac{1}{4}$	= 10.50
<i>Bhaoli</i> rent— <i>Aghani</i>	= $\frac{40 \times 6 \times 12.49 \times \frac{3}{4}}{2}$	= 380.31
<i>Rabi</i>	= $\frac{38.0 \times 7.75 \times 2}{2}$	= 294.50

Total of *bhaoli* rent ... = 685.31  
Deduct  $\frac{1}{10}$ th for pecculation ... = 34.26

Add *naldi* rent ... = 170.10

Total rent ... = 821.15

Cost of production—

	Rs.
<i>Bhadai</i> 4.5 @ 5 × $\frac{1}{4}$ ...	= 23.50
<i>Aghani</i> 56.6 @ $\frac{1}{4}$ × 4 ...	= 316.96
<i>Rabi</i> 53.5 @ 3 × 5 ...	= 160.50
Sugarcane 2.9 @ 20 × $\frac{1}{4}$ ...	= 87.20
Poppy 2.9 @ $\frac{1}{4}$ × 10 ...	= 40.60
Total ...	622.76

The value of the outturn of 100 acres is as follows:—

	Rs.	Rs.
Value of gross income ...	2,507.45	
Deduct rent ...	821.15	
„ cost of cultivation ...	622.76	
	1,443.91	
	1,063.64	
Add value of cultivators' unhired labour at $\frac{2}{10}$ ths the cost of production ...	596.50	
	1,600.14	
Average net value of crops from one acre ...	= 16.6	
Say ...	Rs. A. P.	16 8 0

Taking the cost of living of a family in this tract at Rs. 95 also, 6 acres apart from any supplementary sources of income can support a family in complete comfort.



61. *Third tract.*—Pargana Siris is typical of the third tract.

Percentage of twice cropped land	...	...	=	Rs.	11.1
Ditto <i>bhadoi</i>	...	...	=	Rs.	3.9
Ditto <i>aghani</i>	...	...	=	Rs.	39.0
Ditto <i>rabi</i>	...	...	=	Rs.	68.1
Ditto sugarcane	...	...	=	Rs.	0.8
Ditto poppy	...	...	=	Rs.	0.5
Ditto <i>bhaoli</i> land	...	...	=	Rs.	79.5
Rate of cash rent	...	...	=	Rs. A.	2 11

The areas under the different classes of crops that pay rents in cash and produce are as follows:—

	Total Acres.	<i>Nakdi</i> Acres.	<i>Bhaoli</i> Acres.
<i>Bhadoi</i>	3.9	1.1	2.0
<i>Aghani</i>	38.2	7.0	31.2
<i>Rabi</i>	67.5	11.6	55.9
Poppy	0.5	0.5	...
Sugarcane	0.8	0.8	...

Gross outturn—

	Rs. A.	Rs.
<i>Bhadai</i> ... $3.9 \times 12$	@ 1 8 ...	70.20
<i>Aghani</i> ... $7 \times 13.47$	@ 1 8 ...	141.44
... $31.2 \times 10.78$	@ 1 8 ...	504.66
<i>Rabi</i> ... $11.6 \times 9.76$	@ 2 0 ...	226.42
... $55.9 \times 7.87$	@ 2 0 ...	873.35
Poppy ... $.5 \times 50$	...	25.00
Sugarcane ... $.8 \times 84$	...	67.20
		<hr/> 1,907.27

Rent—

	Rs. A.	Rs.
<i>Nakdi</i> = $20.5 \times 2.11$	...	55.10
<i>Bhaoli</i> — <i>Bhadai</i> $\frac{1}{3}$ of $2.8 \times 11.5 \times \frac{1}{3}$	...	24.15
<i>Aghani</i> ...	...	252.33
<i>Rabi</i> ...	...	436.67
Total of <i>bhaoli</i> rent	...	<hr/> 713.15
Deduct $\frac{1}{10}$ th for speculation	...	35.65
		<hr/> 677.50
Add <i>nakdi</i> rent	...	55.10
		<hr/> 732.60
Total rent	...	<hr/> 732.60

Cost of cultivation—

	Rs.	Rs.
<i>Bhadai</i> $3.9 \times \frac{1}{3} \times 5$	...	27.30
<i>Aghani</i> $38.2 \times \frac{1}{3} \times 3$	...	213.92
<i>Rabi</i> $67.5 \times \frac{1}{3} \times 4$	...	378.00
Poppy $.5 \times 10$	...	5.00
Sugarcane $.8 \times 22$	...	17.60
		<hr/> 641.82
Gross income	...	1,907.27
Deduct rent	...	732.60
Cost of cultivation	...	641.82
		<hr/> 1,374.42
		<hr/> 532.85
Add value of cultivator's labour at $\frac{1}{10}$ th the cost of production	...	577.63
		<hr/> 1,110.48
Average net income from one acre	...	11.10

Say Rs. 11.2

The cost of living of an average family in this tract will be Rs. 85, and for its support in comfort a holding of 8 acres will more than suffice.

62. *Fourth tract.*—Take pargana Sherghati—

Percentage of twice-cropped land	...	...	6.2
Ditto of <i>bhadai</i>	...	...	25.0
Ditto of <i>aghani</i>	...	...	36.6
Ditto of <i>rabi</i>	...	...	44.5
Ditto of sugarcane	...	...	Nil
Ditto of poppy	...	...	Nil
Ditto of <i>bhaoli</i> land	...	...	66.8
Average rate of cash rent	...	...	Rs. 1-14

The areas under each class of crop paying cash and produce rents will be as follows:—

	Total area.	<i>Nakdi</i> .	<i>Bhaoli</i> .
	Acres.	Acres.	Acres.
<i>Bhadai</i> ...	25.0	8	17
<i>Aghani</i> ...	36.6	11.4	25.2
<i>Rabi</i> ...	44.5	14	30.5

*Value of outturn.*

			Rs.
<i>Bhadai</i>	25 × 10 @ Rs. 1-8	...	= 375.00
<i>Aghani</i>	{ 11.4 × 10.58 @ Rs. 1-8	...	= 180.90
	{ 25.2 × 8.47 @ Rs. 1-8	...	= 320.20
<i>Rabi</i>	{ 14 × 5.22 @ Rs. 2	...	= 146.16
	{ 30.4 × 4.18 @ Rs. 2	...	= 254.98
Total			... = 1,277.24

Rent—

	Acres.		
Cash	33.4 × 1-14	...	= 62.60
<i>Bhaoli</i> — <i>Bhadai</i>	$\frac{1}{5}$ of 375	...	= 255.0
<i>Aghani</i>	...	...	= 160.10
<i>Rabi</i>	...	...	= 127.49
Total of <i>bhaoli</i> rent	...	...	= 542.59
Deduct $\frac{1}{5}$ th for population	...	...	= 27.12
			515.47
Add <i>nakdi</i> rent	...	...	= 62.60
Total rent			... = 578.07

			<i>Bhaoli</i> .
			Acres.
<i>Bhadai</i>	25 × 4.5 × $\frac{1}{5}$	...	= 157.5
<i>Aghani</i>	36.6 × 3 × $\frac{1}{5}$	...	= 204.9
<i>Rabi</i>	44.5 × 3 × $\frac{1}{5}$	...	= 186.9
Total			... = 549.3

Gross income from 100 acres ... = 1,277.24

	Rs.
Deduct rent	578.07
Deduct cost of cultivation	549.30
	= 1,127.37

Add cultivator's labour at  $\frac{2}{10}$ ths of the cost of cultivation ... = 494.37

Net income per acre ... = 6.4  
Say Rs. 6-8

Taking Ra. 85 as the cost of living, 13 acres are required in this tract for the support in comfort of an average family, but the statistics of Serghati are vitiated by the fact that land is largely held by those who do not regard it as their main source of livelihood.

63. We have therefore arrived at these facts, that in the first tract 5 acres of land will amply support in comfort a family of average size in that tract, in the second tract 6 acres will suffice for the purpose, in the third tract 8 acres, and in the fourth tract 13 acres. I am now, I think, in a position to indicate the degree to which Dr. Grierson's conclusions as to the profits from agriculture given on page 94 of his book are inaccurate. Dr. Grierson finds that 48 per cent. of the cultivators have holdings of under 5 bighas. I find that only 24 per cent. of the cultivators are so circumstanced. In the settlement *terij* we had opportunities which Dr. Grierson did not possess for making a correct estimate. We, too, had a trained staff at our disposal to make the inquiries. I think therefore that I can fairly claim that our figures are entitled to great weight, the more so as I believe them to be borne out by the impressions of those who possess an intimate knowledge of the agricultural conditions of the district. Dr. Grierson's and my estimates of the percentage of holdings between 5 and 10 bighas vary very little, my 19.8 as against his 21.7. It follows that I find 56.2 per cent. of the holding over 10 bighas, as against his estimate of 29.8 per cent.

64. Dr. Grierson says that nowhere will a holding of  $3\frac{1}{2}$  acres support a cultivator and his family. These figures show that a holding of  $3\frac{1}{2}$  acres will support in comfort a family of four persons in the first and second tracts. In the third tract it will not do so, but there the percentage of big holdings, *i.e.*, over 10 bighas, is very high, while in the fourth tract the percentage of small holdings is very small, indicating that the size of the holdings is very largely regulated by the productiveness of the soil. A holding of  $7\frac{1}{2}$  acres, or 10 bighas, will support in comfort an average family anywhere, except perhaps in the fourth tract; and apart from statistics, I am fairly confident it would do so there too, if the family devoted its attention mainly to agriculture. Yet Dr. Grierson found that 10 bighas would support only a small family, and that only in the most favoured part of the district. It is difficult to estimate with any approach to accuracy what percentage of the holdings in the district would be sufficient without supplementary sources of income to support the cultivators and their families. It can, however, I think, be fairly said that in the first tract 62.6 per cent., in the second tract 70.4 per cent., in the third tract 62.6 per cent., and in the fourth tract about 30 per cent. of the holdings do suffice. It would appear therefore that the conditions depicted by Dr. Grierson, namely, that 70 per cent. of the holdings of the district do not support the cultivators, may perhaps apply to the most unfertile tract, or to 8 per cent. of the cultivated area of the district calculated by applying the percentages of cultivation obtained in the villages of each tract surveyed to the total area of the district as estimated by Mr. Macpherson. Again, the fourth tract has a population of only 263,717, and the selected village of that tract has only 42.9 per cent. of its population pure cultivators. Even this percentage is much too high for the tract generally; but, applying it, 70 per cent. of 113,398 persons, or 79,378 persons, *i.e.*, 1,300 families, may be said to have holdings which by themselves are unable to support the cultivators in comfort. But although we can say with a fair approximation to the truth that 62.6 per cent. of the holdings in the first tract, 70.4 per cent. of the holdings in the second tract, 63.6 per cent. in the third tract, and 30 per cent. in the fourth tract, and for the district generally 64 per cent. of the holdings must comfortably support their cultivators, it is very difficult to say what percentages of the remainder may actually suffice to do this. For instance, taking the first tract, 5 acres under usual circumstances will support an average family, but when holdings are small, circumstances cease to be normal, and the small cultivator, by concentrating all his care and industry on a small holding, will get 25 or 50 per cent. more produce from his lands than the big cultivator, and for the support of his family probably 4 acres would suffice. It is also true as a general rule amongst pure cultivators that the smaller the holding the smaller the family.

65. These results are very different from those obtained by Dr. Grierson, but even so they leave a sufficient gap to be filled up by supplementary sources

of income. It is necessary now to consider how far the income from agriculture is so supplemented, and with this object inquiries were instituted in each selected village into the circumstances of specific cultivators—

- (1) holding 5 bighas and under,
- (2) holding 10 bighas and under,
- (3) holding more than 10 bighas.

66. The results which are given in Appendix III, I shall briefly summarise.

(1) *Five bighas and under.*—In the first tract 24 families were examined and they contained 100 members, a little over four to each family. They held 64 bighas, and their total income is Rs. 2,532, of which Rs. 1,446 is obtained by supplementary sources of income, mostly service. Deducting their cost of living, they have a net profit of Rs. 1,032, *i.e.*, Rs. 43 per family. Sixteen per cent. of the income required has to be raised by supplementary means.

In the second tract the circumstances of 45 selected families were examined, the average size of a family being 5·5 souls. They hold 103 bighas of land. Their gross income is Rs. 4,887, of which Rs. 2,938 is due to supplementary sources of income. Their profit, after deducting cost of living, is Rs. 397 only, or Rs. 8·12 per family. Only 18·7 per cent. of the holdings in this tract are 5 bighas and under. Sixty-two per cent. of the required income has to be raised by supplementary means.

In the third tract 43 families were selected, and they contain an average of six in a family. They held only 69 bighas of land. Their gross income amounts to Rs. 4,800, of which Rs. 3,843 is due to supplementary sources of income. Their net profit is only Rs. 55, or a little over a rupee per family. Seventy-eight per cent. of the income required has to be raised by supplementary means. But the average area of the holdings, both in this tract and the last, is very low.

In the fourth tract four families were selected. Only 15 per cent. of the holdings are under 5 bighas, and very few of those could be taken as typical. There are four souls to a family, and they hold 8 bighas of land. Their gross income is Rs. 335, of which Rs. 247 is due to supplementary sources. Their net profit is Rs. 95 or Rs. 14 per head. Forty-five per cent. of the income has to be raised by supplementary means.

67. Taking the four tracts together, it is seen that out of an income of Rs. 14,022, Rs. 10,871, or 77 per cent., is raised by supplementary sources of income. The net profit is Rs. 2,439, so that 60 per cent. of the income required has to be raised by supplementary means. It is evident, therefore, that an average holding of under 5 bighas is not in itself sufficient to support an average family, except in the more favoured parts.

68. I need not give a similar detailed description of the results obtained by an examination of holdings over 5 and under 10 bighas; but it is found that 10 per cent. of the holdings of this kind in the fourth tract, 22 per cent. in the third tract, and 7 per cent. in the second tract, are not in themselves sufficient to support their cultivators. All holdings of over 5 bighas and under 10 are sufficient for this purpose in the first tract. The high percentage in the third tract is accounted for by the fact that the average size of a holding is only 6 bighas and the average size of a family is six souls in the cases selected, which therefore do not appear to have been very typical. As for holdings over 10 bighas in the first, second and third tracts, the income from supplementary sources is all clear profit, while in the fourth tract 36 per cent. of the income has to be supplied by supplementary means, but the average size of the family in the cases selected is abnormal, *viz.*, eight souls. Taking families of average size, this percentage will fall to 13 per cent. The average size of a family in this tract holding between 5 and 10 bighas was only four; hence the higher percentage, in spite of the average holding being larger. However, assuming that all the holdings selected were typical, the following results are obtained.

In the first tract only 5 per cent. of the holdings are insufficient in themselves to support their cultivators, in the second tract 13 per cent., in the third tract 24·5 per cent., and in the fourth tract 28·4 per cent. It can, therefore, be said that approximately only 17·5 per cent. of the holdings in the entire district are insufficient to support in comfort their cultivators.

69. I should note that in these calculations the family has been given full credit for its unhired labour, even when the family holding is not sufficient to absorb it. In this I have followed Dr. Grierson's example. This does not

make so great a difference as would at first sight appear. It is counterbalanced by the cost of labour, where the labour of the family is sufficient, being shown in the cost of cultivation, while in reality the family labour is usually supplemented by exchange and not by hire. Excluding this as an item of profit, however, I have shown that 64 per cent. of the holdings must suffice to support their cultivators, hence the number of holdings that are not of themselves sufficient to support their cultivators in comfort without supplementary sources of income must be somewhere between 17·5 per cent. and 36 per cent., and can be fairly taken at 25 per cent.—very different from Dr. Grierson's estimate of 70 per cent. The circumstances of 525 families of pure cultivators were examined, and it was not found that there was any insufficiency of food or clothing, except in one instance, and in that the head of the family was helped by his father-in-law as necessity arose.

#### THE INDEBTEDNESS OF CULTIVATORS.

70. Inquiries regarding the indebtedness of the selected families brought to light a curious fact, namely that the extent of a Gaya cultivator's indebtedness is in direct proportion to his prosperity. The accompanying statement shows that the incidence of debt per head for families holding under 5 bighas is Rs. 6·7, for those holding between 5 and 10 bighas Rs. 6·6, but for those holding over 10 bighas Rs. 11. The incidence too in the second tract is much higher than in the third and fourth. There could not be a more striking illustration of the fact that the value of a cultivator's security regulates the measure of his indebtedness.

71. Details of the indebtedness are furnished in the following statement:—

TRACT.	Village.	CULTIVATORS HOLD- ING 5 BIGHAS AND UNDER.		CULTIVATORS HOLD- ING BETWEEN 5 AND 10 BIGHAS.		CULTIVATORS HOLD- ING OVER 10 BIGHAS.	
		Percent- age.	Average amount per family.	Percent- age.	Average amount per family.	Percent- age.	Average amount per family.
1	2	3	4	5	6	7	8
First tract ...	Makhdumpur ...	20·0	Rs. 5·7	Nil.	...	8·1	4·5
	Daudpur Bistaul ...	7·0	7·1	14	7·1	4·6	3·5
	Average for the tract	13·5	6·4	7	3·6	6·8	4·0
Second tract ...	Bhuri Keora ...	Nil	...	18·1	13·7	12·8	12·2
	Utrend Pali ...	21·0	7·4	28	32·3	30	28·2
	Average	10·5	3·7	23·95	23·0	21·4	20·2
Third tract ...	Pogar Karagera ...	3	2·10	Nil.	...	3	7
	Khakra ...	12·5	3·75	Nil.	...	17	10
	Average	7·7	2·9	...	...	10·0	5
Fourth tract ...	Chanzi Baida ...	25	13·9	Nil.	...	39	16
	Average for the district	14·2	6·1	7·5	6·6	10·0	11·0

The bigger the cultivator the greater his credit and the higher his expenditure in marriages and similar ceremonies.

## THE UP-KEEP OF CATTLE.

72. In village Daudpur Bistaul an attempt was made to find out the average yearly expenditure of the pure cultivators for the purchase of cattle. The results are noted below:—

Class of cultivators' families.	Total number of families.	Total area in cultivation.	Total amount spent in 10 years.	Incidence of cost per family per year.	Incidence of cost per bigha per year.
1	2	3	4	5	6
		B. K. DH.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Holding 5 bighas and under	13	27 0 0	207 0 0	1 9 6	0 12 3
Holding between 5 and 10 bighas.	12	91 0 0	578 0 0	4 13 9	0 10 3
Holding over 10 bighas ...	20	502 0 0	2,053 0 0	10 4 3	0 6 6

Among the cultivators holding 5 bighas and under, the average cost per family is Re. 1-9-6 for the purchase of cattle. It is Rs. 4-13-9 among those that hold between 5 and 10 bighas, and Rs. 10-4-3 among those that hold over 10 bighas. But the incidence of cost per bigha is Re. 0-12-3, Re. 0-10-3 and Re. 0-6-6, respectively, among the three classes of cultivators. It is thus seen that the cost on this account is actually very insignificant, and would usually be covered by minor sources of profit which in inquiries of this sort cannot be taken into consideration.

## CULTIVATING LABOURERS.

73. I subjoin below a statement showing the incidence of income per annum per head of the cultivating labourers. Their income from cultivation was obtained in the same way as that of pure cultivators and from supplementary sources other than labour by local enquiry, but to ascertain the income from labour, little could be learnt from local enquiry and calculations are in their case therefore much more hypothetical:—

*Statement showing the income and expenditure of the cultivating labourers in the four tracts.*

NAME OF VILLAGE.	Number of families.	POPULATION OF CULTIVATING LABOURERS.				Area cultivated in bighas.	GROSS INCOME FROM CULTIVATION.			EXPENSES OF CULTIVATION.			Net income from cultivation.	Income from supplementary sources.	Total income.	Income per head per annum.	Average number of brass utensils per family.	Average indebtedness per family.	Average amount spent on ceremonies during the last 5 years per family.				
		Male.	Female.	Children.	Total.		Value of total product.	Value of labour.	Total.	Rent.	Cost of production.	Total.											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20				
Makhdumpur and Daudpur Bistaul.	40	74	92	90	258	First tract.			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.				
						79	1,634	2,930	4,564	533	685	1,218	2,548	458	4,002	15'6							
						Second tract.																	
Bhuri and Keora, Utrend and Pall.	140	281	267	286	814	Second tract.			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.					
						470	7,888	8,329	15,717	1,030	2,407	4,427	11,290	1,321	13,111	16'1							
						Third tract.																	
Pogar, Karjara and Khakre	86	67	66	66	192	Third tract.			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.					
						121	1,587	2,364	3,921	594	601	1,195	2,790	326	3,054	15'8							
Chansl Baida ...	6	11	7	13	33	Fourth tract.			Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.					
						10	106	373	477	28	34	62	415	29	454	14'6							

From Appendix IV it will be seen that a male adult labouring for nine months can earn 18 standard maunds, and a female, or child over 12 years, 14 maunds of cheap grain. It has been assumed that every member

of the family, whether labouring for hire or in the cultivation of his own fields, does actually earn this maximum amount, and there is no reason why, given ordinary industry, this should not be the case. Two hundred and twenty-four families in the selected villages were found to be cultivating labourers, and, speaking generally, they were found to be well-off. The above statement will show that the average income per head falls under Rs. 15 only in the fourth tract. The average number of brass utensils in each family is over 5, the average indebtedness Rs. 8, and the amount spent in ceremonies Rs. 9. The supplementary sources of income are mainly proceeds from the sale of ghi and wages of palki bearers.

74. I should not omit to note that in the course of our inquiry instances came to light of pure cultivators who originally started life as half-cultivators and half-labourers. Their number is noted below:—

Makhdumpur	...	...	...	...	Nil.
Bhuri and Kiara	...	...	...	...	18 families.
Daudpur Bistaul	...	...	...	...	4 "
Utrend and Pali	...	...	...	...	42 "
Pogar	...	...	...	...	11 "
Khakra	...	...	...	...	19 "
Cansi Baida	...	...	...	...	3 "

This is proof that there are ample opportunities for any one possessed of ordinary prudence and industry to improve his status. It is pleasing to see that it is in the Government villages of Utrend and Pali that very much the largest number of those who have succeeded in raising their position in life is found.

75. I give the family history of five families of Bhuri that have thus risen in the world. In the face of it, to consider Gaya a played-out and poverty-stricken district is absurd.

(1) *Dukhi Gop*, aged 45, son of Chuman Gop, aged 72, cultivates 70 bighas of land. Bansraj Gop came from Kusapi (the date is unknown) and was a cultivating labourer holding about 5 bighas. His son, Srikishan Gop, got an order from the thikadar to clear the jungle of about 25 bighas and to cultivate the land for two years without paying any rent. He did so. For the third and fourth years he was allowed to receive three-fourths of the produce, and the fifth year two-thirds of the produce. He thus made a good bargain. He was made mahton, and any *hukumut* in the shape of milk, ghi, &c., was not taken from him. In his old age he received 10 bighas of good land on payment of a *salami* of Rs. 10 per bigha. He was thus in possession of 40 bighas. He was again ordered by the proprietor, Maharaja Hitarain Singh, to bring some goálás, who would be given the same encouragement if they should clear the jungle. He brought some goálás from adjacent places whose heirs are now residing in the village. They are (1) Dhonta Gop, holding 40 bighas of land, (2) Chunni Gop, holding 23 bighas of land, (3) Meghraj Gop, holding 21 bighas of land, (4) Durbijai Gop, holding 43 bighas of land. Budhu Gop, son of Srikishan Gop, got his whole lands settled at 4 annas, 6 annas and 8 annas per bigha. Again, he cut away the other 25 bighas of jungle to cultivate the lands on the above conditions. He was thus in possession of 65 bighas of land. His son, Chuman Gop, made no improvement. Dukhi Gop, son of Chuman Gop, purchased 5 bighas of land for Rs. 375; he is now in possession of 70 bighas of land and is a pure cultivator and very well-off. The four other goálás who were inducted by Sri Kisan Gop were given the same encouragement.

(2) *Dhonta Gop*.—Bhaunr Gop was a cultivating labourer. He was holding only 10 bighas of land. His son, Rohi Gop, took about 30 bighas of waste land and was allowed to cultivate them for the first and second years without paying any rent, either cash or kind. For the third and fourth years he was allowed to receive three-fourths of the produce and for the fifth year two-thirds of the produce. The land was then settled with him at cash rent as *chakath* at the ordinary rate to give him encouragement. His son, Dhonta Gop is still in possession of the land and is considered in the village to be a well-to-do pure cultivator.

(3) *Chunni Gop*.—Gandauri Gop was a cultivating labourer holding about 5 bighas of land. His son, Bandhu, cleared away the jungle of about

20 bighas and cultivated the land. His grandson, Bhagwat Gop, is now in possession of 23 bighas.

(4) *Durbijai Gop.*—Lalli Gop was a cultivating labourer holding about 10 bighas of land. His son, Satan, brought 30 bighas of waste land under cultivation. His son, Bandhu Gop, purchased 3 bighas of land for Rs. 95. His son, Durbijai, is now in possession of 43 bighas.

(5) *Meghray Gop.*—Narku Gop was a cultivating labourer holding about 5 bighas of land. His son, Lachman, brought 16 bighas of waste land under cultivation. He is now considered a pure cultivator.

76. *Pure labourers.*—In paragraph 54 of this report the average size of a labourer's family is calculated to be four. The cost of its maintenance at Rs. 15 per head should be about Rs. 60. The following table shows the income and expenditure of this class in the selected villages:—

Village.	POPULATION.				Total income per annum.	Income per head per annum.
	Adults.		Children.	Total.		
	Male.	Female.				
1	2	3	4	5	6	7
Makhdumpur ...	8	9	11	28	407	14·5
Daudpur Bistaul ...	65	79	73	217	4,057	18·2
Bhuri Keora ...	160	163	145	468	.....	.....
Utrend Pali ...	122	130	128	380	.....	.....
Pogar Karjera ...	49	61	34	144	2,155	14·9
Khakra ...	22	23	30	75	1,114	14·8
Ohansi Baida ...	23	21	34	78	1,096	14·0

77. Dr. Grierson puts down the average annual income per head at Rs. 11-1, worked out from specific instances. His conclusions may be correct, but the method by which they were arrived at are worth little. A labourer does not know what he earns annually himself, and if he does he will not tell. All that I have attempted to show is what the income of a labouring family can be if the members work full time throughout the year. Generally speaking, if steady and industrious and fully employed, they can earn nearly Rs. 15 a head, but this is a maximum and as an all-round average, Dr. Grierson's estimate of Rs. 11-1 may be near the mark. The size of the family is very small, from 3·7 to 4·4 souls, but as their standard of living is so much lower than that of cultivators, Rs. 15 per head should amply cover the cost of living in comfort.

The income of the landless labourers has been calculated at—

	Mds.
Male adult ...	18 per year.
Female ...	14 "
Child over 12 ...	14 "

(The details will be found in Appendix IV.)

They are supposed to get work for nine months in the year. But it is doubtful whether they get work for so long a period, and they may fairly be considered to be insufficiently fed, or insufficiently clothed, or both, according to Dr. Grierson's standard of the cost of living. It is true that they have no stock of grain in hand, and it is they who first suffer when scarcity visits the district. But a large portion of them are Kamiyas (bond servants) of the high-class cultivators, and as such are supported by their masters even in times of adversity.



78. The principal castes of the landless labourers of the district are (1) Chamar, (2) Dusadh, (3) Kuhar, (4) Mushar, (5) Rajwar. Their total number, according to the census of 1891, is—

Chamar	...	...	...	84,115
Dusadh	...	...	...	110,192
Kahar	...	...	...	125,770
Mushar	...	...	...	58,280
Rajwar	...	...	...	42,269
				420,526 souls.

The percentage which it bears to the total population is  $\frac{420,526}{2,138,321} \times 100$ , or 19.4.

According to the census taken of eight villages for the present enquiry, the percentage of the landless labourers is 17.64. Possibly 1.74 per cent. of the five castes noted above hold land. According to the census of 1881 their number was 427,911. There has thus been a decrease in this class of 1.7 per cent. According to the statistics of the selected villages 56 per cent. of the landless labourers are Kamiyas, say 235,000, i.e., 11 per cent. of the total population of the district. Whether Kamiyas are on the increase or decrease, I regret that I have no means of saying. But this is the one class in Gaya that is entitled to the sympathies of the philanthropist. The members of the landless labouring class, other than Kamiyas, wander from village to village in search of work. They are free, and if they get the opportunity for bettering their condition, can seize it, but the Kamiya can never have such an opportunity. He is attached to a master who does not give him more than sufficient to keep him in good working order. If he deserts, he is driven back by public opinion. He is ill-fed and of poor physique. When not required by his master, he is allowed to earn what he can by palki-carrying, wood-cutting and other extraneous means; but so degraded is his nature that he usually dissipates one-fourth of his income in drink. Formerly a Kamiya used to sell himself into bondage, himself and his heirs for ever for a lump sum down. That having been declared illegal, he now leases his person, as the Chinese do their ports, for ninety years, the result being the same. The only compensation he derives is that in times of famine his master cannot allow him to die of starvation. He can neither profit by his industry nor suffer from his indolence. I have already said that this system of serfdom is no innovation. It is as old as the history of Gaya, and I should imagine that it is on the decrease. It is, however, sad to find a large class of men, at this period when Gaya has been shown to be immune from famine, when new railways, better prices and better irrigation make an extension of cultivation profitable, bound to servitude without a hope of ameliorating their lot, and without any desire for emancipation. Dr. Grierson has given a description of the income, &c., of this class in Chapter XII of his book. As I believe his conclusions to be generally correct, I need not refer to them at greater length.

#### OTHER CLASSES.

79. Under other kinds of inhabitants have been included all families who do not fall within one of the three classes dependent on the cultivation of the soil. They are generally well-off, are comparatively few in number, and their condition has but slight bearing on the points at issue in the present inquiry.

#### EXTENT OF IMPOVERISHMENT.

80. It remains to consider the general conclusions on the material condition of the people which Dr. Grierson arrives at in Chapter XV of his book. He says:—

“It will be seen from the foregoing remarks that in Gaya district all persons of the labouring classes, and 10 per cent. of the cultivating and artisan classes, may be considered as insufficiently clothed or insufficiently fed, or both. This would make about 45 per cent. of the population of the district, or, to use round numbers, a million people.”

Dr. Grierson's finding that the labouring classes are insufficiently nourished can be accepted so far as it concerns landless labourers. That 10 per cent. of

the artisans are similarly situated is little better than conjecture, but I am not prepared to deny it. There is no reason whatever to believe that 10 per cent of pure cultivators suffer from want, but it is possible 10 per cent. of cultivating labourers are in that condition. From these premises the result is obtained that 20·88 per cent. of the entire population, or about 425,000 people, as against Mr. Grierson's estimates of 45 per cent. of the population amounting to one million people, are so circumstanced that periods occur during the year when they are not able to take two full meals a day.

#### GENERAL CONCLUSIONS.

81. I will close this report with a recapitulation of the main conclusions arrived at. The enquiry started from a misapprehension of the position Dr. Grierson took up. He nowhere says that cultivators holding  $12\frac{1}{2}$  acres have an average income of about Rs. 12-4 per head, and he nowhere says that Rs. 15 per head is the expenditure required to supply a family with the bare necessities of life. Dr. Grierson said in his demi-official letter to Mr. Macpherson :—

“ In Gaya the popular standard of comfort is low. By this I mean that all that an average man considers necessary in the way of food, clothing, and luxuries is less than would be demanded elsewhere for a like purpose, and that his ideas of comfort are more rudimentary than in other parts of India. In other words, he is satisfied with less. If I had taken this standard of comfort, the number of people whose average income was less than the standard would have been greatly reduced, but I designedly did not do this. I took the standard which is accepted by the best experts of rural life in Bengal and Bihar as the standard of moderate comfort, *i.e.*, two full meals a day, a sufficiency of clothing, and a fair supply of village luxuries. My object was a comparative one; to show the Gaya cultivator as he stood beside his more prosperous brother in Bengal, and there is no doubt from an administrative point of view this is the only fair way of looking at the question. As for talking such nonsense as saying that the moderate comforts as defined above represent the bare necessities of life, no one who has any knowledge of India and who has read my little book will accuse me of having done so. If no one in Gaya got the bare necessities of life, how could any one exist in the district at all.”

It is clear, therefore, that the point of view from which Dr. Grierson considered the question was misunderstood by Mr. Caine. His object apparently was to show how far the Gaya standard of comfort fell below the provincial standard of comfort, though, as I have said already, in using the word “ support ” without qualification, when discussing the area of land sufficient to provide an average family with what he regarded as the provincial standard, he rather confused his issue. I doubt, too, if this issue was kept very clearly in view. The provincial standard of living should be that enjoyed by the most prosperous, and the standard of comfort enjoyed by the most prosperous body of cultivators and the most prosperous body of labourers should be distinguished, because they are very different. These standards would be found in Bengal, and I do not see what useful purpose could be served by using them as a measure of the material condition in Bihar, where circumstances are different and will ever remain so. In point of fact, no such artificial standard has been taken. A cultivator in Eastern Bengal, who had to support his family on Rs. 15 per head per annum, would consider himself extremely badly off, and would in reality be so; but not in Bihar, where food is cheaper and a cultivator is more easily satisfied. In short, enquiries of this sort are misleading and useless unless they start from existing facts and comparison is restricted to those districts that are similarly circumstanced. Now in the extract I have reproduced above, Dr. Grierson's comparison of the standard of comfort in Gaya with that taken by him as a general standard would lead one to infer that the inhabitants of Gaya do not usually get two full meals a day, but a contradiction of this is given on page 123 of his “ Notes on Gaya ” where it is said:—

“ In the majority of cases two meals a day form the rule, but they have often to curtail the number of their meals for a few days at a time to enable them to tide over difficulties.”

To be brief, Rs. 15 per head as the standard of comfort for a Bihar cultivator is very fair. For a Bengal cultivator it would be too low. While agreeing, therefore, that Dr. Grierson's conclusions have been grossly mis-stated, the reason why they cannot be accepted will not be found in the special

point of view from which he has regarded the question, but elements of error must be sought for in the calculation on which they are based.

82. The main heads of enquiry are—

- (1) The classification of the population.
- (2) The average size of the family of each class.
- (3) The average size of the agricultural holding.
- (4) The average outturn of the chief crops.
- (5) The cost of cultivating the chief crops.
- (6) The wages of labour.

83. As to the cost of cultivation, we are apparently in agreement. Dr. Grierson's estimate of the wages of labour is probably correct. On the remaining points of inquiry his statistics and mine give very divergent results. We have to a large extent set out from a common starting point, and I can best justify my conclusions by pointing out wherein Dr. Grierson's are fallacious. The obvious retort is that mine may be equally fallacious. I do not venture to assert that they are free from errors, but I claim at least that they are not open to the accusation Mr. Meredith lodges against all statistics of being "emotional," and that they do not shock, but serve to corroborate and define ideas on the subject drawn from observation and experience. My statistics support, Dr. Grierson's subvert, preconceived opinions, wherefore I claim that mine possess the greater virtue. I shall submit other reasons for venturing to believe them more trustworthy.

84. Dr. Grierson classified his population as—

- |                       |               |
|-----------------------|---------------|
| (1) Pure cultivators. | (3) Artisans. |
| (2) Labourers.        | (4) Others.   |

He, however, admits that the border line between pure cultivators and labourers is not clearly defined, and this ambiguity in the hands of untrained subordinates affords a very large opening for error. The classification adopted by me was (1) pure cultivators, (2) cultivators who also labour for hire, (3) landless labourers, and (4) others. He finds 53 per cent. to be pure cultivators and 23 per cent. to be labourers; I find 50 per cent. to be pure cultivators and 34 per cent. to be labourers, 16.41 per cent. cultivating labourers and 17.64 per cent. landless. He finds 23 per cent. to be artisans, a figure too high to be typical of an agricultural district. However, artisans are generally well off and labourers very badly off, so that the results of his census are more favourable to a good material condition than mine. Taking my figures, however, I have assumed that 10 per cent. of the cultivating labourers are badly off, bringing the total of labourers badly off up to 20 per cent., as against Dr. Grierson's estimate of 23 per cent. There is, therefore, not much divergence here.

85. Again, taking the average size of a family, Dr. Grierson puts it down at 6 souls. I find it to be 7 for cultivators and 5.4 for cultivating labourers, so that in this respect, too, Dr. Grierson's estimate is more favourable. The rock on which we split in short is the family's earnings from agriculture, *i.e.*, the size of its holding and the outturn of the chief crops grown. Dr. Grierson finds that 48.5 per cent. of the pure cultivators hold 5 bighas and under, 21.7 over 5 and under 10 bighas, 29.8 over 10 bighas. My figures are 24 per cent. 5 bighas and under, 14.8 per cent. over 5 and under 10, and 56.2 per cent. over 10 bighas. I claim that our figures are accurate, because we had means of attaining accuracy that Dr. Grierson did not possess. With the aid of the settlement terij we were able to obtain correct areas, and to render it certain that all the lands held by a single family under different statuses and in different villages were brought together. We had the advantage of having a trained settlement staff familiar with the whole subject to conduct these inquiries, and I may venture to say that, on the face of it, Dr. Grierson's estimate that half the holdings in the district are 5 bighas and under is impossible. The size of a cultivator's holding according to the terij goshwara is smallest in Tikari of the three estates surveyed, and it is there over 4 acres or nearly 6 bighas. Now in the terij goshwara every few cottas of land held by artisans and others in no way dependent on agriculture for their livelihood count as a separate holding, and, as far as my experience goes, the size of a pure cultivator's holding is always two to three times bigger than the terij

goshwara average. However, the fact, as it stands, is sufficient to show Dr. Grierson's estimate to be wrong; while considering the facilities offered to us by the survey records, I think I can fairly claim ours to be accurate, and the terij goshwara serves to indicate that they are typical.

86. The outturn of crops is the other point in which our estimates very widely diverge. The estimates are as follows:—

	Paddy.		Rabi.	
	Dr. Grierson's estimate.	Present estimate.	Dr. Grierson's estimate.	Present estimate.
	Mds.	Mds.	Mds.	Mds.
First tract	10·8	14·95	5·1	8·65
Second "	8·6	12·95	4·0	7·67
Third "	7·2	10·96	4·0	7·67
Fourth "	6·2	8·63	3·0	4·31

Both estimates start from the same basis, viz., the appraisement papers. The difference in results is due to errors in Dr. Grierson's estimate, that are demonstrable—

- (1) The cost of harvesting is deducted before the appraisement is made;  $\frac{1}{15}$ th has to be added on this account, but Dr. Grierson omitted to do so.
- (2) Dr. Grierson has admitted (see page 81 of his book and passim) that the pilfering of produce-rents is very great, and yet he makes no allowance on this account. I have added 10 per cent., and there is every reason to believe this to be an underestimate.
- (3) Dr. Grierson admits (see page 80 and elsewhere) that cultivators devote all their chief care and industry to lands that pay cash rents, and that, as a rule, these are the best lands; yet he makes no allowance for the greater outturn they may in consequence be reasonably expected to give. I have allowed, on this account, an increase of 25 per cent. on the 30 per cent. of the cultivated area that is held on cash rents, and that is certainly not an over-estimate.

I think, therefore, my estimate of outturn should be accepted, because, while based on the same source as Dr. Grierson's estimates, I have shown that the divergence is due to an omission on his part to allow for qualifying circumstances, the existence of which he admits.

87. The results of Dr. Grierson's estimates of those who live wholly or partly by cultivation of the average size of the holdings of pure cultivators and of the outturn of crops lead him to the conclusion that 70 per cent. of the holdings in the district are in themselves insufficient to support their cultivators. With this to start on, he could hardly come to any other conclusion than that, after allowing for supplementary sources of income, at least 10 per cent. of the cultivators were ill-nourished, while I find, on the other hand, that not more than 25 per cent. of the holdings of pure cultivators can be insufficient in themselves to support them; and from the inquiries made there is no reason to suppose that any of these, or more than 10 per cent. of the labourers who supplement their wages by cultivating their own small holdings, are in want at any period of the year.

88. I think, therefore, it can be fairly said that on the main heads of enquiry concerning which our statistics are discrepant, while demonstrating that Dr. Grierson's are certainly wrong, I have furnished some reasons at least for believing our own to be correct. Dr. Grierson's findings on the other heads have been accepted by me, but the final results differ widely. He estimates that 45 per cent. of the population of Gaya has from time to time to go without its two full meals. I do not believe that proportion to exceed 20 per cent.; and let the country which can boast that the proportion of its inhabitants that cannot at all times live up to their recognised standard of comfort is less than 20 per cent. cast the first stone.

C. J. STEVENSON-MOORE, I.C.S.,

Settlement Officer, North Bihar and Gaya.



(1) (C) Abstract of Statement I (b) of earning from holdings (1) of 5 bighas and under, (2) of 10 bighas and under, (3) of over 10 bighas.

Total number of pure cultivators.	Total number of cultivators holding 5 bighas and under.		NUMBER OF FAMILIES OF COLUMN 2.				TOTAL AREA HELD BY CULTIVATORS.			AREA UNDER—						COST OF CULTIVATION.						
			Male.	Female.	Adult.	Children under 15.	Total.	Bighas.	Cottahs.	Dhurs.	Bhadal.	Aghani.	Rabi.	Poppy.	Sugarcane.	Groves.	Bhadal.	Aghani.	Rabi.	Poppy.	Sugarcane.	Groves.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
																Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A.

NOTE.—The proportion under each class found to exist in the total cultivated area of the village (see raiian khasra) to be adopted.

To be ascertained locally with reference to the chief staple crop.

TOTAL VALUE OF OUTPUT OBTAINED BY TURNING INTO CASH THE AVERAGE OUTPUT ASCERTAINED LOCALLY.							Rent calculation, cash value of bhacit rent and add to cash rent.	VALUE OF UNHIREN LABOUR.		Value of straw sold.	Income from supplementary sources.	Profit adding columns 20, 21, 22, 23, and 24, deducting column 25 and 26.	Total cost of living.	Balance.	Total amount of indebtedness.	Average amount of indebtedness per holding or family.	REMARKS.
Bhadal.	Aghani.	Rabi.	Poppy.	Sugarcane.	Groves.	Total.		Male adult.	Female adult and children.								
23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

(2) (A) Census of cultivating labourers.

Serial number.	Name.	NUMBER IN FAMILY.				AREA TAKEN INTO CULTIVATION FROM KHATAJ OF OTHER TENANT.		AREA NOT CULTIVATED BY THE TENANT.		Net area. Add columns 8 and 10 and deduct column 12.	OTHER SOURCES OF INCOME.						AMOUNT DURING 5 YEARS SPENT ON CELEBRATIONS.		REMARKS.				
		Number in khation.				Khata number.	Area.	Khata number.	Area.		Labour.			Other kind.			Marriage.	Other ceremonies.					
		Male.	Female.	Children.	Total.						Wages, including food per annum earned by—	Total.	Nature.	Amount per annum.	Number of brass utensils.	Extent of indebtedness.							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

(2) (B) Statement of earnings of cultivating labourers.

Total number of household of cultivating labourers.	TOTAL NUMBER IN FAMILIES.				Total area.	AREA UNDER—						COST OF CULTIVATION.						
	Adult.		Children under 15.	Total.		Bhadol.	Aghani.	Babi.	Poppy.	Sugarcane.	Groves.	Bhadol.	Aghani.	Babi.	Poppy.	Sugarcane.	Groves.	Total.
	Male.	Female.																
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
					R. K. P.													

TOTAL VALUE OF OUTPUT.							Rent.	VALUE OF PERSONAL LABOUR.		Value of straw sold.	Total income from land, deduct columns 21 and 20 from 22.	Total income from labour.	Other sources.	Grand total.	Total cost of living.	Average number of brass utensils.	Average extent of indebtedness.	Average amount spent on ceremonies.	REMARKS.
Bhadol.	Aghani.	Babi.	Poppy.	Sugarcane.	Groves.	Total.		Male adults.	Female adults and children.										
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39

(3) Census of Landless labourers.

Serial number.	Name.	NUMBER IN FAMILY.				LABOUR.				OTHER KIND.		Amount of brass utensils.	Extent of indebtedness.	AMOUNT DURING LAST 5 YEARS SPENT ON—		REMARKS.
		Adult.		Children under 15.	Total.	Wages in kind, including food earned by—		Children.	Total.	Nature.	Amount.			Marriage.	Other ceremonies.	
		Male.	Female.			Male adult.	Female adult.									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

(4) Census of other kinds.

Serial number.	Name.	NUMBER IN FAMILY.				Nature of occupation.	Note material condition and means of livelihood.	REMARKS.
		Adult.		Children under 15.	Total.			
		Male.	Female.					
1	2	3	4	5	6	7	8	

APPENDIX

(1) STATISTICS OF THE INCOME OF

Holdings of 1

Name of village.	Total number of families of pure cultivators.	NUMBER OF FAMILIES OF COLUMN 2.				TOTAL AREA HELD BY CULTIVATORS IN			AREA UNDER—						COST OF		
		Adults.		Children under 15.	Total.	Bighas.	Cottahs.	Dhurs.	Bhadal.	Aghani.	Rabi.	Poppy.	Sugarcane.	Groves.	Bhadal.	Aghani.	Rabi.
		Male.	Female.														
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
									B. c.	B. c.	B. c.	B. c.	B. c.	B. c.	Rs.	Rs.	Rs. A.
<i>First tract.</i>																	
Daudpur, Bistaul ...	14	17	19	13	49	43	...	...	5 0	32 0	18 0	5 10	...	...	25	112	99 0
Makhdampur ...	10	18	17	16	61	31	...	...	4 0	14 0	19 0	9 10	...	...	20	40	66 0
Total ...	24	35	36	29	110	74	...	...	9 0	46 0	37 0	14 10	...	...	45	161	165 0
<i>Second tract.</i>																	
Bhori, Keora ...	17	25	32	42	99	45	...	...	1 0	13 0	30 0	0 5	0 4	...	5	22	150 0
Utrend and Pall ...	28	45	61	41	147	58	...	...	2 0	25 0	28 0	0 15	3 0	...	10	100	130 0
Total ...	45	70	93	83	246	103	...	...	3 0	38 0	58 0	0 15	3 4	...	15	122	280 0
<i>Third tract.</i>																	
Khakra ...	2	18	13	17	46	9	...	...	2 0	2 0	7 0	0 5	...	...	10	8	35 0
Pogar, Karjara ...	35	64	76	73	213	60	...	...	10 0	21 0	22 0	3 0	...	...	60	64	140 0
Total ...	43	82	89	90	259	69	...	...	12 0	23 0	29 0	3 5	...	...	70	72	175 0
<i>Fourth tract.</i>																	
Chansi, Baida ...	4	5	5	5	16	3	...	...	1 10	4 0	1 0	...	0 5	...	7	16	4 8
GRAND TOTAL ...	116	190	224	207	621	244	...	...	25 10	111 0	122 0	13 5	3 9	...	127	421	624 8

Holdings of 10

Name of village.	Total number of families of pure cultivators.	NUMBER OF FAMILIES OF COLUMN 2.				TOTAL AREA HELD BY CULTIVATORS IN			AREA UNDER—						COST OF		
		Male.	Female.	Children under 15.	Total.	Bighas.	Cottahs.	Dhurs.	Bhadal.	Aghani.	Rabi.	Poppy.	Sugarcane.	Groves.	Bhadal.	Aghani.	Rabi.
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
									B. c.	B. c.	B. c.	B. c.	B. c.	B. c.	Rs.	Rs.	Rs. A.
<i>First tract.</i>																	
Daudpur, Bistaul ...	14	26	31	34	91	104	...	...	5 0	61 0	30 0	6 5	1 5	...	25	289	275 0
Makhdampur ...	1	4	2	3	9	9	...	...	1 0	3 0	5 0	0 15	...	...	5	29	27 0
Total ...	15	30	33	37	100	113	...	...	6 0	64 0	35 0	6 6	1 5	...	30	318	302 0
<i>Second tract.</i>																	
Bhori, Keora ...	23	54	59	40	133	260	...	...	7 5	75 0	175 0	1 5	1 0	...	35	300	275 0
Utrend, Pall ...	25	38	46	44	128	190	...	...	8 0	81 0	86 0	2 0	11 0	1 10	40	324	430 0
Total ...	48	92	105	84	261	450	...	...	15 5	156 0	261 0	3 5	12 0	2 10	75	624	705 0
<i>Third tract.</i>																	
Khakra ...	2	4	3	0	13	16	...	...	4 0	6 0	9 0	2 0	...	...	20	24	45 0
Pogar, Karjara ...	15	24	29	28	91	99	...	...	17 0	34 0	48 0	...	...	...	85	138	230 0
Total ...	17	28	32	28	104	115	...	...	21 0	40 0	57 0	2 0	...	...	105	162	275 0
<i>Fourth tract.</i>																	
Chansi, Baida ...	9	11	11	15	37	33	...	...	5 0	34 0	45 0	...	3 0	...	22	156	207 0
GRAND TOTAL ...	99	161	181	180	522	761	...	...	47 0	319 0	417 0	13 5	16 5	2 10	222	1,231	2,089 0

Holdings of 5

Name of village.	Total number of families of pure cultivators.	NUMBER OF FAMILIES OF COLUMN 2.				TOTAL AREA HELD BY CULTIVATORS IN			AREA UNDER—						COST OF		
		Male.	Female.	Children under 15.	Total.	Bighas.	Cottahs.	Dhurs.	Bhadal.	Aghani.	Rabi.	Poppy.	Sugarcane.	Groves.	Bhadal.	Aghani.	Rabi.
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
									B. c.	B. c.	B. c.	B. c.	B. c.	B. c.	Rs.	Rs.	Rs. A.
<i>First tract.</i>																	
Daudpur, Bistaul ...	43	124	131	147	403	1,329	...	...	52 0	911 0	794 0	62 0	3 10	0 10	300	2,168	4,812 0
Makhdampur ...	11	81	35	35	99	216	...	...	13 0	172 0	123 0	14 0	2 0	...	65	606	671 1
Total ...	54	185	166	182	502	1,545	...	...	65 0	1,083 0	917 0	76 0	5 10	0 10	365	2,774	5,483 0
<i>Second tract.</i>																	
Bhori, Keora ...	117	314	375	368	1,085	3,177	...	...	92 0	917 0	2,139 0	16 0	12 0	2 0	440	3,966	10,625 0
Utrend, Pall ...	50	145	179	180	495	1,334	...	...	55 0	571 0	610 0	19 0	7 0	2 0	300	2,284	5,950 0
Total ...	167	459	554	548	1,580	4,511	...	...	147 0	1,488 0	2,749 0	35 0	19 0	4 0	740	6,250	16,575 0
<i>Third tract.</i>																	
Khakra ...	41	87	95	108	289	1,395	...	...	93 0	545 0	907 0	10 0	1 0	...	465	2,140	3,025 0
Pogar, Karjara ...	35	73	95	98	261	1,008	...	...	171 0	451 0	467 0	7 0	...	...	305	1,904	2,325 0
Total ...	76	160	190	199	550	2,403	...	...	264 0	996 0	1,374 0	17 0	1 0	...	770	4,044	5,350 0
<i>Fourth tract.</i>																	
Chansi, Baida ...	13	31	28	44	108	308	...	...	24 0	139 0	154 0	...	5 0	...	106	546	683 0
GRAND TOTAL ...	310	805	927	1,001	2,753	8,202	...	...	308 0	3,707 0	4,883 0	118 0	28 0	6 10	2,608	14,236	34,791 0



III.

THE SELECTED AGRICULTURISTS.

bighas and under.

CULTIVATION.				TOTAL VALUE OF COTTURE OBTAINED BY TURNING INTO CASH THE AVERAGE COTTURE AS OBTAINED LOCALLY.												VALUE OF UNHIREN LABOUR.		Value of straw sold.	Income from supplementary sources.	P. Profit.—Adding columns 20, 21, 22, 23 and 24, deducting column 20 and 20.	Cost of living.	Balance.	Amount of indebtedness.	Average amount of indebtedness per holding.
Poppy.	Sugarcane.	Groves.	Total.	Blindal.	Aghani.	Bahl.	Poppy.	Sugarcane.	Groves.	Total.	Male adults.	Female adults and children.												
reference to the chief staple crops.				25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40					
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39				
Rs. A. P.	Rs. A. P.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.													
55 0 0	...	...	291	75	524	235	247	...	...	1,072	332	140	90	...	752	1,430	735	695	100	71				
35 6 0	...	...	176	80	296	151	157	...	...	605	187	100	80	...	694	1,102	765	337	87	57				
20 0 0	...	...	461	135	750	388	404	...	...	1,077	520	240	160	...	1,446	2,522	1,500	1,022	157	...				
2 8 0	4 0 0	...	213	13	193	354	9	12	...	585	218	490	...	...	2,135	1,710	1,455	225	...	...				
12 0 0	00 0 0	...	318	27	375	312	26	180	...	920	163	180	...	...	1,733	2,377	2,205	172	206	73				
14 8 0	76 0 0	...	531	40	573	666	35	102	...	1,506	386	580	...	...	2,932	4,097	3,600	397	262	...				
2 8 0	...	...	55	24	36	80	9	...	...	143	62	80	45	...	692	543	690	153	30	36				
30 0 0	...	...	304	120	286	230	105	...	...	811	286	540	45	...	2,151	3,957	2,125	762	75	21				
32 8 0	...	...	359	144	256	410	114	...	...	954	342	320	90	...	3,842	4,300	3,625	915	105	...				
...	5 0 0	...	32	14	48	8	...	11	...	78	28	60	10	...	247	335	240	95	55	12-7				
137 0 0	76 0 0	...	1,263	338	1,634	1,473	553	202	...	4,215	1,222	1,452	250	...	8,474	11,754	9,315	2,429	525	...				

bighas and under.

Rs. A. P.	Rs. A. P.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.									
68 0 0	27 0 0	...	673	75	1,294	622	261	100	...	2,372	856	220	135	...	570	1,875	1,365	510	100	...
7 8 0	...	...	87	18	124	68	34	...	...	235	87	40	15	...	91	227	135	92	...	71
68 8 0	27 0 0	...	739	90	1,412	690	315	100	...	2,612	942	260	150	...	651	2,102	1,500	602	100	...
12 0 0	23 0 0	...	1,244	94	1,732	2,102	44	80	...	3,459	1,174	900	...	95	711	2,747	2,285	452	452	137
30 0 0	242 0 0	...	1,083	102	1,215	1,032	108	660	...	3,126	614	180	...	130	1,163	2,919	1,920	999	807	22 2
42 0 0	204 0 0	...	2,312	202	2,362	2,140	149	720	...	3,697	1,782	1,080	...	226	1,674	5,662	4,215	1,451	1,200	...
20 0 0	...	...	109	45	76	121	70	...	...	315	60	40	15	...	171	372	195	177	...	...
...	...	...	451	204	408	524	...	...	...	1,122	500	200	15	...	2,047	3,522	1,525	2,174	...	...
20 0 0	...	...	500	252	475	645	70	...	...	1,442	500	240	20	...	2,212	3,211	1,580	2,361	...	...
...	60 0 0	...	425	45	327	326	...	125	...	642	231	200	102	...	117	500	255	54	...	...
121 8 0	351 0 0	...	4,026	529	4,559	4,811	524	925	...	11,456	1,822	1,920	225	...	5,070	12,222	7,520	4,452	1,200	...

over 10 bighas.

Rs. A. P.	Rs. A. P.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.									
590 0 0	77 0 0	...	8,359	780	14,391	9,822	2,340	260	10	27,662	10,252	720	200	1,250	20,291	31,521	6,080	25,501	156	3 5
140 0 0	44 0 0	...	1,525	195	2,312	1,604	630	160	...	5,401	1,725	240	250	162	2,122	4,952	1,422	3,462	50	4 5
600 0 0	121 0 0	...	2,884	975	17,202	11,466	2,970	440	10	32,024	12,072	980	450	1,522	22,420	34,454	7,515	22,969	200	...
100 0 0	204 0 0	...	15,245	1,242	13,465	27,222	500	720	10	42,340	10,915	2,000	500	1,622	4,722	26,950	16,275	10,624	2,156	18 4
190 0 0	1,622 0 0	...	7,445	722	5,545	7,220	665	4,440	11	21,724	4,722	890	310	1,622	3,501	15,912	7,425	8,427	1,411	26 1
350 0 0	1,822 0 0	...	22,024	2,025	22,020	34,072	1,225	5,160	21	65,182	15,711	2,420	1,110	2,256	8,227	42,871	22,700	19,171	3,567	...
100 0 0	22 0 0	...	5,802	744	6,901	7,212	350	80	...	15,272	5,202	500	400	500	2,122	5,802	4,220	4,242	411	10
70 0 0	...	...	5,004	2,002	6,491	6,222	245	...	...	13,022	5,271	420	190	400	2,244	5,902	3,915	1,990	249	7 1
170 0 0	22 0 0	...	10,802	2,722	12,222	12,555	522	60	...	22,220	10,722	920	500	900	5,427	14,567	8,225	6,222	652	...
...	100 0 0	...	1,457	212	1,222	1,040	...	225	...	2,214	662	200	150	141	702	1,642	1,545	151	185	15
1,180 0 0	2,122 0 0	...	44,201	6,012	52,222	59,724	4,720	5,222	31	1,22,210	29,520	5,620	2,200	5,240	35,620	92,522	40,222	54,272	4,621	...

## APPENDIX IV.

*Wages of Labourers.*

		Days.	
Jeth ...		15	
Asar ...		30	
Sawan ...		15	
Bhado ...		30	
Asin ...		30	
Kartik ...		30	
Aghan ...		30	
Pous ...		30	
Magh ...		30	
Phagun ...		30	
Chait ...		21	
Baisak ...		15	
		<hr/>	
		10 months 6 days.	
Deduct one day in a week on the average for rest ...		16.	
		<hr/>	
		Net working days 9 months.	
		<hr/>	
			18 maunds equal to Rs. 20
			<hr/>
			The income of a female or a child over 12 years per annum = $\frac{3 \times 30 \times 9 \times 48}{80 \times 40} = 12\frac{3}{8}$ pucks.
			Add on account of pilfering and picking up = $1\frac{1}{8}$
			<hr/>
			14 maunds equal to Rs. 20.
			<hr/>
			Dr. Grierson takes the value of a cultivator's own labour at Rs. 25 per annum; but these rates for labourers agree with his, and are, I think, fair.