

manures, destruction by crop pests, etc. The total number of fields selected should therefore contain a proportion of these unlucky fields. But it is impossible for the selector to decide what proportion of such fields he should select. The consequence is that the invariable tendency is to select the average successful field.

In the second year, therefore, this method was abandoned, and the fields to be reaped were marked on the maps in office by my assistant and myself before taking the field. A surplus was selected in view of rejection of some fields as unsuitable for survey reasons alone. This choice of fields by lot gives an average for the year which is a nearer approximation to the truth. The small size of the area that can be reaped, however, still affords room for error, and finally the value of the exper-

Area of field.	1st class land.	Outturn per acre.
'45	...	37
'72	...	37
'33	...	33
'38	...	36
'20	...	34
'26	...	38
'37	...	30
'37	...	27
'27	...	31
'38	...	32
'30	...	27
'31	...	29
'15	...	30
'22	...	35
'27	...	37
'31	...	21
'17	...	20
'27	...	41
'38	...	38
'30	...	24
'25	...	31
'27	...	31
'21	...	31
7'14	...	32
and class land.		
'39	...	37
'30	...	24
'26	...	24
'16	...	13
'40	...	38
'15	...	26
'23	...	26
'27	...	28
'23	...	22
2'39	...	28

ment depends upon the character of the reaping clerk. The best indication of fertility is the admitted outturn, for a whole holding, provided that the truth of the admission can be assured. An interesting experiment was made in the second year of the operations by the reaping of a whole holding field by field. A holding of 9'53 acres near Sitkwin was selected on land already classified, and containing first and second class land. The area of first class land was 7'14 acres and of second class 2'39 acres. The total outturn of the holding gave an all-round average of 31'23 baskets, dry. The first class land alone gave an average of 32'33, and the second class alone an average of 27'98 baskets. As will be seen, however, from the table in the margin, the separate plots in first class land varied in outturn from 20 to 41 baskets per acre, and on second class land from 13 to 38 baskets per acre. While then the classification on the whole is supported by the outturn on each part of the holding, the experiment shows how unsafe it is to draw inferences as to fertility from the outturns of individual fields.

Above all other considerations which affect the crop measurements this settlement in comparison with last is the poverty of the seasons which is reflected in all the experiments, but most of all in those of

the northern tracts.

113. The average area of the fields on which crop-reaping experiments were held was for rice land '57 of an acre, for sessamum '34, maize '20, beans '46, sugarcane '10, tobacco '27, spring rice '31, vegetables '25, chillies '43 and onions '19. Each field was measured on the ground by triangles; the measurement was first made by a clerk, and subsequently in all cases checked by an inspector; the areas of the triangles were afterwards calculated in office by the aid of logarithmic tables.

114. Admitted outturns were recorded over 134,424 acres, about 26 per cent. of the occupied area. Rather more of these statistics were recorded than is usual in most settlements, but the circumstances of the settlement area at once make the statistics more valuable, and easier to record. Hardly any of the area in the main plain tracts is fallowed, so for most of the holdings the total occupied area from Register I-A could be utilised. Where necessary the areas

Admitted outturns.  
Statement 10, columns 13 to 17.

were extracted field by field, from special records made in the field season. In the area settled the first year the outturns recorded were for one bad season and two fair seasons; in the area settled the second year the years were two fair and one bad, but probably 1914 was a worse year than 1911. At any rate its badness was nearer to the cultivators and may have affected somewhat their opinions as to the two previous years. But after making all allowances there seems to be no doubt that the north of the settlement area is less fertile than the centre, and approximates more to the fertility of Tharrawaddy township. Of the two northern townships, Gyobingauk is less fertile than Nattalin.

115. An allowance of ten per cent. is made for dryage. The average of 3,466 experiments of spreading out thinly upon a mat in the sun the first basket threshed, and measuring it some two or three hours later was a dryage of 8 per cent. I have however in several experiments myself on the same lines had dryage of 12 and 15 per cent., and considering the perfunctory nature of the performance of the drying experiments in many cases, I do not think an allowance of 10 per cent. excessive. Of course the amount of dryage varies with the time of day at which the reaping took place. Most of the experiments were made in the morning, and in Tharrawaddy the dews are heavy. No allowance is made in the case of any other crop than paddy. Tobacco of course was not weighed until it was dried.

116. The standard adopted in most cases closely corresponds to the average acre-outturns obtained by crop measurements after rejections in the manner described. In some cases crop measurements have been departed from, and when this is the case, the admitted outturn has, if possible, been followed. When both these expedients fail, reference has been made to the outturns on similar land in other tracts, and a standard adopted which in all the circumstances of the case seemed the most suitable. In the four hill tracts which have been classified, crop measurements on rice land gave similar results. The four tracts were then combined for fertility statistics, and the results followed exactly. In the five plain tracts, crop measurements have been followed in the main, and where they have been departed from, the standards are supported by the admissions. Of these tracts, Gyobingauk Plain, No. 11, is the only one in which there is considerable discrepancy between the standard assumed and both the crop measurements and admitted outturns. The adoption of either the crop measurement or the admitted outturn would be the admission of a deterioration of fertility in this tract which I am not disposed to make, and would lead to a reduction of the rates of assessment which are at present paid, a reduction which the general circumstances of the tract do not seem to me to warrant. I have therefore adopted for the first class in this tract the standard assumed in Nattalin Eastern Plain Tract, No. 13, and in Tharrawaddy Plain Tract No. 2, to which tracts Gyobingauk seems to me to approximate.

In the four flooded tracts slight increases have been made to the measurement results in the standards assumed. They are justified by the poorness of the seasons, and are still very moderate.

117. The results now obtained amount to something like a reversal of the results obtained at last settlement. It was in the north of the district that the highest outturn for first class land was assumed, 42 baskets, whereas my highest assumption on the same land is now 39 baskets. In the south of the district and the centre, at last settlement 40 baskets was assumed for the best land. The crop measurements justified a higher assumption, but the standards of original settlement were adhered to. My highest assumption on the same lands is now 45 baskets. I do not think there can be any doubt that the assumptions at the present settlement represent the relative fertility much more closely than the assumptions of last settlement. The number of experiments is much greater, and the basis of the assumptions is the admissions of the cultivators. In the riverine

area the reversal is more complete, but of the closer approximation to the truth obtained by the results at this settlement there can be still less doubt. It is impossible to believe that an area which consists for the most part of recently deposited silt, has no streams, and is liable to periodical floods, can be as fertile as or more fertile than the regularly worked paddy plains which receive a fair supply of water.

### (e) Cost of Cultivation.

118. The most important part of a settlement which proposes rates of assessment based on a share of the nett produce values is the method employed in the determination of the proportion of the gross produce that is the nett produce. The nett produce value is obtained by deducting from the gross produce value the cost of cultivation. The cost of cultivation is necessarily an artificial figure, because produce payments, which play an important part in its calculation, must be converted into money at an artificial price, which is based on the average price of twenty years. It is however worth while attempting to arrive at a figure, even though artificial, which does represent as near as may be the actual cost of cultivation in the settlement area. No apology is therefore needed for a somewhat detailed treatment of the method adopted to suit the circumstances of a district like Tharrawaddy.

119. The method prescribed in Settlement Instructions is a method for discovering the average expenses of selected cultivators. Methods commonly employed. Actual out-of-pocket expenses are recorded. The only exceptions are that allowances are made for labour of the cultivator in building huts and byres, fitting his implements for use, and for the value of the food of cattle supplied by the cultivator himself. If the cultivators are representative the result obtained by deduction of those expenses from the gross produce of a tract certainly gives the amount of surplus produce which is available for expenditure on living and for payment of taxes. The main objections to it are that the cultivators are never representative, and that it increases the taxation upon the industrious and thrifty while it lets off lightly the extravagant and lazy. It has therefore been attempted in several recent settlements to secure a greater uniformity by making allowances for the cultivator's own labour and so decrease the importance of the variable elements in expenditure. One method is to make an estimate of the whole labour of the cultivator and add that to the out-of-pocket expenses, obtaining an average in the same way as before. Another, which has the authority of another part of Settlement Instructions, is to include in addition to out-of-pocket expenses, allowances for those operations performed by the cultivator the rates for which are definitely ascertainable from the existence of general rates for those operations within the area of enquiry. This latter method is somewhat illogical and incapable of universal application. The word 'ascertainable' is capable of different interpretations. An attempt might be made to exclude variables by excluding from the scope of the enquiry all home labour, and all hired labour for operations which the cultivator might be expected to perform himself. This would be difficult to calculate, and another reason for rejecting it is that, other things being equal, a high cost of cultivation is preferable to a low one for assessment purposes, as the proportionate burden of taxation upon the worst lands is thereby lightened, and increased upon the best lands.

120. I have therefore aimed at the calculation of a cost of cultivation which can be applied uniformly over the whole of the settlement area so that the resultant rates may be equal in their incidence within that area. I have also tried to select a method which is capable of application over similar areas to the present area, and which will give a result which can be called a cost of cultivation without too great an abuse of the term. For this reason I have, wherever possible, left the individual cultivator out of account altogether, and in all cases where statistics of the cost of cultivation per acre are more readily available, I have used them.

With these aims, and by the method explained in detail below, I have arrived at the conclusion that the average cost of cultivation of rice land in the whole of the settlement area amounts to 14.77 baskets of paddy and Rs. 8.08 in money per acre.

121. I have given in Statement 12 the expenditure of the examinees in the cost of cultivation enquiry, recorded as prescribed in Settlement Instructions, except that allowances for home labour are omitted, and subsequently averaged by dividing the total of the expenses by the number of acres worked by the examinees. This statement is useful to some extent for comparison with the results of similar enquiries at last settlement.

122. In Statement 12A I have given my estimate of the cost of cultivation under the same heads as in Statement 12 for the various tracts. These are all derived from the settlement area estimate, by conversion of the produce in that estimate at the assumed prices for each tract. Where agricultural operations are customarily paid for sometimes in produce and sometimes in money, produce payments have been taken in preference to money payments so as to secure a greater conformity with the various tract prices.

123. The cost of cultivation of rice land in the settlement area is divisible into cost of (1) seed, (2) cattle, (3) labour, (4) implements, (5) manure, irrigation works and miscellaneous. No attempt has been made to make any allowance under the fifth head; the cost of spreading manure (it is never bought) is unascertainable and negligible; the cost of irrigation works is extraordinary and is recoverable; the cost of other improvements is also an extraordinary one; the cost of huts and byres is omitted because the expenditure under this head is negligible and was incurred by only 24 per cent. of the examinees.

124. The amount of seed paddy per acre is obtained from Statement 12.

125. The average area ploughed by a yoke of cattle throughout the settlement area is 8.73 acres. I have allowed for each 8.73 acres the purchase of a pair of oxen at Rs. 140, the average price for the settlement area, and have estimated the working life at six years. As explained above Tharrawaddy is favourably situated for the purchase and sale of cattle. Besides this, I have allowed a herd for three months at four baskets of paddy a month, and his keep at Rs. 3 per month. These rates are prevalent throughout the district. No further allowances have been made.

126. The labour necessary to produce a crop of paddy is that employed on (a) sowing, (b) ploughing and harrowing, (c) uprooting seedlings, (d) transplanting, (e) reaping and (f) threshing. Operations (a), (b) and (c) are most usually done by a single individual. The normal rate of hire of a labourer for these operations is 40 baskets, it is invariably paid in paddy, and it varies rather with the efficiency of the labourer than with locality. I have allowed this amount of paddy for each 8.73 acres, and in addition have allowed the keep of the labourer for three and a half months at Rs. 5 per month. It is true that such a labourer is employed in subordinate non-agricultural occupations as well as in ploughing, but the primary object of his hiring is these agricultural operations, and if he were hired for them alone, the amount paid would be the same. Many cultivators hire separately for uprooting seedlings in addition to hiring for ploughing, but I have allowed nothing additional for this, partly because most ploughmen do all the uprooting themselves, and partly as a set-off against the non-agricultural work he performs. My allowance of three and a half months is also generous.



127. Transplanting is invariably done by women at the invariable rate of 8 annas a day with meals, or one basket of paddy.

Transplanting. Payment in money is by far the most frequent mode of hiring, but I have allowed the payment in paddy without meals. The average area planted by one woman in one day is .26 of an acre, consequently 3.85 baskets of paddy are allowed for transplanting.

128. Reaping is done by men and women at rates varying from 8 annas to Re. 1 per day usually with food at the lowest rates, and

Reaping. sometimes without food at the higher rates. Another customary rate for reaping is one basket a day, and produce payments for reaping are commoner than for transplanting. Reaping is also done by *hlaing gauk*, the reaper taking one sheaf in ten, or more frequently one basket in ten of the produce. Contract rates for reaping are also frequent. I have allowed one basket of paddy for the area usually reaped by one person in one day. This area is commonly known as a *lan-da*, and from the average of areas so reaped is found to be .24 of an acre. (Strictly, it is .22, since it consists of an area 10 *lans* by 20, one *lan* being equal to four cubits and a span). The allowance is therefore 4.17 baskets per acre.

129. Threshing is usually done by a hired man and the cultivator between them. If so, the hired man is paid half rates. The

Threshing. regular rate for threshing is a money payment of Rs. 2 per 100 baskets of outturn. The average produce per acre of the examinees for cost of cultivation was 33 baskets. An allowance of Re. 0.66 is therefore made per acre under this head.

130. The examination of cultivators under this head is long and tedious, and was found not to be thoroughly performed by inspec-

Implements. tors. I therefore distrust the statistics as they appear in Statement 12. From special enquiries of over 100 cultivators in Letpadan township, and from my ordinary enquiries in all tracts, I have made the selection

Implement.		Cost.	Life.	Allowance.
No.		Rs.	Years.	Rs.
1	Plough	1.00	2	.50
1	Harrow	3.00	3	1.00
1	Grass-cutting knife	1.00	2	.50
2	Dahs	2.00	2	1.00
1	Axe	1.50	3	.60
1	Hoe	1.00	2	.50
1	Crow bar	.50	2	.25
1	Yoke	1.00	2	.50
1	Kamauk	.25	1	.25
2	Trays	1.00	2	.50
1	Sieve	.50	2	.25
2	Mats	1.00	1	1.00
2	Sickles	1.00	2	.50
1	Saw	1.50	3	.50
1	Chisel	.50	2	.25
1	Cart	50.00	10	5.00
Cart repairs		2.00	2	1.00
Cart oiling		1.00	1	1.00
Total		...	...	15.00

included in cost of living.

131. The result of all this is a general estimate of 14.77 baskets of paddy and Rs. 8.08 as the cost of cultivation of an acre of

Total cost of cultivation. paddy land within the settlement area. It is of course

which appears in the marginal table of the implements necessary for the cultivation of "a yoke of land" and commonly used, their usual life and cost, and the allowance made for them. I have made no allowance for the cultivator's own labour. No allowance is made, for example, for sledges for carrying seedlings which are commonly used but rarely purchased. No allowance is made for a clod crusher or *settun* which, though in common use, is not so common as the *bla-she* used for the same purpose. No allowance is made for baskets, which are

only an approximation, but it is a closer approximation than can be obtained by taking averages of actual expenses. It gives a definite meaning to cost of cultivation, and can be readily revised at future settlements. For about this amount per acre, a non-agriculturist could get all the operations of agriculture performed. If the payments of a herd, transplanters, and reapers are excluded, the remainder, the work of one individual, is 5·38 baskets and Rs. 7·05, which is equivalent in the southernmost township of the district to hire of Rs. 105·72 for the whole of the operations of the working year, and this is about the amount which a hired agricultural labourer can earn.

132. In this calculation I have ignored the economy that can be effected by agricultural operations on an extensive scale, *e.g.* in herding and implements. The reason is the extraordinary preponderance of the worker of one yoke of cattle. As pointed out in paragraph 65, out of 7,356 cultivators examined in the settlement area, no less than 52 per cent. were small holders or tenants working with one yoke of cattle only. It is this class upon whom the rates will press most heavily, and their interests should receive the first consideration.

133. Cost of cultivation enquiries were made of 1,304 cultivators working over 20,000 acres. Many more were examined in the course of parts of the general enquiry.

134. It is not possible to make a detailed comparison with the cost of cultivation recorded at last settlement, as the statistics are recorded in a different way, but if the paddy payments be converted at the price now assumed, the expenditure incurred by cultivators does not seem to have altered much. Thus in Tharrawaddy township the cost of cultivation at last settlement at the new price is Rs. 14·94; from Statement 12 it appears that the out-of-pocket expenses are Rs. 13·73. For some other townships the figures are :—

	Last settlement	Present settlement.
	Rs.	Rs.
Letpadan and Minhla ...	15·14 ..	14·70
Gyobingauk ...	13·70 ..	14·18
Nattalin ...	11·51 ..	14·20

### (f) Wholesale prices of produce.

135. The prices assumed for assessment purposes are based on the prices prevailing in Rangoon for the last twenty years during the months of January, February and March. These prices are then applied to each price tract by deducting cost of carriage from the tract to Rangoon, handling charges and merchants' profits. From the average of prices recorded in the *Burma Gazette* as market prices during the first thirteen weeks of the year, the average annual price is Rs. 104·47. This price is an average price for all kinds of paddy. Rail paddy fetches less. It has been ascertained from Rangoon millers that Tharrawaddy paddy is classed as best rail paddy. A separate rate has been quoted in the Gazette for the last eleven years for such paddy, and this price average Rs. 1·21 less than the general rate. Deducting this we arrive at Rs. 103·26 as the Rangoon price. The Rangoon rate is for 100 baskets of paddy weighing 46 pounds per basket. Poundage is allowed at 2½ per cent. on the current rate for every pound by which each basket exceeds 46 lbs. All calculations for settlement purposes are made in terms of the Government nine-gallon measure. It was necessary, therefore, to ascertain the weight of a Government basket of Tharrawaddy paddy. Weighments are made in each *kwin*, but it was considered more suitable to make special weighments at railway stations. The weighing of 80 baskets in the spring of 1914 in the

south of the district gave an average of 53·17 lbs. In the spring of 1915, 540 baskets were weighed throughout the district and found to average 50·15 lbs. There were such discrepancies between tracts, however, that it was decided to assume different weights. The discrepancies answer to the difference in rainfall. I have therefore assumed a poundage of 51 lbs. in four tracts in the south of the district, of 50 lbs. in four tracts in the centre of the district, and of 48 lbs. in the three tracts on the north and in the three riverine tracts.

136. The average cart hire for each tract is obtained by averaging the cart hire from each *kwin* in the tract to the railway station to which it exports. Freight to Rangoon from the railway station has been calculated from the freight charged for a ten-ton truck, which has been assumed to contain on the average 440 baskets of 50 lbs. each, or 110 bags of 200 lbs. each. This weight is equivalent to 6,111 viss, whereas the tare of a ten-ton truck is 6,222 viss.

137. From detailed enquiries of fifty-two merchants at railway stations, I have selected the following allowances as fair averages of expenses incurred per 100 baskets by brokers trading independently :—

	Rs.
Bagging and piling ... ..	50
Loading ... ..	68
Cost of bags ... ..	87
Cost of string ... ..	12
Measuring charges at Rangoon ... ..	50
Tips to Station Masters ... ..	45
Establishment .. ..	100
Siding charges ... ..	34
Miscellaneous (including lighting, rent and buildings, interest, weighing machines, fares, safes, locks, freight of bags returned),	42
Total ... ..	<u>489</u>

138. The jungle broker gets a commission varying from Re. 1 to Rs. 2. I have allowed Re. 1 for this on the railway line, Rs. 2 on the river. The daily accounts of fifteen buyers during January and February 1915 have been investigated, and prices paid compared with prices prevailing in Rangoon on the same day. From nine of these in the north of the district where buying is by weight, it appears that the average profit per 100 Government baskets is Rs. 4·41. I have allowed Rs. 4·50. For loss on transit I have allowed Re. 1 per 100 baskets. Independent brokers selling to mills in Rangoon would probably lose more than this in measuring alone.

The total deductions beyond cost of carriage are :—

	Rs.
Handling ... ..	489
Merchants' profits and brokerage ... ..	550
Loss on transit ... ..	100
Total ... ..	<u>1139</u>

139. For the three riverine tracts, I have taken the average Rangoon price for boat paddy. In the two tracts which export by the Irrawaddy, I have allowed the cost of freight by Irrawaddy Flotilla barge, Rs. 11 and Rs. 12 per 100 baskets. For Tract 3 which exports by the Myitmaka, I have calculated the cost of carriage by country boat. The amount is Rs. 8, but I have added to this Rs. 2 for loss in transit, as the risk is much greater than by the Flotilla Company's barges. In all three tracts I have made allowances of Rs. 2 for jungle brokerage, Rs. 4·50 for merchants' profits, and Rs. 3·10 for handling. These were the averages discovered by numerous enquiries along the river bank.

140. Mr. Moore in his first year used prices deduced from Rangoon prices. He allowed the difference in price obtained by poundage allowances to cover handling charges and brokers' profits. His Rangoon price was Rs. 92, and his assumed weight 50 lbs., so the poundage allowance amounted to Rs. 9'20, though he calls it Rs. 8. I have assumed weights varying from two to six pounds over the Rangoon weight, so that Mr. Moore's allowances for handling and profits would be, calculated at present weights and prices, between Rs. 5'16 and Rs. 15'49. My allowance is Rs. 11'39 throughout.

141. The average for fifteen years only of recorded prices is available. The price assumed for assessment is based on an average of twenty years, so it is to be expected that the assumed prices will be below the average of recorded prices. This is the case except in one tract. The recorded prices seem, however, to have been recorded carefully, and the average variation between them and the assumed prices is not great from tract to tract. The average price assumed at last settlements was Rs. 72'7 over the whole area; it is now Rs. 86'46, so the increase in price assumed is Rs. 13'76 over all. In the riverine tracts the prices assumed then and now are about the same.

142. The prices at Tharrawaddy where available for the various dry crops have been extracted from Statement VI of the Annual Season and Crop Reports, and are shown in Statement 4 of this report. Prices recorded at crop measurement during the present operations are also shown there. The assumed prices follow one or other of these sources.

### (g) Price Tracts

143. As the primary tracts have been formed of small compact areas in which prices vary little from *kwin* to *kwin*, the formation of separate price tracts is unnecessary. The primary tracts, therefore, automatically become the assessment tracts.

## PART 3.—LAND REVENUE.

### (h) Proposed assessments at Rates differentiated by Tracts.

144. In the following paragraphs, each assessment tract is dealt with separately, and particulars in which it differs from the rest of the settlement area are set forth in detail. Any facts about the tract which are too particular in their application to be relevant in former chapters, and are worth notice, are mentioned here. A table showing the nett produce calculations for the rice land in the tract is inserted, and important variations between the assumptions and recorded statistics explained. Another table shows the proposed rates and the various assessment standards side by side for comparison. Under this head are considered any divergencies from the general principles adopted for the calculation of the rates. The financial effect of the application of the proposed rates is then set forth. Finally the necessity for intermediate rates is considered, and if necessary, the immediate reduction of revenue consequent on their application, as well as any reduction necessary on account of the grant of exemption certificates for irrigation works or protective embankments, is stated. Intermediate rates are multiples of four annas, but in no case is an increase of more than 50 per cent. in resettled *kwins*, or more than 100 per cent. in originally settled *kwins* proposed. There were altogether 64 applications for temporary exemption from enhancement of revenue on account of improvements. Nineteen of these have been granted, and as in the other cases it was found that the new classification did not enhance the revenue on account the improvement, they



were dismissed. The calculation of the exemption is based upon the past and present assumed productiveness. It has been granted to each successful applicant by an order that the land improved should for a definite number of years pay revenue at the rate proposed for the next lower class. In calculating the immediate reduction of revenue consequent on exemptions, no account has been taken of intermediate rates.

### ASSESSMENT TRACT 1.

#### Tharrawaddy Township—Hills.

145. This is a small tract in the hills on the east of the Tharrawaddy township, and consists of the six *kwins* which formed Mr. Moore's Assessment Tract 4 of 1900-01, together with the solitary *kwin* first settled in 1903-04 by Mr. Webb—his Assessment Tract 5. Cultivation of rice is in scattered patches in the fertile valleys between the hills. The occupied area has increased since last settlements by 660 acres, or 76 per cent. but is even now only 11 per cent. of the gross area of the tract. In marked contrast to the other hill tracts, only 87 per cent. of the occupied area is paddy land, 10 per cent. dry cultivation, including *taungyas*, and 3 per cent. garden land. The population which is Burman is fairly dense, and numbers 438 to the square mile of occupied area. Many of the people gain a livelihood by cutting *taungya* or by extracting forest produce such as bamboos which they float down the Thônzè stream. The tract is a poor one and communications are bad. The paddy land in the tract was at first classified, but on inspection I decided, and the Settlement Commissioner concurred, that it was better to continue the present system obtaining in the six *kwins* settled by Mr. Moore of assessing all the land at a single rate. An assumption lower than that justified by crop measurements has been made on this account.

146. The following is a table of the nett produce calculations :—

Main kind.	Soil class.	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed prices.	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
				Bkts.	Rs.	Rs.	Rs.	Rs.
R . . .	Nil . .	Rice .	Baskets	36	87	31'32	21 00	10 32

Twenty-three measurements were made, of which four were rejected as too high and five as too low. The remainder give an average of 39'51 baskets. The admitted outturn is 36, and this has been assumed as the standard.

147. The proposed rate is compared with the various assessment standards in the table below :

Main kind.	Soil class.	Assessment standards.				Proposed rates.		
		Fifth gross produce.	Half tenant rate.	Third tenant rate.	Quarter nett produce.	Proportion of nett produce taken.		Rate proposed.
						Fraction.	Value.	
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R . . .	Nil . .	6'26	4'00	2'67	2'58	One-fifth	2'06	2'00

One-fifth of the nett produce is taken, as a Rs. 2 rate gives sufficient enhancement on the present rates. Of the occupied rice land, 37 per cent. is tenanted at an average acre rental of Rs. 8, the same as in the hill tract of Letpadan township.

148. The financial effect of the proposed rate is an enhancement of Rs. 569, or 27 per cent. The present rates are Rs. 1'75, Rs. 1'50 and Re. 1'00. The incidence per acre (a) occupied, (b) cultivated with rice, and (c) assessed at full rates is given in the table in the margin. Intermediate rates are required for 79 acres which were formerly assessed at Re. 1'00. The immediate reduction of revenue consequent on their application is Rs. 40. No exemptions for improvements have been granted in this tract. The nett immediate enhancement is Rs. 529, or 25 per cent.

—		Old	New.
		Rs	Rs
(a)	...	1'54	2'00
(b)	...	1 05	2'13
(c)	...	1'54	2'00

### ASSESSMENT TRACT 2.

#### Tharrawaddy Township—Plains.

149. This is the central tract of the Tharawaddy township, and consists of 74 *kwins*, including 19 town land *kwins*, surveyed on the scale of 64 inches to the mile, and two *kwins* in the flooded area for original settlement.

The tract is a level plain of paddy land sloping gently from east to west, drained and irrigated by the Thônzè stream and its tributaries. The large town of Thônzè lies in the centre of the tract and is the principal market. Besides this town, Tharrawaddy, the headquarters of the district, and the two smaller railway stations of Ngapyugale and Inyua are on the railway line which traverses the tract from north to south. All the railway stations have sidings for the export of paddy. The Myitmaka exporting station, Sanyue, old headquarters of a township, lies just outside the tract on the west, and there is a good metalled road to it from Thônzè. The occupied area has increased since last settlement by 11,147 acres or 17 per cent., and is now 72 per cent. of the gross area, so there is little room for further extension. The area of paddy land is 98 per cent. of the occupied area. Along its western boundary the tract is liable to flooding by the Myitmaka, and here the most of the miscellaneous cultivation is found. Besides the road to Sanyue, the communications include the Prome road along the railway line, a branch connecting Inyua with the main road, and a road which goes east of Thônzè for about three miles, and ends in the middle of the *kwins*. Over the rest of the tract, journey by cart is impossible in the rains. Sale and mortgage values are lower than average, the land is less fertile, and the population less dense by 100 persons to the square mile than in Letpadan and Minhla townships.

150. The following table shows the nett produce calculations for the tract :—

Main kind.	Soil class.	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
				Bkts.	Rs.	Rs.	Rs.	Rs.
R ...	...	1 Rice	Baskets	39	94	36'66	22'00	14'66
R ...	...	2 Do.	Do.	34	94	32'90	22'00	10'90
R ...	...	3 Do.	Do.	29	94	28'20	22'00	6'20
R ..	...	4 Do.	Do.	38	94	35'72	22'00	13'72
R ...	...	5 Do.	Do.	25	94	23'50	22'00	1'50

The assumption of outturn is founded on 541 crop measurements over an area of 283 acres. Besides these, 59 measurements were rejected as too high, and 127 as too low. The assumption on first class land is one basket above the average measured outturn, but is supported by the admitted outturn on first class land. The third class assumption is lower than the measured outturn, but statistics are few for this class. The assumed outturns for the flooded classes, 4 and 5, are the same as in the corresponding tracts of Letpadan and Minhla townships.

151. In the following table are given the proposed rates and the various standards of comparison :—

Main kind.	Soil class.	Assessment standards.				Proposed rates.		
		Fifth gross produce.	Half tenant rate.	Third tenant rate.	Quarter nett produce.	Proportion of nett produce taken.		Rate proposed.
						Fraction.	Value.	
1	2	3	4	5	6	7		9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R ...	1	7'33	7'00	4'67	3'66	One-quarter	3'66	3'75
R ..	2	6'58	6'50	4'33	2'72	Do.	2'72	2'75
R ...	3	5'64	2'50	1'67	1'55	Do.	1'55	1'50
R ...	4	7'14	5'50	3'67	3'43	One-sixth	2'29	2'25
R ...	5	4'70	3'50	2'33	'37	...	...	1'00

The highest percentage of rented to occupied area in the district, *viz.* 57 per cent., is recorded in this tract. The nearest approach to this percentage is the 48 per cent. of the corresponding tract in Letpadan. Rents however are lower, both absolutely and in each class, than in Letpadan, and support the fertility statistics, and the assumptions in this. The standard fractions of the nett produce are taken as the basis of the rates in each class except the fifth, which does not show a divisible surplus. The old classification was 70 per cent. of first class; 25 per cent. of second class; and 5 per cent. of flooded land or third class. In the new classification, the flooded classes fourth and fifth which represent the old third, amount to 10 per cent. of the rice land, fourth class 8 per cent. and fifth class 2 per cent. This does not necessarily mean that the area of flooded land has increased since last settlement, as at that settlement the second class included the less flooded lands which are now separated into the fourth class. First class land is now 57 per cent. of the whole, second class 29 per cent. and the new third, cut out of old second, is 3 per cent. The fifth class contains the very worst flooded lands, on which a crop is obtained about one year in three, and the rate proposed is as high as it can bear. The old rates are Rs. 3'25 and Rs. 3 on first class, Rs. 2'625 and Rs. 2'375 on second, and Rs. 1'50 on third. The proposed rates give a moderate enhancement, and a more equitable distribution of the revenue.

152. The financial result of the application of the proposed rates is a revenue

—	Old.	New.
	Rs.	Rs.
(a) ...	2'89	3'20
(b) ..	2'04	3'25
(c) ...	2'88	3'24

of Rs. 2,48,303, an increase on the expiring revenue of Rs. 23,651 or 11 per cent. The marginal table shows the incidence of the old and the new revenue (a) per occupied acre, (b) per cultivated acre, and (c) per acre assessed at full rates. There is no necessity for intermediate rates. No

exemptions have been granted on account of improvements in the tract.

## ASSESSMENT TRACT 3.

## Tharrawaddy Township—Riverine.

153. This is a small tract on the west bank of the Myitmaka consisting of six *kwins* for original settlement. All the *kwins* are subject to inundation. There is no irrigation, the catchment area for the rainfall is the bank of the Myitmaka, and the soil is recent silt deposit which is too porous to supply a rice crop with the moisture it needs. Most of the *kwins* contain merely a strip of rice land along their eastern boundary and much old cultivation has been entirely abandoned. I went over all the rice land to see if classification was expedient but found that there was no land except a few acres in the north which could be considered less liable to destruction than the rest. The rice land is therefore unclassified. The occupied area is only 12 per cent. of the gross area, 1,768 acres in all. Six per cent. of it grows dry crops and the rest is embanked rice land. There are no villages of any size, the population is composed of Karens and Burmans who are mainly engaged in fishing, and in the cutting, weaving, and export of thatch pieces. Sale and mortgage values are exceedingly small and the average rent is Rs. 5. The inhabitants are among the poorest in the district.

154. The following are the nett produce calculations for the tract :—

Main kind.	Soil class.	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
				Bkts.	Rs.	Rs.	Rs.	Rs.
R ...	Nil ...	R ...	Baskets	28	87	24'36	21'00	3'36

The average admitted outturn is 22 baskets. Crop measurements numbered 17 on a total area of ten acres. Though both years were free from flood, the average is only 27 baskets. I have assumed 28 baskets.

155. The proposed rates and standards of comparison are :—

Main kind.	Soil class.	Assessment standards				Proposed rates.		
		Fifth gross produce.	Half tenant rate	Third tenant rate.	Quarter nett produce.	Proportion of nett produce take		Rate proposed.
						Fraction.	Value.	
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R ...	Nil ...	4 87	2'50	1'67	·84	...	...	1'00

A quarter of the nett produce is Re. 0'84 only. I have proposed a Re. 1 rate which is the same as the rate proposed for the fifth class in Tract 2, to which this land is similar. The resulting revenue is Rs. 1,470, which is Rs. 721 or 33 per cent. less than the expiring revenue. The incidence of the old and new revenue per acre (a) occupied, (b) cultivated with rice, and (c) assessed at full rates, is shown in the margin.

	Old.	New
	Rs.	Rs.
(a)	1'47	0'88
(b)	1'52	1'04
(c)	1'52	4'99



## ASSESSMENT TRACT 4.

*Letpadan Township—Hills.*

156.<sup>ac</sup> This is a tract of seven *kwin*s in the east of Letpadan township. It contains five *kwin*s of Mr. Moore's Assessment Tract 5 of 1900-01 and all his Assessment Tract 6, with the exception of an area which I have cut out of *kwin* No. 70 and placed in Tract 5. The severed portion is in physical characteristics part of the plains tract, and happened to fall within *kwin* 70 which is a huge *kwin* of 24,800 acres, not subdivided at survey, because then unworked. The Bilin stream and its tributaries drain the tract and irrigate the rice land. There are many small dams, a characteristic common to all the hill tracts. The occupied area has increased since last settlement by 1,871 acres or 56 per cent., but is still only 15 per cent. of the gross area. Of the occupied area 98 per cent. is paddy land and the rest is mainly dry cultivation. Gardens are few as is the case in all the hill tracts. The population is mainly Burmese and numbers 436 to the occupied square mile, a density high for a hill tract. The main area of paddy land is in the north-west of the tract.

157. The following table shows the nett produce calculations for the tract :—

Main kind	Soil class.	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
				Bkts.	Rs.	Rs.	Rs.	Rs.
R ...	1	R	Baskets	42	88	36'96	21'00	15'96
R ..	2	R	Do.	35	88	30'80	21'00	9'80
R ..	3	R	Do.	28	88	24'64	21'00	3'64

The assumptions are based on the combined crop measurement statistics of the four classified hill tracts, and follow them exactly. Measurements from this tract number 35 on 22 acres. Twenty were rejected as too high, and seven as too low.

158. The following table shows the proposed rates for the tract, and the assessment standards :—

Main kind.	Soil class.	Assessment standards.				Proposed rates.		
		Fifth gross produce.	Half tenant rate.	Third tenant rate.	Quarter nett produce.	Proportion of nett produce taken.		Rate proposed.
						Fraction	Value.	
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R ...	1	7'39	4'00	2'67	3'99	One-quarter	3'99	4'00
R ...	2	6'16	5'00	3'33	2'45	Do.	2'45	2'50
R ...	3	4'93	3'00	2'00	'91	Do.	'91	1'00

Thirty-four per cent. of the rice land is let to tenants at an average rent per acre of Rs. 8. The rent on first class land is shown as less than that on second, but this is due to there being only one tenant of a single soil class holding in the first class. The result of the classification has been to alter the percentages

between the classes in the following way : First class land was 5 per cent. of the rice land, and now is 11 per cent. ; second class was 51 per cent. and is 32 per cent. ; third class has increased from 45 to 57 per cent.

159. The financial result of the application of the proposed rates is a proposed revenue of Rs. 9,225, which is an increase on the existing rates of Rs. 1,802 or 24 per cent. The incidence of the present and proposed rates per acre (a) occupied, (b) cultivated, and (c) assessed at full rates, is shown in the margin. The intermediate rates necessary are shown in Statement 19A, and cause an immediate reduction of revenue of Rs. 616. One

—		Old.	New.
		Rs.	Rs.
(a)	...	1'44	1'80
(b)	...	1'50	1'87
(c)	..	1'44	1'80

exemption certificate has been granted in the tract for an irrigation work. The total reduction of revenue due to this exemption is Rs. 31. The total reductions are therefore Rs. 647. The immediate enhancement of revenue is Rs. 1,155, or 16 per cent. of the expiring revenue.

### ASSESSMENT TRACT 5.

#### *Letpadan Township—Plains.*

160. This is the large central tract of Letpadan township. There are 102 *kwins* in the tract, all for resettlement, and eighteen of these are town land *kwins*, surveyed on the larger scale. In physical characteristics, it does not differ greatly from the corresponding tract of Tharrawaddy township which has already been described. The soil is more fertile than in Tharrawaddy, and the progressive deficiency in the rainfall of the district from south to north of the settlement area does not seem to have reached in Letpadan the stage at which the outturns of paddy are much affected. The paddy from Letpadan and north to Gyobingauk is appreciated by the Rangoon mills as the best paddy from the Prome line, and this accords with the statistics recorded at this settlement. The tract is crossed by the Bilin stream and drained by the smaller tributaries. There is a fringe of land on the west of the tract which is subject to flooding from the Myitmaka and the eastern streams. This has been treated by separate classification. Letpadan town is the principal exporting market of the tract. It is situated near the southern border of the tract, is a large town governed by a municipality, and a considerable railway centre. The railway runs through the tract from south to north, and besides Letpadan, the tract contains the railway stations of Wethlagale and Sitkwin, both on the Prome line, and both affording facilities for the export of paddy. On the Bassein branch, which runs through the tract from Letpadan, the railway station of Nyaungwaing falls in the tract. Communications by metalled road are fair. A road runs from Letpadan eight miles to Hmawin on the east. The main Prome road runs alongside the railway and is connected with Sitkwin by a small branch road. There is also on the west of the railway a loop road from Letpadan to Minhla, with a branch to Sitkwin.

The occupied area has increased since last settlement by 6,835 acres or 11 per cent. and now amounts to 78 per cent. of the gross area. Ninety-eight per cent. of the occupied area is rice land and the rest is gardens. The density of population is 496 to the occupied square mile, and is greater than in Tharrawaddy, but less than in Gyobingauk. The sale and mortgage values are the highest in the district with the exception of Minhla (Tract 9). The population is mainly Burmese, but there are a considerable number of Karen villages. The standard of living is not high, but compares favourably with the rest of the district. The agriculturists are mainly small holders.

161. The following table shows the nett produce calculations for the tract :—

Main kind.	Soil class	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
				Bkts.	Rs.	Rs.	Rs.	Rs.
R	...	1	Rice	Baskets	43	39'56	22'00	17'56
R	...	2	Do.	Do.	38	34'96	22'00	12'96
R	...	3	Do.	Do.	33	30'36	22'00	8'36
R	...	4	Do.	Do.	38	34'96	22'00	12'96
R	...	5	Do.	Do.	25	23'00	22'00	1'00

The tract has been treated separately for fertility statistics. Assumptions are founded on 482 crop measurements on 289 acres. Fifty-eight measurements have been rejected as giving too high results, and 120 as too low. The assumption on first class land follows the measured result exactly. On second class land, the measurements average nearly 39 baskets, but 38 has been assumed. A difference of 5 baskets has been assumed between second and third class land, as the reapings on third class lands, which would justify a higher assumption, were few. On fourth class, the measurements have been followed, but on fifth class the assumption common to all the plain tracts of 25 baskets is followed, as crop reapings in the years of settlement were favourable, floods not being high.

162. The proposed rates and the assessment standards are shown in the following table :—

Main kind.	Soil class.	Assessment standards.				Proposed rates.			
		Fifth gross produce.	Half tenant rate.	Third tenant rate.	Quarter nett produce.	Proportion of net produce taken.		Rate proposed.	
						Fraction.	Value.		
1	2	3	4	5	6	7	8	9	
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	
R	...	1	7'91	8'50	5'67	4'39	One-quarter	4'39	4'50
R	...	2	6'99	7'00	4'67	3'24	Do.	3'24	3'25
R	...	3	6'07	6'50	4'33	2'09	Do.	2'09	2'00
R	...	4	6'99	6'00	4'00	3'24	One-sixth.	2'16	2'25
R	..	5	4'60	4'00	2'67	25	..	...	1'00

Except on fifth class land, the proportion of the nett produce taken follows the standards already laid down of one-quarter on unflooded land, and one-sixth on flooded. On the fifth class the same rate is proposed as in Tharrawaddy and Minhla. Tenants occupy 48 per cent. of the rice land in the tract, and pay an average rate of Rs. 15 per acre. This is the highest average in the district, and the average rent in the various classes also shows the highest figures in the district. The tract compares in fertility with Tract 9, Minhla township, but the rents in Minhla on second and third class soils are less than in this tract. The rate proposed for first class land is the same as that in Minhla, and the rates on second and third class lands are the highest proposed in the settlement area.

The changes in classification are as follows :—

	Old percentage		New percentage.
R-1	... 64	R-1	... 58
R-2	... 27	R-2	... 24
Flooded R-3	... 9	R-3	... 6
		Flooded R-4	... 6
		R-5	... 6

163. The financial result of the application of the proposed rates is a new revenue of Rs. 2,49,739, an increase of Rs. 65,619 or 36 per cent. on the old revenue. The incidence of the old and new revenue per acre (a) occupied, (b) cultivated, and (c) assessed at full rates, is shown in the margin.

		Old.	New.
		Rs.	Rs.
(a)	..	2'74	3'71
(b)	...	2'77	3'76
(c)	...	2'75	3'72

164. The intermediate rates required are shown in Statement 19A. They are necessary only on the fertile area cut out of *kwin* 70. On first class lands the enhancement is over 150 per cent. and the orders of the Financial Commissioner are required. The total reduction of revenue consequent on the application of intermediate rates is Rs. 2,925. Nine certificates entitling the holders to exemption of revenue for a term of years, by assessment of their lands or part of their lands at the rate imposed on the next lower class of land, have been granted, and the nett immediate reduction consequent on their operation is Rs. 337. The total immediate reductions of revenue therefore amount to Rs. 3,262, and the nett immediate enhancement will therefore be Rs. 62,357 or 34 per cent.

#### ASSESSMENT TRACT 6.

##### *Letpadan Township—Riverine.*

165. This tract and Tract 7 contain the area which was first settled in 1903-04 by Messrs. MacKenna and Webb. Tract 6 consists 92 small *kwins*, of which 22 are now for first settlement. They were omitted from the area settled in 1903-04 because they contained no paddy land. Four of the *kwins* are the town land *kwins* of Zibyugôn railway town, which has not yet come into existence. All the land is liable to inundation from the Irrawaddy and the Myitmaka, and apart from the waters of those two rivers the paddy crops depend on the rainfall for their success. As the catchment area is merely the bank of the Irrawaddy from which the land slopes rapidly to the Myitmaka, and as the soil consists of recent, loosely consolidated deposits of silt sand and clay from the two rivers, the tract is not well adapted to the cultivation of rice. Paddy land is however 86 per cent. of the total occupied area, 12 per cent. is impermanent land, and the remainder is garden land. In the *kwins* for resettlement, the occupied area has increased by 4,259 acres or 26 per cent. Part of the paddy land is now partially protected by the chetties' embankment, referred to in Chapter III, but I have there given reasons for thinking that the extensions have been natural and not due to this embankment. The Bassein branch of the railway passes across the tract, and besides Zibyugôn, the terminal station Tharawaw, from which the ferry crosses to Henzada, falls within the tract. There are no metalled roads in the tract. The population is poor and shifting, but if the embankment renders cultivation more stable, the population will also be rendered more stationary. The inhabitants are Burmans and number 385 to the occupied square mile. Sale and mortgage values are low, as are tenant rates. Indeed the rents on the two classes of land are lower than those on the two flooded classes of rice land in Letpadan east of the Myitmaka.

166. The following table shows the nett produce calculations for the tract :—

Main kind.	Soil class.	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
R ..	2	Rice	Baskets	35	Rs. 84	Rs. 29'40	Rs. 20'00	Rs. 9'40
R ...	3	Do.	Do.	25	84	21'00	20'00	1'00



This tract has been combined with Tract 7 for fertility statistics. The assumed outturns are rather higher than the crop measurements warrant, but in neither season was the rainfall propitious. The measurements in this tract numbered 225 and the total area of the fields reaped was 108 acres.

167. In the table below are shown the proposed rates and the assessment standards :—

Main kind.	Soil class.	Assessment standards.				Proposed rates.		
		Fifth gross produce.	Half tenant rate.	Third tenant rate.	Quarter nett produce.	Proportion of nett produce taken.		Rate proposed.
						Fraction.	Value.	
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R ...	2	5'88	4'50	3'00	2'35	One-quarter	2'35	2'25
R ..	3	4'20	3'00	2'00	0'25	...	...	1'00

On the higher class the full proportion of one-fourth has been taken and this yields a rate lower than the present rate on first class soil. The rate proposed on the lower soil class is the same as that proposed for fifth class soil in Letpadan township to which it is similar.

168. The financial result of applying the proposed rates is a new revenue of Rs. 32,361, which is Rs. 4,254 or 12 per cent. less than the present revenue at the reduced rates resulting from the reclassification of 1910. The new revenue is 29 per cent. less than the full rates imposed last settlement which were in force for some time. The incidence of the old and new revenue per acre (a) occupied, (b) cultivated, and (c) assessed at full rates, is shown in the margin. Eight per cent. of

—	Old.	New.
	Rs.	Rs.
(a) ..	1'74	1'53
(b) .	2'11	1'85
(c) ...	2'05	1'80

the rice land only has paid first class rates since the reclassification of soils in 1910. Formerly the percentage was 52. Eighty-three per cent. was in the second class, and 9 per cent. in the third. The rates varied from Rs. 1'75 to Rs. 3'25. The reclassification has placed 57 per cent. in the higher class, and 43 in the lower. There is no doubt that in comparison with the rest of the district, the riverine tracts need relief, and one of the most important results of this resettlement will be the adjustment of the burden of taxation by the introduction of lower rates on these flooded tracts.

#### ASSESSMENT TRACT 7.

##### Mônyo Township—Riverine.

169. This tract is the continuation into Mônyo township of Assessment Tract 6. The physical characters are the same as in that tract, but the protection from flooding is less efficient. There is a low embankment built by the villagers themselves. There are 29 *kwins* in the tract, of which 17 have not been settled before. There is a larger proportion of impermanent land than in Tract 6, the percentage to the total occupied area being 23. Paddy land accounts for 75 per

cent. and the remainder is gardens. The occupied area in the *kwins* for resettlement has increased by 1,511 acres, or 36 per cent. The occupied area is about one-third of the gross area. The main village is Teindaw, on the river bank. The inhabitants of Teindaw are mainly engaged on river transport work. The people are Burmese, and are poor and much in debt.

170. The nett produce calculations for the tract are shown in the attached table :—

Main kind.	Soil class.	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
				Bkts	Rs.	Rs.	Rs.	Rs.
R ..	2	Rice	Baskets	35	83	29'05	20'00	9'05
R	3	Do.	Do.	25	83	20'75	20'00	0'75

Seventy-one crop measurements on 37 acres were obtained in this tract, and none were rejected. They are combined with the measurements for Tract 6, and the assumptions are discussed in connexion with the other tract.

171. The following table shows the proposed rates and the various standards of assessment for comparison :—

Main kind.	Soil class.	Assessment standards				Proposed rates,		
		Fifth gross produce.	Half tenant rate	Third tenant rate.	Quarter nett produce.	Proportion of nett produce taken.		Rate proposed.
						Fraction.	Value	
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R ..	2	5 81	4 50	3'00	2'26	One-quarter	2'26	2'25
R	3	4'15	1'50	1'00	0 19	.	..	1 00

The rates proposed are the same as in Tract 6 and the same remarks apply to them. Tenants rent only 12 per cent. of the occupied rice land, and the average rent is only Rs. 7. The former classification put one-quarter of the land in the higher class, and the remainder in the lower. The new classification divides the land about equally between the two classes.

172. The financial effect of applying the new rates is a new revenue of

	Old.	New.
	Rs.	Rs.
(a) ...	1'69	1'05
(b) ...	1'84	1'13
(c) ...	1'83	1'11

Rs. 8,978, which is Rs. 775, or 8 per cent. lower than the existing rates. The incidence of the old and new revenue per acre (a) occupied, (b) cultivated, and (c) assessed at full rates, is shown in the margin.

## ASSESSMENT TRACT 8.

*Minhla Township—Hills.*

173. This tract is the hill tract on the east of Minhla township and does not differ from other hill tracts in its physical characters. It is crossed from east to west by three large streams, the Mòkka, the Minhla, and the Gamôn. There are 35 *kwins* in the tract, of which 14 are for original settlement. These new *kwins* are still very rough, and contain an occupied area of only 12 per cent. The occupied area in the *kwins* for resettlement has increased by 7,064 acres, or 79 per cent. since last settlement, and in the whole tract now amounts to 31 per cent. of the gross area. Ninety-nine per cent. of the occupied area is paddy land, and the remainder is mainly unembanked land. There are few gardens in the tract. Where land is plentiful, house compounds are not so valuable, and so escape assessment by remaining unfenced. Small irrigation works are numerous, and the irrigation tank made by the *pôngyi* of Gyokobin may be mentioned as a public-spirited work, since exemption can hardly be granted on account of it. The population is mainly Burmese, but there are a few Chin villages. The density is 376 to the square mile of occupied land. There are no large villages, and no stable communications.

The following table shows the nett produce calculations for the tract :—

Main kind.	Soil class.	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
				Bkts.	Rs.	Rs.	Rs.	Rs.
R ...	1	Rice	Baskets	42	81	34 02	20 00	14 02
R ...	2	Do.	Do.	35	81	28 35	20 00	8 35
R ...	3	Do.	Do.	28	81	22 68	20 00	2 68

Assumed outturns follow the combined hill tracts statistics absolutely. Crop measurements in this tract, after rejecting 23 as too high, and 19 as too low, numbered 125, and their acreage was 58.

174. The proposed rates and the standards of assessment are given in the following table :—

Main kind.	Soil class.	Assessment standards.				Proposed rates.		
		Fifth gross produce.	Half tenant rate.	Third tenant rate.	Quarter nett produce.	Proportion of nett produce taken		Rate proposed.
						Fraction.	Value.	
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R ...	1	6 80	5 00	3 33	3 50	One-quarter	3 50	3 50
R ...	2	5 67	4 00	2 67	2 09	Do.	2 09	2 00
R ...	3	4 54	2 50	1 67	0 67	...	..	1 00

The standard fraction is taken on the first two classes. On the lowest class a rate is proposed which is conformable to the other two rates, and to similar rates proposed elsewhere. Tenants rent as much as 47 per cent. of the occupied area

of rice land in this tract, at an average rent per acre of Rs. 7. Rather more land has been placed in the highest class than at last settlement, the percentage being 8 and 13. Far more however has been placed in the lowest class, which is now 55 per cent. of the total, while it was before only 11 per cent.

175. The financial effect of the application of the proposed rates is a new revenue of Rs. 29,398, an increase of Rs. 2,853, or 11 per cent. on the revenue at the present rates. The incidence of the old and new revenue per acre (a) occupied, (b) cultivated, and (c) assessed at full rates, is shown in the margin.

—		Old.	New.
		Rs.	Rs.
(a)	...	1'40	1'65
(b)	...	1'59	1'76
(c)	...	1'49	1'65

176. The intermediate rates required are shown in Statement 19A. The orders of the Financial Commissioner are required for the determination of the enhancement to be taken on the *kwins* for original settlement, which are at present assessed at 12 and 8 annas per acre only. The immediate reduction of revenue consequent on intermediate rates is Rs. 2,504. Three exemption certificates have been granted in this tract. The immediate reduction of revenue due to them is Rs. 74. The total immediate reductions are therefore Rs. 2,578, so that the nett immediate enhancement is Rs. 275, or one per cent. only.

### ASSESSMENT TRACT 9.

#### *Minhla Township—Plains.*

177. There are 101 *kwins* in this tract, ten of which are for first settlement. These new *kwins* are all extensions in the flooded area in the west. Nine town land *kwins* are included in the tract. The supply of water to the paddy land in the tract is generally good. The large streams, Mòkka, Minhla and Gamôn cross the tract, and the smaller streams are numerous. The soil of the tract is somewhat uneven. It contains the best land in the district, and at the same time some of the *kwins* on the east of the tract are sandy and infertile. The occupied area in the *kwins* for resettlement has increased by 9,602 acres or 13 per cent. since last settlement. The occupied area in the whole tract is now 76 per cent. of the gross area. Paddy land is 98 per cent. of this, and the remainder is gardens. The three railway towns of Minhla, Othegôn and Okpo lie within the tract and all export paddy largely. Communications by metalled road are good. Minhla has the Letpadan-Minhla loop, and also roads on the east and west to the borders of the tract. The Prome road runs through the centre of the tract, and Othegôn has a branch road to it. From Okpo, there is a road eight miles east to Teinhmyok. The population numbers 471 to the occupied square mile.

178. The following table shows the nett produce calculations for the tract :—

Main kind.	Soil class.	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.	
1	2	3	4	5	6	7	8	9	
				Bkts.	Rs.	Rs.	Rs.	Rs.	
R	...	1	Rice	Baskets	45	87	39'15	21'00	18'15
R	...	2	Do.	Do.	36	87	31'32	21'00	10'32
R	...	3	Do.	Do.	30	87	26'10	21'00	5'10
R	...	4	Do.	Do.	38	87	33'06	21'00	12'06
R	...	5	Do.	Do.	25	87	21'75	21'00	75



Sixty-two measurements were rejected as too high and 202 as too low. The assumptions are founded on the remaining 570 measurements from 326 acres. The assumption on first class land is slightly above the average of crop measurements, but is supported by the admitted outturn. The assumption for third class soil is slightly above the reaped outturn and the admitted outturn average, but is one basket below the average for the first year. The assumptions for fourth and fifth classes are the same as in the two southern plain tracts, and are exceeded by the admitted outturn averages.

179. The proposed rates and the assessment standards are as follows :—

Main kind.	Soil class.	Assessment standards.				Proposed rates.		
		Fifth gross produce.	Half tenant rate.	Third tenant rate.	Quarter nett produce.	Proportion of nett produce taken.		Rate proposed.
						Fraction.	Value.	
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R ...	1	7'83	8'00	5'34	4'53	One-quarter	4'51	4'50
R ...	2	6'26	5'30	3'67	2'58	Do.	2'58	2'50
R ...	3	5'22	4'50	3'00	1'27	Do.	1'27	1'25
R ...	4	6'61	5'50	3'67	3'01	One-sixth	2'01	2'00
R ...	5	4'35	4'50	3'00	1'19	...	...	1'00

Of the rice land, 41 per cent. is let to tenants at an average rent per acre of Rs. 13. This is not so high as in Letpadan, but the relative assumed prices account for one rupee of the difference. The rent for first class land is about the same as in Letpadan, but on second and third it is much less, corresponding with the lower assumptions I have made on those lands. The rates have been calculated on all classes except the fifth by taking the standard proportions of the nett produce. The classification has been amended with the following results :—

	Old percentage.		New percentage.
R-1 ...	56	R-1 ...	38
R-2 ...	27	R-2 ...	38
		R-3 ...	16
R-3 ...	8	R-4 ...	4
Unclassified	8	R-5 ...	5

180. The financial result of applying the new rates is an increase of

	Old.	New.
	Rs.	Rs.
(a) ...	2'57	2'96
(b) ...	2'63	3'03
(c) ...	2'60	2'99

Rs. 35,090 or 15 per cent. of the old revenue. The incidence of the old and new revenue per acre (a) occupied, (b) cultivated, and (c) assessed at full rates, is shown in the table in the margin.

181. Intermediate rates are required. The orders of the Financial Commissioner are required for the rates of enhancement on first class land in *kwin* 217. The conditions of this *kwin* were carefully considered during tracting and it was deliberately placed in this tract. The immediate reduction consequent on the application of intermediate rates is Rs. 1,610, so that the nett immediate enhancement is Rs. 33,480, or 14 per cent. No exemptions for improvements have been granted in this tract.

## ASSESSMENT TRACT 10.

*Gyobingauk Township—Hills.*

182. This is a tract of 15 *kwins*, all for resettlement. The land is fertile, and irrigation works are numerous. The main streams are the Myole and the Bawbin. Cultivation has increased since settlement by 4,432 acres, or 32 per cent. All but two per cent. of the occupied land is paddy land. The population is of average density, and there are few non-agriculturists. The metalled road from Gyobingauk enters the tract, but otherwise the communications are poor, and there are no large villages. The site of the old fortified town of Myodwin is in the south of the tract, and part of the wall still remains. Sale and mortgage values are high for a hill tract. The main markets are Gyobingauk and Zigôn on the railway line, about eight miles west of the border of the tract.

183. The following table shows the nett produce calculations for the tract :—

Main kind.	Soil class.	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
				Bkts.	Rs.	Rs.	Rs.	Rs.
R ...	1	Rice	Baskets	42	80	33'60	20	13'60
R ...	2	Do.	Do.	35	80	28'00	20	8'00
R ...	3	Do.	Do.	28	80	22'40	20	2'40

Crop measurements on the combined hill tracts determine assumptions. In this tract, 18 were rejected as too high, and 17 as too low. The remainder aggregated 110 on 66 acres.

184. The proposed rates and assessment standards are :—

Main kind.	Soil class.	Assessment standards.				Proposed rates.		
		Fifth gross produce.	Half tenant rate.	Third tenant rate.	Quarter nett produce.	Proportion of nett produce taken.		Rate proposed.
						Fraction.	Value.	
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R ...	1	6'72	6'00	4'00	3'40	One-quarter	3'40	3'50
R ...	2	5'60	4'00	2'67	2'00	Do.	2'00	2'00
R ...	3	4'48	2'50	1'67	1'60	...	...	1'00

The calculation of rates follows the standard adopted except on third class land. Thirty-three per cent. of the paddy land is worked by tenants at an average rental of Rs. 9. The results of reclassification have been mainly to give relief to the worst lands. The percentages are :—

		Old percentage.			New percentage.
R-1	...	38	{	R-1	40
				R-2	32
R-2	...	62		R-3	28

185. The financial effect of the application of the proposed rates is a new revenue of Rs. 41,958, an increase of the old revenue by Rs. 6,541 or 18 per cent. The incidence of the old and new revenue per acre (a) occupied, (b) cultivated, and (c) assessed at full rates, is shown in the margin. Intermediate rates are not required. Two applicants have been granted certificates of exemption. The immediate reduction due to them is Rs. 144, so that the nett immediate enhancement is Rs. 6,397.

—		Old.	New.
		Rs.	Rs.
(a)	...	1'97	2'33
(b)	...	2'08	2'40
(c)	...	1'97	2'33

## ASSESSMENT TRACT 11.

*Gyobingauk Township—Plains.*

186. This tract consists of 91 *kwins*, four of which are extensions in the flooded area for first settlement, and eight of which are town land *kwins*. The tract is the major portion of Gyobingauk township, and presents the ordinary appearance of a plain tract. The Myole and Bawbin are the large streams which cross the tract from east to west. The railway runs from north to south of the tract, and within the tract are Gyobingauk, a large paddy-exporting station, Zigôn, a subdivisinal headquarters, and the smaller stations of Kuhnityua and Thayagôn which take passenger traffic only. The tract supports 505 persons to the square mile of occupation, and the general density per square mile, 422, is the highest in the district. In the *kwins* for resettlement, the occupied area has increased by 8,136 acres, or 9 per cent., since last settlement. The tract is more fully occupied than any other in the settlement area, 82 per cent. of the gross area having been taken up; of this, 97 per cent. has been placed in the rice land main kind. The remainder is garden land. The percentage of garden land is higher than in the south of the district, but less than in Nattalin township, which is yet more densely inhabited in proportion to the cultivation. The western part of the tract is badly flooded. The rice land may be fertile in a good year, but in periods of drought it seems to suffer more than the land in the east and centre of the settlement area. More land at the margin of cultivation has been taken up. Communications are good within the tract. From Gyobingauk roads reach the borders of the tract on both east and west. There is a loop road from Gyobingauk to Zigôn, passing the large village of Thitnapa. There is also a road from Zigôn east to the border of the tract. The inhabitants are poor, and the number of small holders is greater than in the southern parts of the district.

187. The nett produce calculations for the tract are :—

Main kind.	Soil class.	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.	
1	2	3	4	5	6	7	8	9	
				Bkts.	Rs.	Rs.	Rs.	Rs.	
R ...	...	1	Rice	Baskets	39	85	33'15	24	12'15
R ...	...	2	Do.	Do.	34	85	28'90	21	7'90
R ...	...	3	Do.	Do.	28	85	23'80	21	2'80
R ...	...	4	Do.	Do.	32	85	27'20	21	6'20
R ...	...	5	Do.	Do.	25	85	21'25	21	'25

The number of crop measurements was large; besides 117 rejected as too high,

and 128 as too low, there were 656 measurements on 367 acres as shown in Statement 10. The low results are not due to the method of rejection, as more low outturns were rejected than high. I have given reasons in paragraph 100 for thinking that the crops during the present settlement in this tract were below normal. I have therefore for the unflooded classes assumed outturns considerably above the averages obtained either by crop-reaping or by admission. The assumptions at last settlement were 42 and 35 baskets for first and second class land, and I have assumed 39 and 34, which are very moderate outturns, and less than the assumptions in any other of the plain tracts. On the flooded classes 4 and 5, I have followed the crop measurements and the admitted outturns.

188. The following statement shows the proposed rates compared with the various standards :—

Main kind.	Soil class.	Assessment standards				Proposed rates.		
		Fifth gross produce.	Half tenant rate.	Third tenant rate.	Quarter nett produce.	Proportion of nett produce taken.		Rate proposed.
						Fraction.	Value.	
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R ...	1	6'63	5'50	3'67	3'04	One-quarter	3 04	3'00
R ...	2	5'78	4'50	3'00	1'97	Do.	1'97	2'00
R ...	3	4'76	3'50	2 33	70	...	...	1'00
R ...	4	5'44	4'00	2'67	1'55	One-quarter	1'55	1 50
R ...	5	4'25	2'00	1'33	06	...	.	75

Thirty-four per cent. of the rice land is let to tenants at an average rent of Rs. 10 per acre. The rents are lower than in any other of the plain tracts. The rate proposed on fourth class land is based on a quarter instead of one-sixth of the nett produce, as in the corresponding tracts on the south. This fraction has been taken to preserve that proportion between flooded and unflooded lands, which from experience in other tracts is inferred to be correct.

189. The financial effect of the application of the proposed rates is a new revenue

—		Old.	New.
		Rs.	Rs.
(a) ...		2'46	2 47
(b) ...		2'50	2'51
(c) ...		2'54	2'50

of Rs. 2,43,959, an increase of Rs. 1,597 or one per cent. on the old revenue. The incidence of the old and new revenue per acre (a) occupied, (b) cultivated, (c) assessed at full rates, is shown in the margin. No intermediate rates are required, and no exemptions from revenue have been given in this tract.

#### ASSESSMENT TRACT 12.

##### *Nattalin Township—Hills.*

190. This is a small land-locked tract which has been recently surveyed and is coming under settlement for the first time. It contains 15 *twins*, but there is little occupied land in them, the total occupied area amounting to only 13 per cent. of the gross area. Most of the waste is unculturable. The tract is sparsely populated judging by the gross area, but in proportion to cultivation it is the

most densely populated of all the tracts in the district, there being 631 persons to the occupied square mile. Many of these earn a livelihood apart from agriculture. The tract is within the drainage of the Kantha stream. Cultivation lies in a series of small valleys separated by wooded hills. There are no artificial communications, and no large villages. The inhabitants are Burmans. Of the occupied area practically all is rice land. *Taungyas* are few. Holdings are very small, but the valleys are fertile.

191. Below are the nett produce calculations :—

Main kind.	Soil class.	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
				Bkts	Rs.	Rs.	Rs.	Rs.
R ... ..	1	Rice	Baskets	42	67	28'14	18	10'14
R ... ..	2	Do.	Do.	35	67	23'45	18	5'45
R .. ...	5	Do.	Do.	28	67	18'76	18	'76

The cost of cultivation follows the lowness of the assumed price. The assumptions, which are based on the statistics for the combined hill tracts, are lower than the crop measurements of this tract alone would justify. Fourteen were rejected as too high, and one as too low, and the remainder number 26, the cropped area being 15 acres.

192. The proposed rates are :—

Main kind.	Soil class.	Assessment standards.				Proposed rates.		
		Fifth gross produce.	Half tenant rate.	Third tenant rate.	Quarter nett produce.	Proportion of nett produce taken.		Rate proposed.
						Fraction.	Value.	
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R ... ..	1	5'63	4'00	2'67	2'53	One-quarter	2'53	2'50
R ... ..	2	4'69	2'50	1'67	1'36	Do.	1'36	1'25
R ... ..	3	3'75	2'00	1'33	'19	...	...	'50

The regular fraction of one-quarter has been taken on the higher classes. The assumptions of price and of cost of cultivation are generous, and though the increase of revenue is great, that is mainly because the present rates are so small. Twenty-seven per cent. of the paddy land is let to tenants at an average rent of Rs. 6. The classification has resulted in 12 per cent. of the rice land being placed in the first class, 29 per cent. in the second and 59 per cent. in the third.

193. The financial effect of the new rates is a revenue of Rs. 2,537, an

	Old.	New.
	Rs.	Rs.
(a) ... ..	0'49	0'95
(b) ... ..	0'52	1'01
(c) ... ..	0'49	0'95

increase of Rs. 1,224 or 93 per cent. on the old revenue. The incidence of the old and new revenue per acre (a) occupied, (b) cultivated, (c) assessed at full rates, is shown in the accompanying table.



194. Intermediate rates are required in all *kwins* owing to the smallness of the existing rates, which are 4 annas and 8 annas only. The orders of the Financial Commissioner are required for determination of the rates of enhancement. The consequent reduction of revenue immediately is Rs. 669. Another immediate reduction on account of exemptions for improvements, four of which have been given, is Rs. 80. The immediate reductions are therefore Rs. 749, so that the nett immediate enhancement of revenue is only Rs. 475 or 36 per cent.

### ASSESSMENT TRACT 13.

#### Nattalin Township—Plains.

195. The township of Nattalin, apart from the small hill tract, has been divided into two parts, the unflooded eastern plain and the flooded western, for settlement purposes. The eastern plain tract, Tract 13, contains on its eastern border two large *kwins*, which are hillier and less cultivated than the rest of the tract. They were included in the plain tract, because they are for resettlement, and the division allows the new *kwins* to be treated separately. Tract 13 forms a plain between the Kantha and Minbu streams, and is of fair fertility, but contains several *kwins* of a sandy soil which in years of short rainfall has to be fallowed for lack of water. In the first settlement year several whole *kwins* were thus fallowed. There are 55 *kwins* in the tract, all for resettlement. Four are the town land *kwins* of Nattalin town, the township headquarters and principal market. The occupied area has increased by 10,410 acres or 28 per cent. since last settlement, and is now 70 per cent. of the gross area. The pressure of population is the greatest in the plains, 555 to the occupied square mile. Consequently, the proportion of garden land or house sites is the highest in the district, 5 per cent. of the occupied area; 94 per cent is paddy land. Nattalin is the only railway station within the tract. Besides the Prome road, there is a branch road to the east from Nattalin to Damange, and one to the west to Tapun. The Zigôn-Tapun road also crosses the tract, so the communications may be said to be good. Holdings are small. Sale and mortgage values are high, but probably not so high as the figures seem to indicate.

196. The following are the nett produce calculations :—

Main kind.	Soil class	Staple crop.	Unit of measurement.	Assumed outturn.	Assumed price.	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
				Bkts.	Rs.	Ra.	Rs.	Rs.
R ...	1	Rice	Baskets.	39	79	30'81	20'00	10'81
R ...	2	Do.	Do.	35	79	27'65	20'00	7'65
R ...	3	Do	Do.	28	79	22'12	20'00	2'12

One hundred and ten measurements were rejected as too high and 34 as too low. The remainder number 244 on 141 acres. The assumptions closely follow the results of crop measurements, except on class 3, where the number of experiments is too small to be representative. The old classification divided the rice land into two classes, 64 per cent. in the higher class and 36 in the lower. Reclassification introduces three classes, 57 per cent. of first class, 30 per cent. of second and 13 per cent. of third.

197. The rates proposed are :—

Main kind.	Soil class.	Assessment standards.				Proposed rates.		
		Fifth gross produce.	Half tenant rate.	Third tenant rate.	Quarter nett produce.	Proportion of nett produce taken.		Rate proposed.
						Fraction.	Value.	
1	2	3	4	5	6	7	8	9
		Rs.	Rs.	Rs.	Rs.		Rs.	Rs.
R .. ..	1	6'16	6'00	4'00	2'70	One-quarter	2'70	2'75
R .. ..	2	5'53	4'50	3'00	1'91	Do.	1'91	2'00
R .. ..	3	4'42	3'00	2'00	'53	...	...	1'00

Twenty-eight per cent. of the rice land is let to tenants, at an average rental of Rs. 11. Rents of the various soil classes approximate to those in Tract 11. The usual fraction of one-quarter is taken for the higher classes as the basis of the rates proposed.

198. The financial effect of the application of the proposed rates is a new

—	Old.	New.
	Rs.	Rs.
(a) ...	2'25	2'30
(b) ...	2'27	2'32
(c) ...	2'26	2'31

revenue of Rs. 1,02,794, an increase of Rs. 3,224 or 3 per cent. on the old revenue. The incidence of the old and new revenue per acre (a) occupied, (b) cultivated, and (c) assessed at full rates, is shown in the margin.

There are no intermediate rates, and no exemptions for improvements in this tract.

#### ASSESSMENT TRACT 14.

##### Nattalin Township—Flooded Plain.

199. This is a low-lying tract in the west of Nattalin township which suffers severely from floods, mainly from the Kantha and Shwele streams, but also from the Myitmaka. The Kantha floods are known by various names as they pass in broad sheets across the country, and the drainage is somewhat intricate. In classification, flooded classes have been given a letter on the map signifying the source of flooding, which may be useful in the event of schemes for protection works being projected, and in calculating the amount of land which receives advantage from the Forest Department embankments recently constructed. Tapun, the main village, and old headquarters of the township, lies in the centre of the tract, and near it the result of flooding has been most severely felt. A large area has in most years of the expiring settlement been left fallow, and though the owners still retain their lien on the land by paying fallow rates, they have to some extent deserted the area. There are 37 *kwins* in the tract, of which two are recent additions in the inundated area west of Myitmaka. In the *kwins* for resettlement, the occupied area has increased since last settlement by 9,516 acres or 32 per cent., and is now 70 per cent. of the gross area. Of the occupation, 97 per cent. is paddy land, and the rest is gardens, or house sites. There are roads from Tapun to Nattalin and Zigôn, and there used to be one to Paungdè, but this has been washed away by the floods. Perhaps Nattalin is the main market for the tract, but some of the paddy goes to Paungdè, and some as far as Padigôn in Prome district. There are four *kwins* west of the Myitmaka, which were made into a

separate soil tract by Mr. Moore. The soil is certainly different from the soil of the main tract, but the outturns given, and the condition of the people do not differentiate this small area sufficiently to make it the subject of independent treatment. The population is Burmese, the holdings are small and the standard of living is low.

200. The following are the nett produce calculations for the tract :—

Main kind.	Soil class.	Staple crop	Unit of measurement.	Assumed outturn.	Assumed price	Value of gross outturn.	Cost of cultivation.	Value of nett outturn.
1	2	3	4	5	6	7	8	9
				Bkts.	Rs.	Rs.	Rs.	Rs.
R ...	1	Rice	Baskets	38	78	29'64	20'00	9'64
R ...	2	Do.	Do.	33	78	25'74	20'00	5'74
R ...	3	Do.	Do.	23	78	17'94	20'00	...
R ...	4	Do.	Do.	32	78	24'96	20'00	4'96
R ...	5	Do.	Do.	25	78	19'50	20'00	...

Besides 30 rejected as too high and 18 as too low, the crop measurements numbered 242 on an area of 138 acres. I have assumed an outturn for first class land one basket above both the measured and admitted outturns, and for second class land four baskets over them, because the seasons of the settlement year were poor, and give an average which will be exceeded in a normal year. For the flooded classes, I have adopted the outturns assumed in Tract 11, Gyobingauk. The assumptions are moderate, and much below those of last settlement. The result of reclassification shows the same proportion of flooded land as at last settlement. On the lands free from flood, the 19 per cent. of first class, and 36 of second, has been changed to 28 per cent. of first, 17 of second, and 8 of third.

201. The proposed rates are :—

Main kind.	Soil class.	Assessment standards.				Proposed rates.		Rate proposed.
		Fifth gross produce	Half tenant rate	Third tenant rate	Quarter nett produce.	Proportion of nett produce taken.		
						Fraction	Value.	
1	2	3	4	5	6	7	8	9
		Rs	Rs.	Rs.	Rs.		Rs.	Rs.
R ...	1	5'93	4'50	3'00	2'41	One-quarter	2'41	2'50
R ...	2	5'15	4'00	2'67	1'43	Do.	1'43	1'50
R ...	3	3'59	3'00	2'00	...	..	...	1'00
R ...	4	4'99	3'00	2 00	1'24	One-quarter	1'24	1'25
R ...	5	3'90	2'50	1'67	...	...	...	'75

On the higher classes the fraction of one-quarter has been taken. On the lower classes the rates are based on general considerations, the most important being the securing of conformity with the other rates in the tract, and with similar rates on similar land elsewhere. Of the rice land, 22 per cent. is let to tenants at an average of Rs. 7 per acre. The rents paid are substantial, though they are the lowest in the district with the exception of the riverine and remote hill tracts.

202. The financial effect of the application of the proposed rates is a new revenue of Rs. 53,968, an increase of Rs. 5,156 or 11 per cent. on the old revenue. The incidence of the old and new revenue per acre (a) occupied, (b) cultivated, and (c) assessed at full rates, is shown in the margin.

—		Old.	New
		Rs.	Rs.
(a)	...	1'27	1'40
(b)	...	1'47	1'63
(c)	...	1'45	1'61

203. Intermediate rates are required, and for the enhancement rates on first class land in the *kwins* for original settlement the orders of the Financial Commissioner are required. There are no exemption certificates. The immediate reduction consequent on intermediate rates is Rs. 532, so that the nett immediate enhancement is Rs. 4,624 or 9 per cent.

## PART 4.—ASSESSMENTS NOT DIFFERENTIATED BY TRACTS.

### (i) Gardens.

204. There are no valuable gardens in the settlement area. All the land which has been placed in this main kind is gardens of the house-compound type. Their primary purpose is to serve as house sites; and in the crowded condition of most villages they are also generally farmyards. The few fruit trees which grow in them, though they amount to a considerable number in the aggregate, are quite a secondary consideration, and are not attended to with a view to securing profit. The fruits are gathered when ripe and eaten by the household or shared with neighbours. No crop-reaping experiments being possible on garden land, the assumption of gross outturn is based on admitted outturns only. In all, 299 persons were examined as to the produce of their gardens, and the amount admitted was converted at the prices current on the date of enquiry. The value of the outturn was recorded whether the examinee sold his fruit or not. Plantains, cocoanuts, mangoes, custard apples, pineapples, and jacks were the commonest fruits in the order named. The average holding area was 0'86 of an acre, but this is probably higher than the actual average of a house-compound holding. The amount of vegetable produce was also valued and included in the outturn. The value of the admitted outturn per acre is Rs. 19'76, and the recorded cost of cultivation from the same persons Rs. 0'15, leaving a nett produce of Rs. 19'61 per acre. The present revenue on garden lands is not uniform. It varies from Rs. 1'75 in the riverine areas to Rs. 2'50 in the tracts nearest the market. As the gardens on which enquiries were made are rather better than the average, I assume only Rs. 18 as the value of the nett produce, and propose rates of one-sixth in the tracts which touch the railway, except Tract 6, and one-ninth in all other tracts. The result is a rate of Rs. 3 per acre in Tracts 2, 5, 9, 11 and 13, and a rate of Rs. 2 in all other tracts.

205. The resulting revenue at the proposed rates on garden land is Rs. 32,666, an increase of Rs. 3,534 or 12 per cent., but the real increase is greater than this as the area classed under main kind G has decreased by 2,291 acres. The financial effect of the proposed new rates on all kinds of unembanked land must be considered together in order to show the financial effect clearly.

### (j) Unembanked land, and dry crops on embanked land.

206. The area classed under main kind Y consists of a certain number of house-compounds which contain no fruit trees; *taungyas*; unembanked land cropped with sugarcane and plantains and perhaps most commonly with miscellaneous vegetables. The staple crop adopted for purposes of assessment is white beans (*pègyi*); this crop

is grown on both permanent land and impermanent (K); crop measurements on both main kinds are included in Statement 10. In all, 33 crop-reapings of *pègyi* were obtained on 15 acres and none were rejected. The average outturn per acre was 6·82 baskets. The admitted outturn per acre on 308 acres was four baskets. I have assumed an outturn of six baskets and a price of Rs. 340 per 100 baskets, based on the average price at Henzada for fourteen years. The resultant gross produce value per acre is Rs. 20·40. The cost of cultivation (out-of-pocket expenses) for *pègyi* from six enquiries is Rs. 5·65. I assume Rs. 6. The value of the nett produce is therefore Rs. 14·40, and a quarter of this is Rs. 3·80. As *pègyi* does not thrive so well on permanent as on impermanent land, I propose a rate of Rs. 3 in the tracts nearest the railway. I propose rates identical with those for garden land, *viz.*, Rs. 3 in Tracts 2, 5, 9, 11 and 13 and Rs. 2 in all other tracts for main kind Y. Proximity to markets is the main factor in determining the assessment of land growing vegetables.

207. The resulting revenue from the application of the proposed rates on this main kind is Rs. 4,645, but it is impossible to compare this with the existing revenue owing to the change in the method of classification.

Financial effect of proposals of rates on Main Kind Y.

208. The main area under this main kind which consists of impermanent land in the beds of rivers and streams lies in the riverine Tracts 6 and 7. The main crops grown on this main kind other than tobacco and onions, for which special rates are proposed, are beans, maize, chillies, sweet potatoes, brinjals, tomatoes, melons, gourds and cucumbers, spring rice, gram and various kinds of vegetables. I have adopted the same crop as on main kind Y, *viz.* beans, as a standard by which all these miscellaneous crops may be assessed. The crops do not differ greatly in value, and beans is by far the most important of the miscellaneous crops on *kaing* land. In Tracts 6 and 7, I have proposed the rate of Rs. 2 for permanent unembanked land, main kind Y, as these tracts are at a distance from markets. Main kind K can bear a higher rate than main kind Y, as the occasional deposit of silt makes it more fertile. I therefore propose a rate of Rs. 2·50 for all crops grown on main kind K except tobacco and onions and sugarcane.

Main Kind K.

209. The resulting revenue from the application of the proposed rates on K main kind is Rs. 8,804, but it is impossible to compare this with the existing revenue, owing to the changes in classification adopted. The old and new revenue on all miscellaneous cultivation are compared below. The commonest rate on *kaing* land at present is Rs. 1·75 per acre, so that the increase per acre is about Rs. 0·75, an increase per acre of 43 per cent., which is not excessive when it is remembered that most of this area is coming under settlement for the first time.

Financial effect of proposed rates on miscellaneous crops on Main Kind K.

### (k) Special Crops.

210. The area under sugarcane has decreased during the existing settlement. This is unfortunate, as it is one of the few staples which is capable of being grown on the upland unembanked land in suitable places. The crop deserves encouragement, but it is not much use encouraging its cultivation in the way it is now conducted by the poorest classes in scattered tiny patches. The encouragement should take the form of selecting suitable ground, preferably near a market, where its cultivation could be carried on on a large enough scale to employ a small oil-driven crushing mill. The present rate of revenue on sugarcane is Rs. 4 in most of the district and Rs. 2 in the area settled in 1903-04. It is certain that it is not the amount of the rate that has been the cause of the diminution of area under this crop. Crop-reaping experiments, twenty in number, give an average of 859 viss of jaggery to an acre, so that the cultivation could probably be made profitable enough. The cost of

Sugarcane.



cultivation recorded is only Rs. 28·25. The smallness of the amount is due to the poverty of the workers. Nett produce calculations on these figures would yield much too high a rate. The crop could probably bear a higher rate than it does, but it is grown by the poorest class of agriculturists, nomad Shans, therefore I propose that the present rate be retained for the period of another settlement.

The new revenue resulting from the application of the proposed rate is Rs. 1,094, the same as the old revenue, and the rate proposed is now uniform over the whole of the settlement area.

211. Tobacco is at present assessed at the same rates as other kinds of cultivation, according to the land on which it is grown. Tobacco. I propose that it be assessed at a special rate on account of its greater value. Crop-measurements numbered 108, and the area cropped was 32 acres. None of the measurements were rejected. The average yield per acre was 326 viss of dry leaf and 46 baskets of root and stalk. The admitted outturn on 565 acres was 163 viss of dry leaf per acre. The outturn I assume is 300 viss, and the price Rs. 25 per 100 viss. Cost of cultivation enquiries were held of six cultivators. Their average expenditure per acre was Rs. 30. The resulting nett produce value is Rs. 45. I propose a rate of Rs. 4. The revenue resulting from the application of the proposed rate is Rs. 6,089, an increase of Rs. 3,337 or 121 per cent. on the present revenue. Intermediate rates are required and are shown in Statement 19A. For simplicity, I have assumed that all the tobacco is, as most of it is, grown on *kwins* for resettlement in Tract 2, and on *kwins* for original settlement in Tracts 3, 6 and 7. The immediate reduction due to intermediate rates is Rs. 696, and the nett immediate enhancement Rs. 2,641 or 96 per cent.

212. There is an area of 23 acres under betel-vine. No crop-reaping experiments have been made, but admissions of outturn values have been recorded in the same way as for orchard produce. Fifteen persons working 11·31 acres were examined and they admit a gross produce value of Rs. 66 per acre over all, Rs. 44 from betel vine, and Rs. 22 from fruit trees and vegetables. The cost of cultivation is said by the same cultivators to be Rs. 10·36 per acre. Assuming Rs. 11, I arrive at a nett produce value of Rs. 33 per acre. As the gross produce has probably been understated, I propose a rate of one-quarter of the nett produce value or Rs. 8. The resulting revenue is Rs. 181, an increase on the present revenue of Rs. 133 or 277 per cent. Intermediate rates are required and the orders of the Financial Commissioner. The nett immediate enhancement is Rs. 75 or 60 per cent.

213. There were eight crop-reaping experiments on this crop, and the results show an average acre outturn of 2,287 viss of mature Onions. onions, and 3,265 viss of young onions. Assuming an outturn of 2,000 viss, and a price of Rs. 15, the gross produce value is Rs. 300 per acre. No cost of cultivation enquiries were made. I propose a rate of Rs. 3·50. There are only four acres of this crop, so the increase is from Rs. 7 to Rs. 13, and no intermediate rate is proposed.

214. *Thetkè* does not appear among the crops in Statement 3. It is included under "Orchards—Other Gardens." The *Thetkè* area under this crop is 283 acres, and is mainly in the gardens of Tract 13. I propose a crop rate of Rs. 1·50 per acre for it. The financial result is a reduction of Rs. 142 or 25 per cent.

215. I suggest that the rates on dry crops on permanent and impermanent lands in the areas outside settlement, which are at present assessed under Land Revenue and Agricultural Department Notification dated 14th March 1884, be assimilated to the rates now proposed, if they are accepted. The rates are divided into groups according to the crop, so

there ought to be no difficulty in applying them. There are over 13,000 acres of miscellaneous crops outside settlement.

216. The computation of the financial effect of the proposed rates on unembanked land is rather complicated, because of the addition of one main kind (K), changes in the method of classification as well as changes in the nature of the land itself. The following table shows the area in the old and new main kinds, with the old revenue, actually being paid, and the new revenue at the proposed rates. The area under special crops, amounting to 7,802 acres, has been excluded from this table. These crops are grown on several main kinds, therefore their inclusion would confuse the comparison. It is also unnecessary to consider them further, as the financial effect of the introduction of the proposed rates on them has already been sufficiently explained in the paragraphs devoted to each crop :—

Main kind.	Old classification.		Main kind.	New classification.	
	Acres.	Revenue.		Acres.	Revenue.
1	2	3	4	5	6
		Rs.			Rs.
G ... ..	13,068	29,132	Y ... ..	11,214	32,666
ML ... ..	4,135	7,437	K ... ..	1,711	4,645
				3,522	8,804
Total ...	17,203	36,569	...	16,447	46,115

There is therefore a decrease of 756 acres in the total of all main kinds other than rice land. It has been pointed out above that there has been an actual increase of rice land to about this extent. The increase of revenue proposed on all kinds of unembanked land amounts to Rs. 9,546 or 26 per cent. on the expiring revenue. The real increase is rather more because the area is slightly less. No intermediate rates are required for any of the land included in this table.

217. There is a considerable area of double cropped land in Tracts 5 and 9, which ought to be shown in the annual Season and Crop reports, but is not crop marked by the Land Records staff. After a crop of paddy, a dry crop is secured in the winter months. This double cropping is possible only on the banks of streams where there have been recent deposits of silt. The moisture required is supplied by the heavy dews. I have had the crop-marking of these crops done in thirteen *kwins*, five in Tract 5 (Letpadan Township) and eight in Tract 9 (Minhla Township). The total area on which two crops had been secured in these *kwins* was 887 acres, and there is doubtless more than this which escaped my attention. The present method of dealing with the crop is said to be to assess the land at the soil class rate for paddy, and not to make any further assessment. I do not propose any change in this method except when one of the crops is a special crop, when it will pay the rate imposed on that crop. Most of the land crop-marked was under vegetables, but 267 acres of it were cropped with tobacco, so that the financial effect of applying the crop rate would be an addition of Rs. 1,068 to the proposed demand. The rent paid for the small patches that are worked is always paid in cash, and averages Rs. 17 per acre.

## PART 5.—LAND REVENUE. SUMMARY FOR THE SETTLEMENT AREA.

### (1) Financial Effect of Proposed Rates.

218. The financial effect of the proposed assessment is shown in Statement 19 tract by tract, and also for the whole settlement area. The result is a proposed new revenue of

Statement 19.

Rs. 13,48,528, an increase of Rs. 1,52,858 or 12·78 per cent. on the old revenue of Rs. 11,95,670. The incidence of the old and new revenue is shown in the margin per acre (a) occupied, (b) cultivated, and (c) assessed at full rates.

—	Old.	New.
	Rs.	Rs.
(a) ...	2'35	2'65
(b) ...	2'44	2'75
(c) ...	2'40	2'71

### (m) Temporary Reductions of Revenue.

219. The temporary reduction of revenue due to the application of intermediate rates is Rs. 9,653, and to the grant of exemption certificates Rs. 666, a total of Rs. 10,319. The nett immediate enhancement is therefore Rs. 1,42,539, or 11·92 per cent.

## PART 6.—TREE REVENUE.

### (n) Solitary Fruit Tree<sup>s</sup>.

220. Toddy palms are not sufficiently numerous in the settlement area to form the subject of separate assessment proposals. They are assessed at present either in gardens at garden rates, or as solitary fruit trees. Solitary fruit trees, when they stand on land which does not belong to the owner of the tree, are assessed at four annas a tree. The revenue from this source in the settlement year was Rs. 914 from 3,655 trees. These trees, though nominally they may have an owner, are really the common property of the villages near which they grow. I propose that solitary fruit trees be not assessed to revenue at all. The consequent reduction of revenue is Rs. 914.

## PART 7.—CAPITATION TAX.

### (o) Incidence and Total Demand.

221. The total demand of the capitation tax in 1914-15 was Rs. 3,39,051. The incidence per head of the amount collected was Rs. 0·86, and has been discussed in paragraph 87. No alterations in the demand are proposed, nor in the time of collection. The demand in the different areas settled in each settlement year has not been calculated, therefore the demand in 1914-15 is shown as the demand in the settlement year for the settlement area.

## PART 8.—FINANCIAL RESULTS OF THE NEW SETTLEMENT.

### (p) Total Financial Results.

222. The following table shows the total revenue under the heads of land and tree revenue and capitation tax as assessed in the settlement year at the existing rates, and as proposed to be assessed at the new rates :—

—	Old.	New.	Increase.
	Rs.	Rs.	Rs.
Land and tree revenue ...	11,95,670	13,48,528	1,52,858
Capitation-tax ...	3,39,451	3,39,451	...
Total ...	15,35,121	16,87,979	1,52,858

The percentage of increase is 9'96. The incidence of the old and new revenue under these combined heads is

—		Old.	New.
		Rs.	Rs.
(a)	...	3'01	3'31
(b)	...	3'13	3'44
(c)	...	3'08	3'39

shown in the margin per acre (a) occupied, (b) cultivated, and (c) assessed at full rates. Per head of the estimated population the incidence is Rs. 3'89 on the old revenue, and Rs. 4'28 calculated on the new. The immediate reductions due to intermediate rates and exemption certificates are Rs. 10,319, therefore the immediate en-

hancement is Rs. 1,42,539, or 9'29 per cent.

### (q) Estimated Demand for an Average Year.

223. The occupied area in the settlement year was 509,289 acres. The average fallows for the thirteen years of the existing settlement are shown in Statement 2 as 26,423 acres. If the fallow in an average year is taken to be that area, and the same proportion is assessed to fallow rates as in the settlement year, then 490,963 acres would be assessed at full rates and 18,326 at fallow rates. The land revenue on this area assessed at full rates calculated at the proposed incidence is Rs. 14,30,510, and if to this be added the reduced assessment on the fallow land, the total demand would be Rs. 14,32,801. From this total must be subtracted the average amount of remissions during the same period. There remains a sum of Rs. 14,15,043 as the average collections in a normal year, provided that the occupied area remains constant.

If the capitation tax demand be calculated on the present estimated population at the incidence per head during the settlement year, the demand is Rs. 3,43,381. The average remissions of capitation tax during the last thirteen years were Rs. 7,539. The collections in a normal year therefore may be assumed to be Rs. 3,35,842.

The total demand in a normal year under both heads is therefore Rs. 17,76,182, and the total collections may be estimated to be Rs. 17,50,885.

224. Besides the checks already referred to in the consideration of particular rates, the rates proposed have been checked by comparison with one another, and the result is probably as fair a distribution of the total new revenue proposed within the limits of the settlement area, as the local experience gained in two years of settlement operations can effect. The comparison is necessarily local, and therefore limited. It remains to compare the amount of the total revenue demand—the pitch of the rates—with the demands on similarly situated areas in other parts of the province. In the absence of a super-settlement for the province, other settlement reports supply the only materials for such a comparison. The revenue is always founded on a calculation of the nett produce, so the comparison should naturally be made between the share of the nett produce taken as revenue in different localities. This comparison is however rendered impossible by the differences in method of deducing the nett produce from the gross produce, or, more shortly, in methods of calculating the cost of cultivation. I have therefore had to attempt a comparison between the different proportions that the revenue bears to the gross produce. For this purpose, some recently settled districts or areas have been selected, and of course the last settlement of this district is included. These areas are all situated in what has been termed the "Central Rice Tract," a name in itself significant as a step towards that tracting of the whole province which would be necessary in a super-settlement. The only assumptions that enter into the comparison are the assumptions of fertility and price made by the various settlement officers. Of

course, even in these there is great possibility of error. The results of the comparison are as follows :—

District or area.	Year of settlement.	Amount of gross produce.	Average price assumed.	Gross produce value.	Total revenue demand	Revenue per rupee of gross produce value.
1	2	3	4	5	6	7
		Baskets.	Rs.	Rs.	Rs.	Rs. A. P.
Insein ... ..	1910-12	12,709,816	95'50	1,21,53,751	12,75,300	0 1 8
Nyaunglebin ...	1911-13	11,377,475	81'14	92,32,155	9,01,508	0 1 7
Syriam ... ..	1907-10	22,243,845	87'76	1,95,22,846	28,72,786	0 2 5
Toungoo .. ..	1911-13	13,639,030	79'45	1,08,36,102	(Conference) 9,36,254	0 1 4
Tharrawaddy ...	1900-04	14,986,604	72'70	1,08,94,695	10,21,828	0 1 6
Tharrawaddy ..	1913-15	17,790,565	86'46	1,53,82,333	12,94,606	0 1 4

NOTE.—Rice land alone appears in this table

It will be seen from this table therefore that, granting the correctness of the assumptions of productiveness and of price, the assessment proposed yields a revenue which, while it is a considerable increase on the present revenue, does not demand from the district a disproportionate share towards provincial revenue in comparison with other districts in the same zone.

225. The local experience of the Settlement officer is more valuable for the distribution of the demand within the settlement area

Reference to the Settlement Officer.

than for its assessment. The general assessment of the rates of a settlement is more often altered by the Local Government than its local distribution, and the principles upon which these alterations are made—usually comparison between different districts in the same fertility belt—are less accessible to and less frequently discussed by Settlement officers than they ought to be. If it is considered that an alteration in the total revenue demand is advisable, I trust that I may be given an opportunity to advise on the distribution by pointing out the localities and soils which are entitled to first consideration in the event of a contemplated decrease, and those which can best bear the enhancement in the event of an increase.

## CHAPTER VII.—MISCELLANEOUS REMARKS AND SUGGESTIONS.

226. The difficulties under which the Land Records Department of the settlement area suffers are remediable, but apparently

Working of the Land Records Department.

require the expenditure of more money than is at present available. Their difficulties are the unwieldy size of the *kwins*, the unsuitability of *kwin* boundaries, and the imperfection of their area statements. The survey of the settlement area was in the main completed in 1882, and the conditions have changed so much since that, the no doubt suitable demarcation of that period is quite unsuited to present conditions. The difficulties of referring to and extracting the areas from a *kwin* map increase in geometrical progression with the number of sheets on which it is printed. A redivision of *kwins* is the first requisite in the simplification of the revenue surveyor's labour, and there-



by in his efficiency. It is also very desirable that the boundaries of a *kwin* should agree with the boundaries of a village headman's jurisdiction. This saves multiplication of registers. The jurisdictions of village headmen are however in a state of flux. They are constantly being revised, but the process must be necessarily a slow one. The redemarcation of *kwins* cannot wait for this process to be completed. It should be carried out as soon as possible.

227. The area statements of most of the *kwins* of the district were in a state of indescribable confusion on arrival of settlement.

Area statements. Most of them had not been revised since original settlement. This alone caused the delay in the submission of this report. In the first year we tried to correct them by discovering the source of error, but in the second had to resort to a summary method of dealing with them. Renumbering and reprinting should be resorted to as often as possible. But the first essential is to have *kwins* of a usable size.

228. The staff, which consists of one superintendent, six inspectors and 55 surveyors (within the settlement area), is quite adequate to deal with the work, given the ideal conditions described.

Staff. As it is, the revenue surveyors have fallen behind with their revision and extension survey. Each surveyor in the last six years has done on the average about a fifth of the survey that is expected. Consequently the survey in the settlement area is on the whole bad, though it varies from charge to charge. The district has been unfortunate in the frequent changes that have taken place in the tenure of the office of superintendent. In the last eight years, there have been eight superintendents with an average tenure of less than a year. The cost of the department was in 1914-15 Rs. 42,875. The cost per occupied acre was therefore 1'34 annas, and amounted to 3'20 per cent. of the total assessment.

229. My thanks are due first of all to the Deputy Commissioner, Colonel F. R. Nethersole, I.A., for assistance in every possible way; next to the holders of the office of Superintendent of Land Records during settlement operations, Messrs. Swiney, Delmege, and L'Estrange, and Maung Pan Byu for their invariable courtesy in meeting the numerous demands that were made upon them.

Acknowledgments. Superintendent of Land Records during settlement operations, Messrs. Swiney, Delmege, and L'Estrange, and Maung Pan Byu for their invariable courtesy in meeting the numerous demands that were made upon them.

230. I suggest that all *kwins* which contain either of the flooded classes of paddy land (R. 4 and R. 5), and which are not already on the list of *kwins* in which fallow rates automatically apply, be placed on that list.

Application of fallow rates without petition.

231. The total cost of settlement operations was Rs. 1,68,538, or rather more than a lakh and a half. The amount per square mile is Rs. 131, and per occupied acre 5 annas and 4 pies.

Cost of settlement. The total cost is rather more than a year's increment at the proposed rates.

232. The Settlement Officer throughout the operations was Mr. J. L. McCallum, I.C.S., who took over charge from Mr. S. A. Smyth, I.C.S., by whom the party was brought from Toungoo on the 5th November 1913.

Officers and Men. Mr. S. G. Grantham, I.C.S., was Assistant Settlement Officer in the first year of the operations. He was succeeded on 28th October 1914, on his appointment as Settlement Officer, No. 2 Party, by Mr. B. W. Swithinbank, I.C.S., who remained till the 26th October 1915, when he took the Party on to Sagaing, except for a period of one month and nine days spent as Subdivisional Officer, Moulmein. My thanks are due to both these officers for the efficiency and energy they displayed.

The Burman Assistant Settlement Officers were Maung Byaung (1), A.T.M., and Maung Po Saw (2), who both retire at the end of this settlement. Both officers worked hard and well. Maung Chit Kaing and Maung Ba Thein, Myoòks, spent some time training with the Party during the operations. They gained a good acquaintance with the duties of an Assistant Settlement Officer, and made themselves useful in many ways. Maung Myit was the best of the permanent Inspectors in the field, Maung Thet was also good, and of those who officiated Maung Po San was very promising. In office, the best and most accurate compiler is Maung Ba Thin; Maung Aung Mya, Maung Po San, Maung Po Sein and Maung Po Aung (2) are also good. Maung Ba Thwin, Draughtsman and Record-keeper, acted as distributor of work and supervisor of office, and proved his efficiency in many ways, including the drawing of the maps which accompany this report. The acting Record-keepers, Maung Le Maung and Maung Po Saw, gave satisfaction. With few exceptions, the staff worked with keenness and vigour throughout the operations.

THARRAWADDY, November 15th, 1915.

J. L. McCALLUM,  
Settlement Officer, No. 5 Party.

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## APPENDICES.

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## LIST OF ABBREVIATIONS.

R.= Rice land.

B. V.= Betel-vine.

G.= Garden land.

H.= Chillies.

K.= Impermanent unembanked land

M. K.= Main kind.

M. L.= Miscellaneous cultivation.

O.= Onions.

P.= Beans.

T.= Tobacco.

Ty.= *Taungya*.

U.= Sugarcane.

V.= Vegetables.

Y.= Permanent unembanked land.

Z.= Maize.

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**Statement 1.—Occupied and other Areas at last Settlement and  
at present Settlement.**

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Statement 2.—Occupied and other areas at last

ASSESSMENT TRACT.	1			2			2 Original Settlement.		3 Original Settlement.	
Year and difference ..	1900-01.	1918-14.	Difference.	1900-01.	1918-14.	Difference.	1918-14.	Difference.	1918-14.	Difference.
Occupied areas ...	867	1,587	+690	67,188	78,380	+11,147	688	+688	1,768	+1,768
Other Areas—										
Village sites ..	38	35	-3	795	1,386	+651	...	...	48	+4
Religious land ..	2	4	+2	44	214	+170	...	...	5	+5
Roads, Canals, Tanks, Streams, Bunde. }	38	818	+886	803	3,767	+2,964	21	+21	280	+280
Waste { Culturable ..	8,069	8,066	-3	28,470	14,688	-18,787	288	+288	11,149	+11,149
Unculturable ..	8,924	7,760	-1,164	851	5	-846	...	...	178	+178
Reserved grazing ..	1	...	-1	2,482	8,583	+1,071	...	...	...	...
Under Water, etc. ..	448	188	-260	2,184	729	-1,455	...	...	788	+788
Forest Reserve ..	...	2,007	+2,007	510	6,577	+6,067	...	...	...	...
Total "Other Areas"	13,508	12,866	-642	48,089	80,714	+11,385	807	+807	12,898	+12,898
Gross Area ..	875	14,888	+8	1,08,222	1,08,044	-178	989	+989	14,188	+14,188
Percentage of area occupied ...	6.08	10.88	...	61.51	71.88	...	68.98	...	12.48	...

  

ASSESSMENT TRACT.	4			5			6			6 Original Settlement.	
Year and difference ...	1900-01.	1918-14.	Difference.	1900-01.	1918-14.	Difference.	1900-01.	1914-15.	Difference.	1914-15.	Difference.
Occupied areas ...	8,848	5,814	+1,571	61,769	68,604	+6,835	16,289	20,498	+4,259	4,222	+4,222
Other Areas—											
Village sites ..	65	107	+42	851	986	+137	158	241	+83	30	+30
Religious land ..	4	9	+5	24	188	+161	28	51	+19	5	+5
Roads, Canals, Tanks, Streams, Bunde. }	64	787	+723	866	2,972	+2,106	447	1,668	+1,221	616	+616
Waste { Culturable ..	28,068	8,088	-20,080	15,411	5,994	-9,517	18,876	14,266	+4,610	6,141	+6,141
Unculturable ..	6,878	24,687	+17,809	1,095	889	-706	4,209	660	-3,549	66	+66
Reserved grazing ..	1,089	1,808	+719	5,804	8,213	+2,409	1,176	1,948	+772	25	+25
Under Water, etc. ...	824	115	-709	1,544	155	-1,379	2,293	1,694	-699	187	+187
Forest Reserve ..	...	...	...	...	1	+1	...	...	...	...	...
Total "Other Areas"	31,987	29,445	-2,542	25,095	18,307	-6,788	21,691	20,418	-1,273	7,060	+7,060
Gross Area ...	26,836	26,159	-677	26,864	87,411	+60,547	37,980	40,911	+2,931	11,279	+11,279
Percentage of area occupied ...	9.46	14.88	...	71.11	78.48	...	48.61	50.10	...	27.46	...

  

ASSESSMENT TRACT.	7			7 Original Settlement.		8			8 Original Settlement.	
Year and difference ...	1908-04.	1914-16.	Difference.	1914-15.	Difference.	1900-01.	1918-14.	Difference.	1918-14.	Difference.
Occupied areas ..	4,127	5,688	+1,511	2,070	+2,070	8,285	15,990	+7,705	1,968	+1,968
Other Areas—										
Village sites ..	45	76	+31	158	+158	118	309	+197	74	+74
Religious land ..	8	12	+4	7	+7	3	21	+18	4	+4
Roads, Canals, Tanks, Streams, Bunde. }	10	347	+337	994	+994	191	971	+780	289	+289
Waste { Culturable ..	2,801	4,005	+1,204	2,801	+2,801	27,730	8,084	-19,646	7,208	+7,208
Unculturable ..	2,827	...	-2,827	...	...	2,827	4,472	+1,645	7,371	+7,371
Reserved grazing ..	107	207	+100	...	...	188	1,222	+1,034	17	+17
Under Water, etc. ...	258	1	-257	266	-266	1,722	65	-1,657	1	+1
Forest Reserve ..	...	...	...	...	...	...	9,554	+9,554	...	...
Total "Other Areas"	6,160	4,648	-1,512	11,471	+11,471	28,222	22,068	-6,154	15,089	+15,089
Gross Area ...	20,287	20,806	+519	12,541	+12,541	41,354	41,068	-286	17,198	+17,198
Percentage of area occupied ...	40.28	54.94	...	15.29	...	21.68	29.98	...	21.98	...

settlement and at present settlement.

9			9 Original Settlement.		10			11			11 Original Settlement.	
1900-01.	1913-14.	Difference.	1913-14.	Difference.	1901-02.	1914-15.	Difference.	1903-02.	1914-15.	Difference.	1914-15.	Difference.
75,004	84,806	+9,802	7,555	+7,555	12,899	12,321	+4,482	20,897	22,033	+6,136	8,901	+3,301
1,532	1,648	+ 96	51	+51	222	442	+220	2,812	1,975	-838	37	+37
63	269	+206	4	+4	..	53	+53	68	419	+351	4	+4
1,207	2,571	+2,364	142	+142	149	265	+116	1,068	2,489	+2,377	80	+80
26,801	5,805	-20,996	471	+471	16,406	5,138	-11,268	13,160	4,348	-18,812	1,584	+1,584
2,152	1,076	-1,076	...	...	2,016	1,094	-1,21	126	82	-93	...	...
4,583	9,612	+5,030	207	+207	1,643	3,764	+2,121	3,851	6,497	+6,136	...	...
1,915	14	-1,901	51	+51	1,157	..	-1,157	1,684	4	-1,680	...	...
...	6,634	+6,634	...	...	...	4,918	+4,918	...	141	+141	...	..
24,228	26,080	+1,852	926	+926	21,692	17,919	-3,773	26,763	18,545	-8,218	1,656	+1,656
1,12,227	1,12,236	+9	8,481	+8,481	35,491	35,550	+59	1,17,660	1,17,678	+18	4,956	+4,956
66-24	74-72	...	89-08	...	89-16	51-55	...	77-26	84-23	...	66-30	...
12 Original Settlement.			13			14			14 Original Settlement.		Tharrawaddy Township.	
1914-15.	Difference.	1901-02.	1914-15.	Difference.	1901-02.	1914-15.	Difference.	1914-15.	Difference.	1900-01.	1913-14.	Difference.
2,674	+2,674	87,385	479,745	+40,410	29,226	26,842	+2,384	775	+775	68,080	79,657	+11,577
66	+66	1,047	943	-104	769	640	-129	6	+6	778	1,221	+443
17	+17	84	295	+151	72	157	+85	2	+2	46	213	+167
577	+577	802	2,123	+1,321	440	1,988	+1,548	54	+54	625	4,086	+3,461
8,942	+8,942	24,809	5,118	-19,691	14,712	7,811	-6,901	225	+225	42,689	17,939	-24,750
10,891	+10,891	73	1,898	+1,825	6,197	1,864	-4,333	1,069	+1,069	4,755	7,765	+3,010
...	...	2,308	4,577	+1,769	1,869	4,357	+2,788	...	...	2,439	3,559	+1,120
...	...	1,462	6	-1,456	2,398	650	-1,748	...	...	2,606	655	-2,951
...	...	...	5,810	+5,810	...	989	+989	...	...	510	8,584	+8,074
17,892	+17,892	31,785	20,700	-10,885	26,150	15,616	-10,534	1,942	+1,942	55,547	42,870	-12,677
20,566	+20,566	68,420	68,445	+25	55,476	55,459	-17	2,724	+2,724	1,22,597	1,22,487	-110
12-00	...	64-37	65-75	...	52-26	70-04	...	28-45	...	55-06	64-70	...
Tharrawaddy Township Original Settlement		Letpadan Township.			Letpadan Township Original Settlement.		Monyo Township.			Monyo Township Original Settlement.		
1913-14.	Difference.	1900-01.	1913-14.	Difference.	1913-14.	Difference.	1908-04.	1914-15.	Difference.	1914-15.	Difference.	
2,450	+2,450	81,861	94,816	+12,955	4,222	+4,222	4,157	5,658	+1,511	2,070	+2,070	
48	+48	1,074	1,398	+324	30	+30	45	75	+30	158	+158	
5	+5	60	946	+886	5	+5	5	12	+7	7	+7	
251	+251	1,277	5,377	+4,100	616	+616	19	347	+328	994	+994	
11,425	+11,425	51,850	22,139	-29,711	5,151	+5,151	2,871	4,005	+1,134	9,961	+9,961	
178	+178	12,183	25,678	+13,495	68	+68	2,837	...	-2,837	...	...	
...	...	7,509	11,568	+4,059	25	+25	107	207	+100	...	...	
...	...	4,651	1,974	-2,677	157	+157	222	1	-221	...	...	
...	...	...	...	+1	...	...	...	...	...	...	...	
22,705	+22,705	72,773	89,125	+16,352	7,069	+7,069	2,180	4,842	+2,662	12,471	+12,471	
15,156	+15,156	1,00,184	1,69,461	+69,277	11,972	+11,972	10,317	10,316	-1	12,461	+12,461	
12-17	...	80-33	87-00	...	27-46	...	40-29	54-54	...	12-29	...	

## Statement I. — Occupied and other areas at last

ASSESSMENT TRACT.	Minhla Township.			Minhla Township, Original Settlement.		Gyobingauk Township.			Gyobingauk Township, Original Settlement.	
Year and difference ..	1900-01.	1918-14.	Difference.	1918-14.	Difference.	1913-09.	1914-15	Difference.	1914-15.	Difference.
Occupied areas ..	88,880	1,00,886	+ 12,006	9,618	+ 9,638	1,04,796	1,17,384	+ 12,588	2,301	+ 2,301
Other areas—										
Village sites ...	1,884	1,987	+ 293	195	+ 195	2,536	2,117	- 418	23	+ 27
Religious land ...	66	990	+ 294	8	+ 8	58	478	+ 420	4	+ 4
Roads, Canals, Tanks, Streams, Bunds.	1,898	4,542	+ 2,644	441	+ 441	1,911	4,404	+ 2,493	80	+ 80
Waste { Culturable ..	54,531	18,689	- 35,842	7,774	+ 7,774	54,506	9,881	- 44,625	1,584	+ 1,584
Unculturable ..	4,478	6,548	+ 2,070	2,871	+ 2,871	2,140	1,986	- 154	...	...
Reserved grazing ...	4,866	11,986	+ 7,120	904	+ 924	4,994	12,361	+ 7,367	...	...
Under Water, etc. ...	3,896	79	- 3,817	69	+ 69	2,841	4	- 2,837	...	...
Forest Reserve ...	...	16,188	+ 16,188	...	...	...	5,069	+ 5,069	...	...
Total "Other Areas" ..	70,461	68,728	- 1,733	15,995	+ 15,995	48,345	85,768	+ 37,423	+ 1,685	+ 1,685
Gross Area ...	1,54,391	1,54,394	+ 3	25,613	+ 25,613	1,58,141	1,58,138	- 3	4,986	+ 4,986
Percentage of area occupied ...	57.56	65.49	...	37.81	...	68.48	76.64	...	68.61	...

ASSESSMENT TRACT.	Monyo Township. All			Minhla Township. All.			Gyobingauk Township. All.			Nattalin Township. All.		
Year and difference ..	1903-04.	1914-15.	Difference.	1900-01.	1913-14.	Difference.	1901-02.	1914-15.	Difference.	1901-03.	1914-15.	Difference.
Occupied areas ..	4,187	7,728	+ 3,541	22,980	1,10,114	+ 87,134	1,04,796	1,20,865	+ 16,069	66,641	99,088	+ 32,447
Other areas—												
Village sites ...	45	229	+ 184	1,664	2,082	+ 418	2,536	2,184	- 352	1,800	1,684	- 116
Religious land ..	8	19	+ 11	78	296	+ 218	58	478	+ 420	786	411	- 375
Roads, Canals, Tanks, Streams, Bunds.	10	1,341	+ 1,331	1,898	4,983	+ 3,085	1,911	4,484	+ 2,573	1,342	4,142	+ 2,800
Waste { Culturable ..	2,301	12,966	+ 10,665	54,531	21,083	- 33,448	54,506	11,065	- 43,441	38,621	20,080	- 18,541
Unculturable ..	2,837	...	- 2,837	4,478	19,919	+ 15,441	2,140	1,986	- 154	4,270	12,700	+ 8,430
Reserved grazing ..	107	207	+ 100	4,846	21,459	+ 16,613	4,994	12,361	+ 7,367	4,377	2,924	+ 1,447
Under Water, etc. ...	353	337	- 16	3,896	121	- 3,775	2,841	4	- 2,837	2,840	656	+ 3,720
Forest Reserve ...	...	...	...	...	16,188	+ 16,188	...	5,069	+ 5,069	...	6,528	+ 6,528
Total "Other Areas" ..	6,189	16,119	+ 9,930	70,461	68,728	- 1,733	48,345	87,419	+ 39,074	57,086	87,187	+ 30,101
Gross Area ...	10,377	23,847	+ 13,470	1,54,391	1,78,847	+ 24,456	1,58,141	1,32,084	- 26,057	1,23,727	1,47,109	+ 23,382
Percentage of area occupied ...	40.20	39.49	...	54.78	61.48	...	68.48	76.64	...	68.61	61.17	...

settlement and at present settlement—concluded.

Nattalin Township.			Nattalin Township, Original Settlement.		Tharrawaddy Township. All.			Letpadaun Township. All.		
1901-02.	1914-15.	Difference.	1914-15.	Difference.	1900-01.	1918-14	Difference.	1900-14.	1918-15	Difference.
66,661	86,537	+ 19,876	8,449	+ 8,449	68,050	88,907	+ 14,857	81,351	98,538	+ 17,187
1,809	1,583	- 226	79	+ 79	773	1,269	+ 496	1,074	1,366	+ 292
156	392	+ 236	19	+ 19	46	223	+ 177	60	250	+ 190
1,949	2,511	+ 2,569	631	+ 631	835	4,286	+ 3,501	1,877	5,999	+ 4,616
29,581	32,984	- 26,597	7,166	+ 7,166	42,539	28,784	- 13,815	51,850	29,819	- 22,501
6,270	2,747	- 3,523	11,968	+ 11,968	4,755	7,949	+ 3,188	12,182	25,742	+ 13,560
4,377	6,984	+ 4,557	..	..	2,483	8,558	+ 1,070	7,559	11,983	+ 5,614
8,860	656	- 3,904	...	...	3,806	1,648	- 1,952	4,661	2,191	- 2,580
...	6,569	+ 6,569	...	...	510	8,584	+ 8,074	...	1	+ 1
67,293	87,316	- 19,919	19,841	+ 19,841	55,547	66,275	+ 798	78,778	76,215	- 2,563
1,28,896	1,28,903	+ 7	28,290	+ 28,290	1,28,597	1,28,692	+ 14,985	1,60,124	1,74,758	+ 14,632
53-80	69-98	...	14-81	...	58-01	59-89	...	60-81	58-89	...
AREA FOR RESETTLEMENT.			AREA FOR ORIGINAL SETTLEMENT.		WHOLE SETTLEMENT AREA.					
1900-04.	1913-15.	Difference.	1913-15.	Difference.	1900-14.	1913-15.	Difference.			
421,882	484,388	+ 82,526	25,010	+ 25,010	421,882	508,398	+ 87,366			
7,900	8,290	+ 390	485	+ 485	7,900	8,755	+ 855			
394	1,629	+ 1,235	48	+ 48	394	1,677	+ 1,283			
6,073	22,286	+ 16,193	3,013	+ 3,013	6,073	25,279	+ 19,206			
225,808	80,836	- 144,972	44,021	+ 44,021	225,808	124,857	- 100,951			
32,862	43,682	+ 11,000	19,568	+ 19,568	32,862	53,230	+ 20,368			
24,216	47,538	+ 23,322	246	+ 246	24,216	47,787	+ 23,571			
18,958	3,599	- 15,359	1,353	+ 1,353	18,958	4,922	- 14,036			
510	36,401	+ 35,891	...	...	510	36,401	+ 35,891			
316,621	244,191	- 72,330	68,717	+ 68,717	316,621	312,908	- 3,613			
738,383	728,579	- 9,804	83,727	+ 83,727	738,383	822,306	+ 83,923			
-67-13	69-46	...	28-98	...	67-13	61-96	...			

### Statement 2—Land Revenue and Capitation-tax

YEAR	1902-03.	1903-04.	1904-05.	1905-06.	1906-07.	1907-08.		
1	2	3	4	5	6	7		
Area in acres—								
Nett cropped	Matured	415,536	417,600	432,546	377,908	335,336	436,080	
	Not matured	5,716	14,741	6,051	65,372	52,309	16,545	
Fallowed and exempt		21,789	18,883	20,997	21,634	23,506	29,776	
Total occupied		443,041	451,024	460,594	464,814	411,151	472,401	
Land and Tree Revenue—								
Demand	Rs.	9,72,176	10,67,117	10,76,684	11,09,186	10,70,976	11,35,074	
Remissions	Rs.	8,944	26,496	8,910	1,11,453	24,921	5,213	
Collections	Rs.	9,65,150	10,40,636	10,72,928	9,90,243	10,41,051	11,16,897	
Average collected per acre matured.	Rs.	2'22	2'42	2'46	2'63	2'70	2'61	
Capitation-tax—								
Number of Assessess		59,896	60,983	64,030	66,313	66,986	66,630	
Number of Exemptees		8,698	9,140	9,608	9,347	10,039	10,398	
Demand	Rs.	3,59,172	3,23,661	3,81,539	3,31,490	3,07,840	3,05,707	
Remissions	Rs.	1,337	1,337	2,055	8,336	14,417	6,843	
Collections	Rs.	3,50,835	3,24,274	3,79,177	3,23,153	2,93,423	2,98,865	
Average collected per head of population.	Rs.	0'95	0'93	0'94	0'91	0'89	0'88	
(a) Total collections	Rs.	12,91,985	13,44,910	14,09,105	13,13,895	13,34,604	14,15,469	
(b) Incidence per acre occupied		2'92	3'03	3'06	2'82	2'86	2'98	
Recovery by process—								
Total Number of	Processes issued	1,410	1,173	773	2,300	4,981	3,067	
	Persons	arrested	186	114	34	88	3	25
		imprisoned	...	...	...	...	...	...
	Sales of property.	moveable	...	9	...	...	7	3
		immoveable	37	11	139	136	212	195
(a) Total arrears	Rs.	4,685	6,067	3,921	31,081	44,931	24,777	
(b) Total realized		3,955	2,965	5,487	17,637	24,526	25,297	

## Demand and collections for 13 years.

1908-09.		1909-10.		1910-11.		1911-12.		1912-13.		1913-14.		1914-15.		Average for 13 years.	
8		9		10		11		12		13		14		15	
446,987		430,749		423,470		442,923		466,360		464,050		490,198		433,625	
17,998		23,573		27,481		12,923		6,530		473		4,191		20,225	
23,639		29,334		48,667		41,810		26,895		20,427		18,421		26,423	
487,924		483,651		491,618		495,976		499,385		504,956		510,600		486,474	
11,89,441		11,83,288		11,25,519		11,31,417		11,66,893		11,82,765		11,64,708		11,15,835	
1,493		4,675		19,487		13,973		766		1,786		7,687		17,798	
11,87,153		11,88,492		11,06,617		11,17,697		11,67,641		11,80,969		11,85,952		10,67,335	
2'59		2'63		2'61		2'53		2'43		2'44		2'42		2'53	
69,768		70,890		72,535		71,530		71,184		72,277		73,923		69,317	
10,465		10,534		11,187		10,925		10,886		10,915		11,199		10,205	
3,08,944		3,18,543		3,25,817		3,22,196		3,21,704		3,25,210		3,29,051		3,22,921	
6,308		5,728		12,838		11,281		11,053		6,471		10,502		7,539	
3,02,633		3,12,815		3,13,479		3,10,967		3,10,652		3,21,739		3,28,549		3,15,062	
0'53		0'55		0'55		0'53		0'53		0'55		0'56		0'57	
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
14,50,701	2'59	14,46,307	2'53	14,19,290	2'57	14,23,064	2'53	14,68,293	2'54	15,08,708	2'58	15,14,501	2'58	14,12,417	2'54
3,270		3,308		3,631		3,307		3,078		1,443		3,680		3,194	
91		549		279		49		47		77		87		125	
11		6		22		5						1		4	
9				2		27		1		5		25		5	
87		163		143		247		13		20		208		123	
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
20,839	13,687	24,429	16,854	11,970	19,580	23,558	11,825	13,639	5,668	8,392	6,372	45,991	20,207	23,623	11,399



**Statement 3.—Areas under various crops from last settlement to present settlement.**

Year.		1903-03.	1903-04.	1904-05.	1905-06.	1906-07.	1907-08.	1908-09.	1909-10.	1910-11.	1911-12.	1912-13.	1913-14.	1914-15.	12 years' average.	
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Cereals and Pulses.	Spring Rice	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Unirrigated	83	163	76	286	297	421	404	299	243	89	292	320	228	241	
	Autumn Rice	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Unirrigated	231	408	199	220	310	277	214	220	1	...	...	...	...	162	
	Winter Rice	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Unirrigated	404,715	405,859	421,976	428,058	419,879	426,604	445,906	448,936	431,558	433,743	449,682	462,205	474,474	434,354	
	All Rice	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Unirrigated	405,009	416,280	422,251	428,519	419,986	428,312	445,516	446,917	431,801	433,832	449,374	463,725	474,697	435,521	
	Total	405,009	416,280	422,251	428,519	419,986	428,312	445,516	446,917	431,801	433,832	449,374	463,725	474,697	435,521	
	Wheat (Gyoh)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Jowar (yau ng)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Job's Tears (Lu)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Maize (Pyawngbu)	...	164	180	66	121	88	174	246	91	110	264	166	351	257	170
	Gram (Kolabl)	...	...	...	...	...	...	44	159	54	1	...	5	...	71	28
	Beans (Pigyl)	...	384	290	453	604	523	88	452	960	912	...	1,909	2,113	2,166	943
" (Pigya)	...	...	...	...	...	...	...	68	13	11	17	5	...	20	10	
" (Payin)	...	1	2	1	...	...	555	611	959	...	...	...	...	...	110	
Others	...	61	298	6	90	164	197	264	376	577	1,919	789	898	192	490	
Oil-seeds.	Ground-nuts	...	...	...	...	...	...	...	...	...	1	...	...	...	...	
	Sesamum	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Early	78	87	105	54	118	133	89	105	108	122	2	6	5	94	
	Late	645	638	834	1,064	1,81	497	889	408	631	619	316	509	309	672	
Others	...	...	...	...	...	3	...	...	...	...	...	...	...	...		
Condiments.	Chillies	...	406	241	315	244	693	585	301	422	669	747	1,633	792	264	590
	Betel-vine	...	10	10	11	11	...	...	...	41	21	34	26	24	15	
	Others	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Sugarcane	...	731	800	571	587	593	486	852	912	948	295	221	236	192	416
Fibres.	Cotton	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	Others	...	7	6	7	7	1	...	...	1	...	...	...	...	2	
Drugs.	Tobacco	...	1,086	1,468	1,962	2,015	2,869	2,265	1,405	1,612	2,250	2,307	2,758	2,220	2,032	
	Others	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Fodder crops.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Orchards.	Plantains	...	6,129	6,059	6,109	6,118	6,215	6,405	6,479	6,614	6,839	6,417	5,093	5,150	5,101	5,770
	Cocoanuts	...	219	221	222	221	220	219	216	217	227	220	533	516	515	346
	Betelnuts	...	67	...	...	...	...	...	...	...	...	...	...	...	...	...
	Mangoes	...	...	...	...	...	...	5,787	5,792	5,769	6,093	6,349	7,390	6,292	6,566	6,252
	Others	...	5,434	5,695	5,664	5,665	5,747	88	77	25	1,028	1,079	765	763	789	572
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Miscellaneous.	Onions	...	12	68	3	2	...	...	15	...	5	3	7	7	5	19
	Tomatoes	...	134	247	...	...	22	11	4	14	167	123	202	127	62	86
	Others (food)	...	426	515	562	590	508	529	544	559	578	640	605	653	596	604
	Do "	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Others (non-food)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TOTALS.	All crops	...	221,553	222,965	222,209	222,926	222,854	222,805	222,285	222,227	222,921	222,106	222,220	222,222	222,222	222,222
	Double cropped area	...	...	164	...	846	147	...	...	...	...	...	...	...	...	...
	Nett area cropped	...	...	422,721	...	422,580	422,707	...	...	...	...	...	...	...	...	...

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**Statement 4.—Wholesale Harvest Prices of Produce from last  
Settlement to present Settlement.**

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## Statement 4.—Wholesale harvest prices of

Kind of Produce, Unit of Sale.	Average weight.	Assessment Tract or name of market.	Average prices at time of					
			1901.	1902.	1903.	1904.	1905.	1906.
1	2	3	4	5	6	7	8	9
Unshooked Rice per 100 Government 8-gallon baskets.	Lbs.							
	46	Rangoon ... ..	84'48	79'38	100'23	87'87	94'28	101'25
	51	Tract 1 ... ..	60	63	84	71	77	86
		Tract 2 .. ..	74	70	91	78	87	94
	46	Tract 3 ... ..	...	...	...	...	...	...
	51	Tract 4 .. ..	..	65	84	...	...	..
		Tract 5 ... ..	71	67	88	77	82	87
	46	Tract 6 ... ..	79	71	89	80	..	...
		Tract 7 ... ..	70	66	85	89	...	...
	50	Tract 8 .. ..	60	60	86	69	79	86
		Tract 9 .. ..	60	64	88	75	89	86
		Tract 10 ... ..	58	61	84	69	75	80
		Tract 11 .. ..	62	64	94	74	81	84
	46	Tract 12 ... ..	...	...	...	...	...	..
		Tract 13 .. ..	59	61	88	69	77	86
		Tract 14 ... ..	65	64	98	97	74	84
White Beans, 100 baskets ...	...	Henzada ... ..	...	265	267	248	273	248
Tobacco, 100 vics ...	...	Henzada ... ..	...	87	97	80	80	88
Chillies, 100 vics ...	..	Henzada ... ..	..	...	...	84	60	60
Onions, 120 vics ...	...	Henzada .. ..	...	...	...	..	...	...

\* Average for five years only.

## produce from last settlement to present settlement.

harvest in the year.

1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	Average price for 15 years.	Average difference between Local and Government standards.	Resultant average prices in (Government standards.	Average price assumed for assessment
10	11	12	13	14	15	16	17	18	19	20	21	22
118-54	120-17	99-64	98-94	118-23	149-48	128-87	118-48	98-79	104-86	...	...	...
98	115	89	86	97	134	122	109	76	91	+ 2 sale	81	87
111	121	97	90	107	129	126	113	84	99	+ 1 ..	99	94
...	...	...	91	...	136	123	112	84	109*	+ 2 ..	109	87
...	...	84	...	94	121	...	112	87	94	+ 6 ..	94	88
93	113	91	82	98	121	116	111	80	92	+ 6 ..	92	92
102	114	87	82	94	120	109	106	72	98	+ 4 ..	92	84
98	115	...	84	94	...	111	102	71	89	+ 6 ..	89	88
98	102	65	78	86	118	104	91	68	84	+ 9 ..	84	81
96	106	86	86	91	122	115	98	78	91	+ 8 ..	90	67
88	110	78	77	87	122	119	102	77	86	+ 13 ..	86	80
93	104	82	80	90	125	116	105	78	89	+ 11 ..	89	86
...	100	68	64	78	113	100	94	71	85	+ 4 ..	86	67
97	112	87	82	94	126	107	98	79	88	+ 11 ..	86	79
99	110	68	88	98	123	106	85	67	88	+ 4 ..	88	78
284	447	423	408	447	829	8-21	231 265†	248 414†	3-44 ...	...	...	240 ...
21	24	29	20	23	20	24	26 74†	26 19†	27 23	...	...	25 ...
...	...	...	...	...	...	24	45 60†	45 49†	40 41	...	...	40 ...
...	...	...	...	...	...	...	18†	19†	15	...	...	25

† Reported during Settlement.

Statement 5.—Areas rented in year of last settlement and in every fifth succeeding year.

Years for which statistics shown.	Number of tenants.	Acres rented.	Percentage of occupied area.	Rent rate per acre.	Number of tenants.	Acres rented.	Percentage of occupied area.	Rent rate per acre.	Number of tenants.	Acres rented.	Percentage of occupied area.	Rent rate per acre.
1	2	3	4	5	6	7	8	9	10	11	12	13
Assessment Tract.	1				2				3			
Main Kind	R				R				R			
Past Settlement 1900—02	15	97	13	4	1,894	28,128	40	8	..	..	..	..
5th year after : (1905-06)	29	280	20	9	2,632	39,648	59	18	..	..	..	..
10th year after : (1910-11)	37	309	27	9	2,778	41,601	68	16	..	..	..	..
Present Settlement	42	526	36	12	3,019	47,768	61	17	21	362	30	9
Assessment Tract.	4				5				6			
Main Kind	R				R				R			
Past Settlement 1900—02	54	704	18	9	1,229	14,282	23	9	61	649	6	7
5th year after : (1905-06)	125	1,396	26	14	1,713	18,464	29	15	..	..	..	..
10th year after : (1910-11)	204	2,918	33	14	2,306	26,934	41	18	52	740	8	11
Present Settlement	257	3,429	31	21	2,791	32,340	50	21	439	5,109	25	9
Assessment Tract.	7				8				9			
Main Kind	R				R				R			
Past Settlement 1900—02	43	306	5	3	86	756	8	7	1,718	16,197	21	8
5th year after : (1905-06)	..	..	..	..	68	863	6	12	1,782	16,166	22	16
10th year after : (1910-11)	67	809	9	8	546	6,570	37	11	3,006	32,324	36	16
Present Settlement	66	1,000	17	7	636	6,931	40	11	2,920	31,658	35	18
Assessment Tract.	10				11				12			
Main Kind	R				R				R			
Past Settlement 1900—02	2.0	9,185	16	6	2,033	15,464	17	7	..	..	..	..
5th year after : (1905-06)	161	1,635	10	11	2,154	18,957	20	13	..	..	..	..
10th year after : (1910-11)	138	6,331	39	13	3,157	29,174	30	17	38	497	21	7
Present Settlement	639	7,152	44	11	3,315	36,898	37	13	109	667	25	6
Assessment Tract.	13				14				SETTLEMENT AREA.			
Main Kind	R				R				R			
Past Settlement 1900—02	727	4,790	12	6	406	2,821	9	8	2,573	25,153	21	8
5th year after : (1905-06)	1,035	6,756	15	12	599	4,089	11	10	19,279	119,849	24	17
10th year after : (1910-11)	1,367	10,698	24	17	979	6,321	18	12	15,106	169,306	24	16
Present Settlement	1,675	12,525	30	14	1,281	9,308	24	10	17,461	194,308	26	16

Note.—R=Rice Land.

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**Statement 6.—Areas sold in year of last Settlement and in every  
fifth succeeding year.**

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Statement 6.—Areas sold in year of last

Years for which statistics shown.	Number of sales.	Acres sold.	Percentage of occupied area.	Sale rate per acre.	Number of sales.	Acres sold.	Percentage of occupied area.	Sale rate per acre.	Number of sales.	Acres sold.	Percentage of occupied area.	Sale rate per acre.
1	2	3	4	5	6	7	8	9	10	11	12	13
Assessment Tract ...	1				2				2			
Main kind ...	R				R				G			
Past Settlement, 1900-09	18	99	21	10	447	4,884	7	31	27	27	...	336
5th year after, 1905-09	18	86	6	33	493	7,039	9	51	48	32	...	361
10th year after, 1910-11	9	11	1	19	157	2,465	3	72	20	18	...	83
Present Settlement ...	13	125	9	28	226	3,310	4	68	22	46	...	199
Assessment Tract ...	5				5				6			
Main kind ...	R				G				R			
Past Settlement, 1900-09	599	6,188	10	34	68	47	...	106	71	490	4	21
5th year after, 1905-09	598	6,981	11	39	83	36	...	267	129	1,419	7	29
10th year after, 1910-11	184	1,395	3	34	37	29	...	113	25	250	1	33
Present Settlement ...	386	3,693	6	33	110	61	5	224	99	1,157	6	40
Assessment Tract ...	8				8				9			
Main kind ...	R				G				R			
Past Settlement, 1900-09	117	1,086	11	19	...	...	...	...	708	6,404	8	28
5th year after, 1905-09	28	841	3	30	5	3	...	41	267	9,605	12	62
10th year after, 1910-11	94	1,362	7	36	1	1	...	9	439	4,913	5	66
Present Settlement ...	176	2,408	14	35	3	2	1	26	347	9,598	11	68
Assessment Tract ...	11				11				11			
Main kind ...	R				G				ML			
Past Settlement, 1900-09	1,361	10,390	11	13	236	317	...	69	...	...	...	...
5th year after, 1905-09	1,041	8,387	9	34	227	174	...	98	...	...	...	...
10th year after, 1910-11	589	4,744	5	36	165	137	...	74	8	6	...	66
Present Settlement ...	307	4,606	6	38	207	159	4	194	...	...	...	...
Assessment Tract ...	13				14				14			
Main kind ...	ML				R				G			
Past Settlement, 1900-09	...	...	...	...	407	2,742	9	20	29	22	...	35
5th year after, 1905-09	...	...	...	...	648	4,063	11	30	30	28	...	79
10th year after, 1910-11	8	35	...	31	204	2,355	6	25	31	43	...	63
Present Settlement ...	...	...	...	...	311	2,923	6	28	75	44	4	39

Note.—R = Rice Land. G = Garden land.

settlement and in every fifth succeeding year.

Number of sales.	Acres sold.	Percentage of occupied area.	Sale rate per acre.	Number of sales.	Acres sold.	Percentage of occupied area.	Sale rate per acre.	Number of sales.	Acres sold.	Percentage of occupied area.	Sale rate per acre.
14	15	16	17	18	19	20	21	22	23	24	25
3				4				4			
R				R				G			
...	...	...	...	60	647	18	80	1	2	...	84
...	...	...	...	94	1,089	14	44	...	...	...	...
8	68	29	35	25	113	1	55	...	...	...	...
6	153	8	16	69	663	8	47	...	...	...	...
6				7				7			
G				R				G			
2	2	...	65	26	208	4	16	...	...	...	...
3	3	...	69	22	222	4	24	2	2	...	19
1	1	...	35	23	180	6	39	1	1	...	76
4	4	1	54	30	260	5	48	...	...	...	...
9				10				10			
G				R				G			
62	60	...	62	200	2,119	16	11	199	1,268	...	10
28	28	...	64	119	1,265	8	56	11	14	...	6
80	26	...	67	126	1,303	8	33	10	6	...	76
108	71	4	119	170	1,990	11	44	16	8	8	69
12				13				13			
R				R				G			
...	...	...	...	729	4,974	19	24	178	293	...	26
...	...	...	...	805	5,405	13	46	179	271	...	48
11	63	8	16	410	2,670	6	44	128	126	...	46
38	207	8	49	422	2,529	6	22	155	245	8	26
SETTLEMENT AREA.											
R				G				ML			
4,863	41,811	19	22	743	1,933	...	27	...	...	...	...
5,955	45,237	19	49	589	587	...	33	...	...	...	...
2,422	22,835	4	54	441	299	...	61	16	41	...	...
3,961	33,344	7	67	723	634	5	131	...	...	...	...

ML = Miscellaneous cultivation.

Statement 7.—Areas mortgaged in year of last

Years for which statistics shown.	Number of mortgages.	Acres mortgaged.	Percentage of occupied area.	Mortgage rate per acre.	Number of mortgages.	Acres mortgaged.	Percentage of occupied area.	Mortgage rate per acre.	Number of mortgages.	Acres mortgaged.	Percentage of occupied area.	Mortgage rate per acre.
1	2	3	4	5	6	7	8	9	10	11	12	13
Assessment Tract ...	1				1							
Main kind ...	R				G				R			
Past Settlement, 1900-08 ...	2	16	2	8	...	...	...	...	433	5,887	2	25
5th year after, 1905-08 ..	19	288	16	20	1	1	...	19	718	11,450	15	23
10th year after, 1910-11 ...	2	17	1	8	...	...	...	...	99	1,368	2	27
Present Settlement ...	6	61	4	26	...	...	...	...	213	1,994	2	60
Assessment Tract ...	5				8				8			
Main kind ...	G				R				G			
Past Settlement, 1900-08 ...	2	1	...	188	10	98	1	13	...	...	...	...
5th year after, 1905-08 ...	30	34	...	104	142	1,788	9	21	4	21	...	12
10th year after, 1910-11 ...	6	4	...	100	60	908	4	28	1	1	...	108
Present Settlement ...	25	86	2	127	112	1,584	7	26	...	...	...	...
Assessment Tract ...	9				10				10			
Main kind ...	G				R				G			
Past Settlement, 1900-08 ...	28	27	...	68	50	684	5	10	27	343	...	12
5th year after, 1905-08 ...	18	34	...	118	55	761	5	40	2	22	...	26
10th year after, 1910-11 ...	6	8	...	48	7	79	1	23	...	...	...	...
Present Settlement ...	2	1	...	180	99	1,261	8	26	...	...	...	...
Assessment Tract ...	13				13				14			
Main kind ...	G				ML				R			
Past Settlement, 1900-08 ...	28	24	...	24	...	...	...	...	264	1,008	6	16
5th year after, 1905-08 ...	27	53	...	90	...	...	...	...	247	2,454	7	24
10th year after, 1910-11 ...	17	34	...	27	1	1	...	20	27	226	2	28
Present Settlement ...	22	199	5	71	...	...	...	...	269	2,776	7	46

Note.—R = Rice land, G = Cotton land.

settlement and in every fifth succeeding year.

Number of mortgages.	Acres mortgaged.	Percentage of occupied area.	Mortgage rate per acre.	Number of mortgages.	Acres mortgaged.	Percentage of occupied area.	Mortgage rate per acre.	Number of mortgages.	Acres mortgaged.	Percentage of occupied area.	Mortgage rate per acre.	Number of mortgages.	Acres mortgaged.	Percentage of occupied area.	Mortgage rate per acre.
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
2				3				4				5			
G				R				R				R			
8	8	...	75	...	..	...	...	6	57	1	8	355	4,086	7	88
28	50	...	145	...	...	...	...	38	539	7	28	367	4,481	7	88
1	1	...	831	...	..	...	...	5	41	1	50	56	585	1	88
6	6	1	114	4	169	11	17	38	448	6	54	180	1,485	2	56
								8				9			
R				G				R				R			
21	253	6	17	...	...	...	..	29	612	5	14	855	2,141	12	28
21	188	8	29	...	..	..	..	128	1,689	12	20	1,310	15,295	19	41
4	41	1	34	1	1		32	7	191	1	16	69	791	1	84
23	248	4	27	..	...	.	...	44	854	5	58	366	2,569	4	46
1				11				12				13			
R				G				R				R			
597	5,408	9	20	16	11		180	...	...	...	...	216	2,704	6	90
214	2,379	9	41	54	79	..	51	..	...	..	..	301	2,643	6	48
58	461	1	21	11	7	...	59	1	6	.	13	50	375	1	24
629	7,463	7	50	47	44	1	108	25	177	7	28	437	4,194	10	54
14				SETTLEMENT AREA.											
G				R				G				ML			
5	4	...	76	2,378	25,396	7	22	194	461	...	25	...	...	.	...
6	2	...	86	4,245	46,937	11	22	199	276	...	21	...	...	..	...
2	1	...	49	498	5,193	1	29	42	54	...	49	1	1	...	26
29	86	2	83	2,360	25,187	5	49	153	253	2	26	..	...	...	...

ML = Miscellaneous cultivation.

## Statement 2.—Rainfall recorded

Station.	Years.	1895		1896		1897		1898		1899		1900		1901		1902		1903		1904	
	(a) Rainy day. (b) Rainfall.	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Theravaddy.	January-March	1	0.20	...	...	1	0.22	1	0.58	...	...	...	...	2	8.87	...	0.06	...	...	1	0.10
	April	5	8.08	...	...	1	1.04	...	...	3	1.56	...	0.08	...	...	...	...	...	...	8	0.62
	May	11	6.86	15	18.81	11	7.89	13	10.28	17	10.48	6	8.28	19	6.08	12	14.83	7	7.87	9	6.11
	June	16	18.28	18	19.54	17	17.42	20	15.70	24	18.08	24	24.11	24	15.85	20	12.81	28	14.65	26	15.45
	July	28	18.57	20	24.58	22	14.68	27	20.27	29	20.80	24	16.65	25	18.46	23	27.27	28	23.01	22	16.17
	August	26	17.11	27	25.50	29	22.75	23	18.25	23	14.97	22	19.58	24	15.80	21	14.70	28	22.94	26	19.78
	September	10	5.82	21	12.87	16	13.89	17	12.79	19	7.72	14	11.47	16	8.55	22	10.11	21	11.77	21	18.97
	October	8	2.89	5	2.07	13	6.80	3	1.09	7	2.48	9	5.52	18	8.47	6	2.12	10	4.89	5	2.90
	November	2	0.71	1	0.43	2	0.70	...	...	1	2.18	2	0.45	4	5.08	...	0.08	3	1.18	6	6.54
	December	1	1.11	...	...	...	0.02	...	...	...	...	2	0.27	...	...	2	0.22	...	...	1	0.27
	Total	108	69.16	117	95.68	112	79.26	104	81.61	122	77.17	104	78.16	125	79.55	106	82.55	120	96.81	120	67.82
Gyohagant.	January-March	...	0.10	...	...	...	0.08	...	0.14	...	...	...	...	2	1.74	1	0.12	...	...	...	...
	April	4	8.79	...	0.04	1	0.74	...	...	3	0.81	...	...	...	...	...	...	...	...	1	1.10
	May	10	8.86	12	11.21	9	7.67	8	5.76	19	8.09	8	4.99	6	4.99	9	10.87	9	5.87	7	4.69
	June	16	12.86	22	16.22	19	10.22	19	10.89	20	7.36	20	15.92	20	12.63	16	12.18	23	14.67	22	11.95
	July	18	12.60	21	15.08	24	14.59	21	15.98	23	9.03	22	19.44	19	12.75	28	12.72	19	10.86	15	12.82
	August	22	10.49	22	12.79	23	12.21	21	13.61	14	8.00	20	14.83	23	16.32	15	8.18	19	12.60	22	14.11
	September	14	7.19	14	7.11	16	7.21	14	10.26	14	5.60	13	8.22	14	5.50	10	9.24	10	5.50	20	14.20
	October	6	3.22	6	4.42	12	15.22	6	1.87	4	1.29	7	4.71	12	5.29	5	2.76	11	5.10	7	4.17
	November	2	0.24	2	0.95	3	0.47	...	...	3	0.81	2	1.29	2	1.17	2	0.29	5	2.22	7	4.77
	December	2	0.24	...	...	...	...	...	...	...	...	...	0.06	...	0.02	1	0.54	...	0.02	...	0.07
	Total	93	62.69	99	71.67	112	71.22	89	68.01	99	40.29	93	69.66	99	61.71	82	65.41	96	57.91	102	67.82
Yedig.	January-March	...	0.06	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	April	6	3.91	...	0.07	1	1.70	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	May	6	3.29	7	4.23	8	9.22	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	June	11	11.26	19	17.51	17	6.47	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	July	20	12.47	21	13.67	22	12.09	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	August	19	10.22	12	11.95	19	16.57	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	September	9	8.26	13	5.26	13	4.27	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	October	8	4.22	10	7.25	15	7.19	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	November	2	0.26	2	0.22	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	December	3	0.75	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Total	89	54.26	90	61.02	95	69.17	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mang.	January-March	...	...	...	...	...	...	...	0.04	...	...	...	...	2	2.22	...	...	...	...	...	...
	April	...	...	...	...	...	...	...	...	1	1.44	...	...	...	...	...	...	...	...	3	0.52
	May	...	...	...	...	...	...	12	6.22	15	8.08	7	2.72	11	5.66	9	14.16	...	...	6	4.20
	June	...	...	...	...	...	...	19	14.20	16	8.75	25	24.23	18	10.19	20	14.16	8	4.02	25	16.22
	July	...	...	...	...	...	...	22	21.10	21	10.04	19	15.92	24	9.27	21	19.22	21	10.44	21	15.21
	August	...	...	...	...	...	...	20	15.11	12	10.22	20	15.55	20	12.25	11	7.45	15	12.37	17	11.00
	September	...	...	...	...	...	...	14	2.22	15	9.00	12	17.12	10	4.13	16	8.12	12	5.22	12	12.25
	October	...	...	...	...	...	...	2	0.22	6	5.24	2	7.00	13	8.22	5	2.22	9	5.05	9	2.22
	November	...	...	...	...	1	1.22	...	0.02	2	1.20	2	0.21	1	0.27	1	1.01	2	2.22	6	2.22
	December	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	0.22	...	0.02	1	0.22
	Total	...	...	...	...	1	1.44	22	22.24	24	22.22	22	22.22	27	22.22	24	22.22	22	22.22	102	22.22

Note.—Maxima are shown in

for the last twenty years.

1905		1906		1907		1908		1909		1910		1911		1912		1913		1914		Averages.	
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
...	...	...	...	5	1.07	...	...	3	0.08	3	5.79	...	...	2	0.76	1	0.08	...	...	0.00	0.08
...	...	...	...	...	...	2	0.08	...	...	5	4.03	2	1.31	...	...	...	...	2	1.30	1.36	0.08
7	7.44	6	6.41	13	13.68	5	6.91	10	5.98	12	13.66	7	3.11	11	18.57	9	3.33	11	4.24	10.10	3.53
16	10.91	25	16.77	17	12.72	23	20.34	20	19.54	17	19.10	22	18.66	19	16.31	18	19.67	19	31.83	30.40	16.37
26	27.08	22	16.49	29	11.53	29	16.21	29	31.12	20	18.94	25	18.25	24	15.66	21	22.23	30	34.27	25.40	20.78
21	16.59	14	7.26	29	20.27	27	19.92	19	18.74	22	20.07	26	22.44	24	19.14	27	16.18	24	24.21	24.18	19.70
18	16.92	21	17.13	16	18.01	16	8.50	22	18.90	25	8.68	21	12.73	15	0.93	15	10.46	14	9.54	17.85	11.94
11	5.08	9	6.66	14	8.00	9	5.08	9	4.09	8	2.84	12	7.43	10	4.44	8	4.12	7	5.07	6.50	4.79
2	0.94	1	0.25	2	0.96	12	5.40	7	4.78	7	2.67	...	...	6	2.21	8	10.32	6	2.25	2.25	2.21
1	0.80	...	...	3	1.77	...	...	...	...	...	...	...	...	...	...	...	...	1	0.80	0.85	0.27
102	91.85	97	70.97	122	99.09	123	83.88	117	108.07	116	84.18	115	90.08	110	84.09	107	80.76	114	112.99	113.75	85.89
...	...	...	...	4	1.29	...	...	...	...	4	5.50	...	...	1	0.39	...	...	...	...	0.60	0.40
...	...	...	...	...	...	...	...	2	0.98	2	1.69	2	2.94	...	...	...	...	1	0.72	0.75	0.79
7	5.28	7	8.18	9	14.31	9	6.75	5	3.32	10	10.88	10	4.02	8	14.89	5	3.68	9	3.86	6.75	7.43
14	10.08	22	15.08	16	17.40	19	11.79	18	12.83	17	18.86	19	10.65	12	10.66	15	9.22	17	12.51	12.80	12.80
22	18.67	14	10.84	16	10.74	18	12.46	22	14.81	12	12.08	18	9.15	25	12.21	12	17.01	27	15.46	19.90	12.65
16	14.26	12	8.24	18	11.38	18	14.68	19	8.07	13	6.97	20	15.60	19	14.08	20	9.27	20	12.73	12.85	12.27
22	18.62	20	12.67	19	6.96	12	16.23	12	11.07	12	12.46	14	7.77	12	6.34	12	9.32	9	2.27	12.90	9.10
2	4.51	7	6.24	10	5.00	9	5.74	13	6.27	8	4.78	12	8.53	5	5.65	7	4.40	5	4.13	3.98	5.22
1	0.55	6	2.29	8	1.75	6	4.17	4	2.66	2	0.50	...	...	6	1.23	8	2.67	4	1.56	3.40	1.90
1	0.19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	2.04	0.22	0.14
22	65.37	22	68.43	24	62.23	24	71.77	100	59.26	26	69.26	25	59.26	29	62.22	21	61.60	22	64.22	24.25	62.24
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.02
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.22	1.89
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7.00	5.73
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12.57	11.75
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21.90	12.08
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12.67	12.02
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11.67	5.92
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11.00	2.19
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.00	0.22
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.00	0.22
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20.24	20.15
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	0.00	...	...	4	1.24	...	...	...	...	4	4.15	...	...	2	1.68	...	...	...	...	0.75	0.27
...	...	...	...	...	...	3	0.22	2	0.67	2	1.22	...	...	...	...	...	...	1	0.88	0.22	0.22
2	7.37	5	8.33	9	12.68	8	5.02	9	4.52	12	12.44	5	4.02	9	12.07	6	5.02	7	4.42	7.22	2.27
27	17.05	21	20.02	17	22.22	22	12.22	22	15.17	22	12.22	21	22.74	22	11.46	17	12.22	15	12.22	12.42	12.22
22	12.67	19	12.22	22	12.22	22	12.22	22	12.15	14	11.22	21	12.67	22	12.22	12	12.72	22	12.22	21.47	12.22
12	12.62	12	5.22	22	12.22	24	17.41	15	7.22	12	12.22	22	12.44	22	12.22	17	22.72	12	12.22	12.22	12.22
12	12.00	12	11.44	12	2.22	17	2.22	12	12.22	22	12.22	17	7.72	12	6.22	12	6.72	12	10.22	12.22	2.22
2	2.22	12	5.22	9	2.22	2	2.22	12	4.22	2	2.22	2	2.22	22	5.22	2	2.22	6	2.12	2.22	2.72
2	0.24	2	2.22	1	0.22	9	2.22	5	1.22	2	0.22	...	...	2	2.22	2	12.22	4	1.22	2.22	2.22
2	0.22	...	...	3	2.22	...	...	...	...	...	...	...	...	...	...	...	...	1	0.22	2.22	0.22
22	12.22	22	22.22	27	22.22	122	22.22	102	22.22	27	20.22	22	22.22	22	22.22	22	22.22	22	20.22	22.22	27.77

continued on next page.



Statement 8.—Rainfall recorded for

Station.	Years.	1895		1896		1897		1898		1899		1900		1901		1902		1903		1904		
	(a) Rainy days. (b) Rainfall.	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Ogys.	January-March	...	...	...	...	...	...	...	...	...	...	...	...	2	2.85	...	...	...	...	...	...	
	April	...	4	2.45	...	1	0.85	1	0.75	1	0.80	1	0.85	...	...	...	...	...	...	...	...	
	May	...	9	7.08	12	17.28	9	11.04	8	7.16	16	8.74	8	8.22	5	1.72	8	12.78	...	...	...	
	June	...	20	14.99	20	21.35	17	9.22	17	9.96	20	11.41	20	12.19	19	8.92	18	9.28	...	...	...	
	July	...	17	16.01	22	23.31	19	12.96	19	10.45	21	7.87	22	14.04	22	12.05	22	12.51	...	...	...	
	August	...	17	12.19	26	18.82	24	14.97	23	12.11	18	10.24	20	14.89	22	17.19	16	10.64	...	...	...	
	September	...	13	7.51	15	9.55	18	8.96	16	8.88	15	11.25	14	12.44	13	5.93	13	8.17	...	...	...	
	October	...	5	1.95	7	2.14	15	10.48	5	1.19	8	0.60	11	3.88	12	6.75	7	4.78	...	...	...	
	November	...	1	0.12	1	0.20	1	0.20	...	...	4	0.99	1	1.13	...	0.11	...	...	...	...	...	
	December	...	1	.86	...	...	...	...	...	...	...	...	...	...	...	2	0.90	...	...	...	...	
Total	...	87	62.01	110	84.15	102	67.67	89	60.02	98	51.36	98	67.56	95	54.22	86	66.96	...	...	...	...	
Mishla.	January-March	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	April	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
	May	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	11	8.10	8	7.09	
	June	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23	15.46	27	11.78	
	July	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	24	16.26	20	17.76	
	August	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25	15.88	15	14.00	
	September	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17	10.22	19	12.95	
	October	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	12	4.79	9	8.80	
	November	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	1.88	6	8.95	
	December	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	0.22	
Total	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	118	70.55	107	65.69		
Zyga.	January-March	...	1	0.10	...	...	0.02	...	0.04	...	...	...	...	2	2.04	...	...	...	...	...	...	
	April	...	8	2.86	...	0.12	1	0.83	...	...	0.19	...	0.04	...	...	...	...	...	...	3	4.13	
	May	...	12	6.79	13	11.42	10	7.45	11	5.09	12	5.87	6	8.98	5	8.75	11	10.98	9	5.73	7	4.64
	June	...	12	7.21	23	21.78	19	11.89	16	7.97	17	10.22	21	18.55	20	14.68	16	10.11	24	11.29	23	12.85
	July	...	23	8.13	18	8.24	21	12.87	20	15.68	21	9.88	22	18.78	25	13.15	21	22.22	18	9.20	20	11.92
	August	...	17	9.15	22	9.86	22	9.51	16	10.86	16	13.00	22	16.08	23	12.42	14	8.72	19	7.91	22	10.67
	September	...	17	14.62	19	6.36	11	6.44	9	8.61	15	5.40	12	9.49	11	5.29	15	10.95	14	8.69	19	8.07
	October	...	7	6.80	5	3.85	18	8.79	8	2.45	6	3.49	11	6.14	11	7.76	6	8.28	11	5.44	6	2.75
	November	...	1	1.23	3	1.10	1	0.51	...	...	5	1.22	2	1.22	2	1.22	...	0.19	4	2.15	7	6.79
	December	...	2	0.98	...	...	...	...	...	...	...	...	0.04	...	...	1	0.64	...	...	1	0.19	
Total	...	94	56.60	96	62.69	96	48.21	80	49.50	93	48.78	95	60.17	92	67.31	84	65.01	99	62.21	106	69.12	
Rustalia.	January-March	...	...	...	...	...	...	...	...	...	...	...	...	1	1.71	...	0.08	...	...	...	...	
	April	...	5	2.33	...	...	1.40	...	...	...	...	...	...	...	...	...	...	...	...	2	2.22	
	May	...	14	7.68	10	8.46	10	9.07	7	5.71	9	8.80	8	8.90	5	5.83	9	10.53	7	9.88	6	2.76
	June	...	17	7.08	20	12.73	12	7.84	18	8.20	15	9.64	21	12.14	17	10.08	18	8.31	19	10.90	25	12.20
	July	...	19	6.13	21	8.01	21	12.90	19	12.55	15	7.54	20	12.72	19	12.20	20	12.19	18	8.12	16	9.72
	August	...	18	6.89	17	8.41	22	13.08	20	10.88	18	12.18	21	10.88	19	11.98	12	7.40	15	5.45	15	6.22
	September	...	15	10.99	...	5.97	13	8.59	15	9.46	25	12.57	12	12.94	9	4.14	13	12.08	17	8.62	14	5.72
	October	...	5	2.27	7	2.20	14	9.66	3	1.24	9	2.42	7	4.58	11	9.97	5	2.99	11	5.88	...	...
	November	...	1	0.12	...	...	...	...	...	...	1	0.22	2	1.44	2	2.22	...	0.08	...	2.15	2	2.22
	December	...	2	2.53	...	...	...	...	...	...	...	...	1	.19	...	0.05	1	0.13	...	...	...	0.08
Total	...	98	45.96	95	45.56	96	70.90	72	44.72	92	50.42	90	62.24	94	55.21	80	56.95	87	61.79	96	62.02	

Note.—Mean and max shown.

the last twenty years—continued.

1905		1906		1907		1908		1909		1910		1911		1912		1913		1914		Averages.	
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.85	0.88
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.00	0.80
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.27	0.01
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18.26	13.13
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	21.50	14.93
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	20.75	14.76
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	14.00	9.08
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5.12	4.04
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1.00	0.24
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.38	0.16
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25.62	25.61
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.75	0.49
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.67	0.21
8	9.44	7	12.22	9	11.49	7	6.16	7	5.06	11	17.69	8	5.55	9	12.42	7	8.10	5	2.90	8.08	8.28
18	22.22	25	16.44	15	15.69	21	14.42	17	15.29	16	16.75	23	16.27	17	12.09	20	16.46	19	20.90	20.08	16.40
23	18.57	21	14.20	19	11.32	20	15.78	24	25.02	8	9.19	21	15.87	22	16.26	17	14.39	25	17.28	20.92	15.89
18	12.57	13	5.63	25	16.27	24	16.17	18	10.08	18	21.63	23	15.84	21	15.02	22	16.60	21	25.24	20.17	15.46
17	17.66	16	11.91	18	9.80	17	16.24	21	16.49	22	27.11	17	8.75	13	9.87	22	11.81	7	4.39	17.58	13.81
7	2.08	10	3.92	9	5.04	8	2.17	9	5.18	6	6.28	6	5.89	5	2.04	8	3.40	...	...	7.43	4.23
1	0.14	4	4.00	1	0.20	2	3.76	7	4.87	3	4.57	...	...	5	3.42	6	3.06	...	...	4.17	3.25
1	0.15	...	...	3	2.34	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.42	0.28
23	23.25	28	67.22	102	78.36	106	76.70	101	82.54	28	108.14	101	89.90	105	70.94	104	75.82	77	71.21	100.27	77.86
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.40	0.25
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.66	0.74
5	3.24	5	4.87	10	10.07	8	3.93	12	9.50	11	9.48	6	2.04	7	12.41	10	5.15	6	1.76	8.25	6.41
16	11.33	19	13.38	19	16.90	19	11.78	17	10.65	14	8.78	21	14.60	14	7.00	15	11.06	16	17.58	16.05	12.19
23	14.69	18	12.33	23	13.25	21	18.08	20	12.22	12	12.26	18	6.44	21	9.50	15	12.08	24	13.06	20.15	12.57
18	9.81	14	6.30	21	8.96	17	12.02	18	10.05	12	7.27	10	9.28	21	14.55	23	10.80	17	13.30	18.30	10.87
23	10.92	16	12.11	17	9.29	14	10.16	17	11.65	13	14.04	17	9.28	13	8.10	20	9.19	1	1.97	14.63	9.06
8	3.26	10	5.20	10	6.44	7	8.59	15	6.30	9	4.23	9	5.80	9	5.24	9	7.50	6	6.36	10.20	5.21
1	0.65	8	0.65	1	0.57	6	2.26	8	4.82	6	1.00	...	...	5	2.29	8	5.82	1	0.28	3.20	1.72
...	...	...	...	3	2.06	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.18	0.45
23	24.21	25	55.57	108	63.89	92	61.42	104	86.92	25	61.08	92	50.97	91	59.28	100	61.60	80	56.88	82.45	59.51
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.08	0.15
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.23	0.51
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7.75	5.76
17	11.77	20	11.15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	18.17	10.30
22	13.23	2	9.97	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17.75	11.38
16	9.41	18	8.00	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	17.45	9.14
14	11.28	15	17.41	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	16.25	10.40
5	2.94	2	12.79	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6.73	4.36
2	1.29	1	0.44	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2.20	1.16
2	0.46	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0.59	0.26
23	23.27	27	22.24	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	25.29	24.29

Continued on next page.

Statement 8.—Rainfall recorded for

Station.	Years.	1895		1896		1897		1898		1899		1900		1901		1902		1903		1904		
	(a) Rainy days. (b) Rainfall.	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Tapan.	January-March ...	...	...	...	...	...	...	...	...	...	...	...	...	2	1.20	...	0.09	...	...	...	...	
	April ...	...	3	1.40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2.05	
	May ...	...	9	9.48	9	9.18	8	12.40	8	5.15	18	8.91	7	5.43	9	4.07	11	9.28	6	5.28	3	2.55
	June ...	...	9	5.75	21	13.98	15	9.78	18	6.48	13	8.18	15	12.88	14	11.09	17	9.72	25	14.86	25	11.84
	July ...	...	18	6.94	17	6.15	18	7.79	18	10.48	21	10.68	19	11.98	19	10.88	17	10.80	15	9.61	19	12.08
	August ...	...	18	5.86	9	6.68	21	9.94	15	8.04	15	7.17	20	12.28	18	9.96	11	7.88	14	7.05	17	8.21
	September ...	...	11	7.92	10	4.78	18	8.48	10	10.00	15	7.25	11	10.17	9	2.21	15	10.85	13	8.58	18	6.77
	October ...	...	7	2.41	3	0.81	18	7.91	8	2.68	4	1.10	11	6.37	12	5.89	7	3.97	9	7.38	4	1.31
	November ...	...	...	...	...	2	0.92	...	...	1	0.17	3	1.06	1	0.68	...	0.04	5	2.86	8	5.98	
	December ...	...	3	0.48	...	...	...	...	...	...	...	...	...	...	...	...	1	0.47	...	...	...	...
	Total ...	...	66	89.28	69	41.08	95	67.17	67	42.81	85	40.21	89	62.67	84	46.28	80	51.92	87	55.84	96	55.29

Tharrawaddy

	Months.		Tharrawaddy.		Gyobingauk.		Yegín.		Máyo.		Ókpo.	
	(a) Rainy days	(b) Rainfall	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
Average.	January-March	...	0.90	0.68	0.60	0.60	...	0.02	0.78	0.57	0.28	0.28
	April	...	1.18	0.62	0.75	0.79	2.83	1.89	0.89	0.29	1.00	0.80
	May	...	10.10	8.58	8.75	7.45	7.00	2.72	7.28	6.97	9.27	9.01
	June	...	20.40	16.27	12.30	12.60	18.67	11.78	12.47	14.28	19.26	12.12
	July	...	25.50	20.78	19.99	12.28	21.00	12.08	21.47	16.28	21.50	14.28
	August	...	24.18	19.10	16.85	12.27	12.67	12.63	17.28	12.28	20.78	12.12
	September	...	17.86	11.94	15.20	9.10	11.67	5.86	14.88	9.66	14.00	2.02
	October	...	9.60	4.79	2.25	2.22	11.00	6.29	7.69	4.78	6.12	4.04
	November	...	2.65	2.21	2.40	1.90	1.00	0.22	2.24	2.24	1.00	0.24
	December	...	0.55	0.27	0.25	0.16	1.00	0.25	0.47	0.20	0.28	0.28
	Total	...	113.75	85.29	84.36	62.99	66.24	55.16	62.17	62.77	99.81	66.61

Note 1.—Yegín Rainfall station was abolished.  
Ókpo Rainfall station was abolished.  
Máyo Rainfall station was abolished.

Note 2.—Months are shown in columns, columns.

Statement 9.—Areas irrigated

the last twenty years—concluded.

1905		1906		1907		1908		1909		1910		1911		1912		1913		1914		Averages.	
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
23	84	25	86	27	26	29	80	31	82	33	84	35	86	37	88	39	90	41	92	43	44
...	...	...	...	3	2.14	...	...	...	0.04	3	3.11	...	...	...	0.09	...	...	...	...	0.38	0.34
...	...	...	...	...	...	...	...	7	0.74	1	0.80	2	3.09	...	...	...	...	1	9.94	0.55	0.57
6	4.47	3	3.99	7	7.14	8	9.28	11	8.57	10	6.19	6	2.36	10	12.52	5	5.73	9	4.10	7.90	6.40
15	9.33	15	8.85	14	8.68	19	11.93	16	6.32	21	9.68	19	11.80	18	5.51	15	10.31	17	17.20	16.85	10.91
21	15.92	26	10.67	10	4.18	10	8.49	18	7.17	14	9.96	15	7.06	14	7.77	16	12.93	23	10.28	16.00	9.40
16	6.31	9	4.59	13	5.21	17	12.31	15	7.06	16	8.17	20	11.59	18	13.44	20	10.34	20	12.23	15.08	8.99
19	10.99	17	13.08	13	8.18	13	7.73	14	9.51	18	13.32	19	8.72	9	4.86	19	12.48	6	2.66	13.65	8.89
1	1.86	10	9.94	8	10.91	10	4.55	13	7.01	8	8.44	9	7.98	13	8.95	7	4.99	6	7.42	8.00	8.03
1	0.23	3	1.95	1	.45	6	4.08	5	4.05	3	1.25	...	...	4	2.04	6	7.19	4	1.81	5.70	1.73
2	0.46	...	...	2	1.81	...	...	...	...	...	...	...	...	...	...	...	...	1.21	0.45	0.92	...
21	50.10	73	52.85	71	47.69	80	52.26	95	49.77	93	55.13	81	51.90	80	49.55	90	63.76	80	60.67	58.10	61.24

District Averages.

Mishla.		Zigén.		Nattalin.		Tapau.		Total.		DISTRICT AVERAGE.	
(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
0.75	0.49	0.40	0.55	.08	0.15	0.35	.34	4.09	3.42	0.45	0.33
0.87	0.31	0.45	0.74	.22	0.51	0.55	.57	6.52	7.99	0.95	0.89
8.08	3.55	8.65	6.41	7.75	6.78	7.90	6.40	75.08	65.51	3.41	7.29
30.09	16.40	19.28	19.19	15.17	10.30	16.65	10.01	165.04	117.85	12.34	13.04
20.26	15.53	20.15	12.67	17.75	11.25	18.90	9.49	125.09	127.73	20.57	14.21
22.17	12.48	12.20	10.87	17.42	9.14	15.95	8.80	172.08	115.46	19.12	19.82
17.63	12.51	14.87	9.05	14.25	10.49	13.68	8.59	122.06	89.94	14.55	9.66
7.43	4.23	5.30	5.31	6.75	4.23	5.00	5.03	75.54	44.56	3.39	4.95
4.17	3.25	5.20	1.73	3.00	1.28	3.70	1.73	91.96	14.87	2.71	1.65
0.46	0.13	0.45	.29	0.30	0.15	.45	0.21	4.47	9.02	0.56	0.23
100.97	77.95	29.45	39.51	85.50	54.98	22.10	51.84	220.55	204.29	94.29	64.95

Checked by the Surveyor-General.  
 on 22 April 1907.  
 on 22 April 1907.  
 J. H. H. H.

ted from Government Works—BLANK.

Statement 10.—Crop Measurements and Fertility Assumptions.

Main kind and soil class.	Total measurements in year.		Total area (acres) reaped in year.		Average outturn per acre in year.		Average acre outturn.	Acre outturn assumed.	Cultivators' statements.				
									Single soil class.		Mixed soil classes.		
	1913-14.	1914-15.	1913-14.	1914-15.	1913-14.	1914-15.			Acres cropped.	Acce outturn stated.	Acres cropped.	Total outturn stated.	Outturn at assumed rate.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Assessment Tract 1.					Crop. Unhusked rice in 9-gallon baskets.								
R	7	7	3	4	41-00	38-02	39-51	38	617	56	...	...	...
Assessment Tract 2.					Crop. Unhusked rice in 9-gallon baskets.								
R 1	148	166	97	105	38-10	37-37	37-71	39	1,845	39	3,289	109,846	194,874 - 874 per cent.
R 2	40	111	25	67	32-27	34-70	34-06	34	518	35	1,735		
R 3	...	17	...	7	...	38-21	33-21	29	...	...	86		
R 4	21	27	15	16	41-49	36-24	34-16	38	333	39	68		
R 5	2	9	1	4	31-78	30-36	30-69	25	46	21	39		
Assessment Tract 3.					Crop. Unhusked rice in 9-gallon baskets.								
R	6	11	3	7	23-27	29-06	27-03	28	571	22	...	...	...
Assessment Tract 4.					Crop. Unhusked rice in 9-gallon baskets.								
R 1	10	2	7	1	42-07	41-43	42-01	42	...	...	178	23,495	25,000 + 25 per cent.
R 2	12	2	8	1	34-11	40-29	35-00	35	33	26	306		
R 3	1	8	...	5	31-37	28-45	28-29	28	117	32	263		
Assessment Tract 5.					Crop. Unhusked rice in 9-gallon baskets.								
R 1	165	119	96	70	43-22	42-62	42-30	43	2,399	44	3,359	23,252	255,297 + 1-71 per cent.
R 2	38	63	19	48	37-37	39-39	38-33	38	307	40	1,355		
R 3	4	21	2	12	33-43	30-62	32-03	32	66	34	169		
R 4	25	17	13	11	46-11	38-38	40-53	39	479	29	301		
R 5	9	21	6	16	44-43	36-09	37-98	23	105	32	141		
Assessment Tract 6.					Crop. Unhusked rice in 9-gallon baskets.								
R 2	108	84	49	45	31-20	31-72	31-43	25	1,984	22	391	29,234	44,660 + 12-23 per cent.
R 3	19	14	8	6	21-15	25-16	27-41	23	562	21	532		
Assessment Tract 7.					Crop. Unhusked rice in 9-gallon baskets.								
R 2	22	23	16	12	25-16	31-71	31-12	25	254	26	211	26,563	16,910 + 8-51 per cent.
R 3	9	7	4	4	23-33	31-33	30-45	25	362	21	211		
Assessment Tract 8.					Crop. Unhusked rice in 9-gallon baskets.								
R 1	23	4	12	2	41-55	42-21	41-30	42	75	41	420	62,328	66,212 + 3-12 per cent.
R 2	22	2	16	...	33-21	31-58	33-31	25	296	27	522		
R 3	25	22	12	15	27-70	33-30	32-31	29	669	29	478		
Assessment Tract 9.					Crop. Unhusked rice in 9-gallon baskets.								
R 1	126	90	78	69	44-22	41-75	43-23	45	1,726	45	7,983	722,740	712,217 - 1-22 per cent.
R 2	102	116	60	72	36-22	34-68	35-40	36	2,291	36	7,222		
R 3	12	64	8	39	31-26	27-44	28-30	30	242	29	2,129		
R 4	4	12	2	10	27-43	33-21	34-68	28	126	42	466		
R 5	2	27	2	17	29-24	30-27	31-28	25	260	22	242		
Assessment Tract 10.					Crop. Unhusked rice in 9-gallon baskets.								
R 1	24	20	20	29	42-42	42-22	42-72	42	245	44	2,020	224,642	222,272 + 2-21 per cent.
R 2	12	12	6	30	34-24	34-25	34-64	25	422	21	2,212		
R 3	...	2	...	1	...	30-25	30-25	23	267	23	247		

Statement 10.—Crop Measurements and Fertility Assumptions—continued.

Main kind and soil class.	Total measurements in year.		Total area (acres) reaped in year.		Average outturn per acre in year.		Average acre outturn.	Acre outturn assumed.	Cultivators' statements.				
									Single soil class.		Mixed soil classes.		
	1913-14.	1914-15.	1913-14.	1914-15.	1913-14.	1914-15.			Acres cropped.	Acres outturn stated.	Acres cropped.	Total outturn stated.	Outturn at assumed rates.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Assessment Tract 11.					Crop. Unhusked rice in 9-gallon baskets.								
R 1	378	330	199	132	85'30	84'84	84'95	39	4,381	86	17,379	910,975	1,008,821 + 10'13 per cent.
R 2	74	78	40	41	81'80	23'17	19'00	34	781	80	7,448		
R 3	8	16	8	7	25'04	31'22	28'31	28	228	21	2,083		
R 4	19	10	7	6	85'44	27'16	81'68	39	419	82	864		
R 5	3	2	1	1	81'46	8'89	32'43	25	270	94	186		
Assessment Tract 12.					Crop. Unhusked rice in 9-gallon baskets.								
R 1	7	8	4	2	48'48	41'55	49'86	42	...	...	153	27,846	311'46 + 9'08 per cent.
R 2	11	3	6	1	86'47	37'12	36'61	35	21	35	921		
R 3	1	1	1	1	28'61	29'54	30'57	28	272	26	896		
Assessment Tract 13.					Crop Unhusked rice in 9-gallon baskets.								
R 1	24	108	50	61	22'77	39'38	39'05	39	1,422	20	4,680	824,271	861,146 + 11'13 per cent.
R 2	28	22	10	10	22'26	28'54	24'79	26	506	28	2,121		
R 3	1	1	1	1	20'28	19'21	24'61	28	608	28	768		
Assessment Tract 14.					Crop. Unhusked rice in 9-gallon baskets.								
R 1	40	55	24	23	27'03	24'58	24'77	28	1,002	37	28,129	819,188	808,421 + 11'40 per cent.
R 2	98	80	11	16	22'66	27'00	22'63	23	617	23	2,245		
R 3	1	1	"	"	28'87	20'64	22'75	29	310	21	749		
R 4	25	41	16	24	21'46	29'06	29'29	23	1,454	26	2,676		
R 5	14	12	9	8	21'29	22'39	21'30	25	1,248	18	1,008		
Assessment Tract 6-7 (combined).					Crop. Unhusked rice in 9-gallon baskets.								
R 2	140	107	68	68	22'30	22'00	22'05	26	2,210	23	1,802	27,727	21,278 + 3'04 per cent.
R 3	28	21	12	10	29'18	27'22	28'40	25	924	22	727		
Assessment Tract. 4+8+10+12 (combined).					Crop. Unhusked rice in 9-gallon baskets.								
R 1	74	89	48	23	42'23	42'68	42'50	42	620	42	2,271	240,982	252,229 + 4'69 per cent.
R 2	67	66	26	14	23'4	28'15	24'61	25	661	24	2,278		
R 3	27	26	14	22	27'27	29'12	28'00	28	1,255	26	2,082		
Assessment Tract. All.					Crop. Sugar-cane (Jaggery, vial) stalks.								
.....	13	7	1	1	222'44	227'51	228'94	...	...	...	...	...	...
.....	5	3	1	"	8,068	6,790	7,712	...	...	...	...	...	...
Assessment Tract. All.					Crop. Tobacco, dry leaf vial, root and dust-baskets.								
.....	68	68	19	18	248'68	267'72	228'79	200	588	168	2'25	48,120	27,220 + 56'22 per cent.
.....	24	15	9	8	54'14	26'51	48'02	60	...	...	...	...	...
Assessment Tract. All.					Crop. Sesamum, baskets.								
.....	8	...	8	...	5'27	...	5'27	5	...	...	...	...	...

\* Not exceeding an acre in area.



Statement 10.—Crop Measurements and Fertility Assumptions—concluded.

Main kind and soil class.	Total measurements in year.		Total area (acres) reaped in year.		Average outturn per acre in year.		Average acre outturn.	Acre outturn assumed.	Cultivators' statements.				
									Single soil class.		Mixed soil class.		
	1913-14.	1914-15.	1913-14.	1914-15.	1913-14.	1914-15.			Acres cropped.	Acres outturn stated.	Acres cropped.	Total outturn stated.	Outturn at assumed rates.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Assessment Tract. All.					Paddy (White Beans) Baskets.								
.....	27	36	9	8	1074	906	899	800	938	4	..	...	
Assessment Tract. All.					Crop. Paddy (Red Beans) Baskets.								
...	2	8	..	1	9909	1017	9140	800	...	..			
Assessment Tract. All.					Crop. Paddy, Baskets.								
.....	4	3	9	..	899	811	808	800	96	4	367	1605	8,808 + 40-87 P. C.
Assessment Tract. All.					Crop. Maize, Baskets.								
.....	1	9	1	1	880	815	798	800	84	9	..	...	...
Assessment Tract. All.					Crop. Maize, Cobs.								
.....	4	18	1	9	8,104	6,198	6,810	6,600	18	1908	18	50080	84,500 + 50-88 P. C.
Assessment Tract. All.					Crop. Chillies, viss.								
...	17	19	8	8	18718	14895	18750	150	88	104	76	6188	11,400 + 40-87 P. C.
Assessment Tract. All.					Crop. Onions, viss.								
.....	8	4	1	1	8,558-40	8,081-33	8,088-87	8000	..	..	1	850 0	8,000 - 40-87 P. C.
..	5	..	1	..	8,961-81	..	8,968-81						
Assessment Tract. All.					Crop. Sweet Potatoes, viss.								
.....	8	8	9	1	1,781-38	70864	1,494-43	1800	...			..	...
Assessment Tract. All.					Crop. Brinjals, Fruits.								
...	8	..	9	..	8384	..	8384	8000	...	...	..	...	...
Assessment Tract. All.					Crop. Tomatoes, Baskets.								
	1	..	4	..	1618	...	1818	18	..	..	..	...	...
Assessment Tract. All.					Crop. Melons, Fruits.								
..	6	6	9	1	808	895	450	450	...	...	...	...	...
Assessment Tract. All.					Crop. Vegetable, Momordica.								
..	1	..	4	..	8708		8708	8800	...	...		...	...
Assessment Tract. All.					Crop. Spring rice.								
.....	8	11	9	8	40-56	90-85	8819	88	10	80	8	804	884 + 80-81 P. C.
Assessment Tract. All.					Crop. Miscellaneous fruit trees. Outturn value.								
.....	...	...	...	...	...	...	...	...	200	80	...	...	...
Assessment Tract. All.					Crop. Betel vine gardens. Money value of outturn.								
.....	...	...	...	...	...	...	...	...	21	48	...	...	...